
Detailed Site Investigation

Lots 200-212 Astra
Aerolab, Williamtown NSW

NEW24P-0090-AC
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Executive Summary

Qualtest Laboratory NSW Pty Ltd (Qualtest) has carried out a Detailed Site Investigation for Lot 200-212 of Astra Aerolab precinct, located off Williamtown Drive, Williamtown NSW (the Site). The site location is shown on Figure 1, Appendix A.

The site comprises proposed Lots 200-212 of the Astra Aerolab industrial subdivision. The Site Masterplan for Lot 200-212 is attached in Appendix A, and shows the location of Lot 200-212 (the site) within the larger Astra Aerolab precinct.

Previous assessments have been completed for the site:

- Douglas Partners Pty Ltd (DP) (2009) Stage 1 Preliminary Contamination Assessment (PCA) (ref: 39728.03, dated 16 April 2009). This report covered the larger Astra Aerolab subdivision, which includes the current site; and,
- Qualtest (2024) Preliminary Contamination Review, ref: NEW24P-0090-AAv1 dated 14 May 2024.

A summary of the previous reports is provided in Section 3.0 below.

The PCR (Qualtest, 2024) identified three Areas of Environmental Concern (AECs) for the site. The AECs related to: 1. Use of fill material in access tracks and stockpiling of fill materials; 2. Illegal dumping of waste materials; and 3. Migration of PFAS contamination onto the site from the RAAF Base.

As part of the Development Application for the proposed subdivision Greater Newcastle Aerotropolis Pty Ltd (GNAPL) require a Detailed Site Investigation (DSI), which will be submitted to Port Stephens Council (Council).

The objectives of the assessment were to:

- Assess the presence of contamination in soil and surface water (if any) on the site;
- Update the Conceptual Site Model (CSM) for the site based on the findings of the DSI; and
- Provide recommendations for further assessments, remediation and/or management, as required.

In order to achieve the above objective, Qualtest carried out the following scope:

- Excavation of 53 test pits, including 45 test pits into stockpiles, and collection of soil samples;
- Collection of 9 surface soil samples;
- Laboratory analysis of selected soil samples for identified Contaminants of Potential Concern (COPC); and,
- Data assessment and preparation of this Detailed Site Investigation Report.

The sampling and analysis identified contamination in the form of Asbestos Fines (AF) in one sample in stockpile SP4. No other contamination was identified on the site, from past or current activities.

Based on the review of the data in the AECOM (2022) report, groundwater beneath the site is inferred to be contaminated with PFAS (PFOS + PFHxS) above the adopted criteria for protection of construction workers.

The Conceptual Site Model identified a complete exposure pathway for:

- Human receptors handling the soils in SP4; and,

- Human receptors (construction workers) during construction/earthworks, if excavations extended into groundwater due regional PFAS contamination of groundwater.

Based on the results of the Detailed Site Investigation, it is considered the site can be made suitable for the proposed commercial/industrial development, with the following recommendations:

- Preparation and implementation of a Remediation Action Plan (RAP) for the asbestos contamination identified in SP4;
- Preparation of a Validation Report, following remediation works;
- Implementation of the Northrop (2024) PFAS Management Plan for Astra Aerolab Stages 2A, 2C, 4 & 5 during earthworks and construction works; and,
- Preparation of an Unexpected Finds Procedure, which would be implemented during earthworks and construction works. This will be included in the RAP to be prepared for the site.

Provided the recommendations made within this report are implemented, it is considered that the site can be made suitable, from a contamination point of view, for the proposed commercial/industrial subdivision development.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013). This report comprises a Stage 2 detailed site investigation, as described by State Environmental Planning Policy (Resilience and Hazards) 2021, Chapter 4.

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Appendix A - Figures: Figure 1 - Site Location Plan

Figure 2 – Lot Layout Plan

Figure 3 – Site Features Plan

Figure 4 – Sample Location Plan - Stockpiles

Figure 5 – Sample Location Plan – Remainder of Site

Figure 6 – Identified Contamination

Proposed Development Plan

Appendix B: Tables: Table 1 – Soil Analytical Results (Metals, PAHs, BTEX, TRH)

Table 2 – Soil Analytical Results (PFAS)

Table 3 – Soil Analytical Results (ACM)

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1.0 Introduction

Qualtest Laboratory NSW Pty Ltd (Qualtest) has carried out a Detailed Site Investigation for Lot 200-212 of Astra Aerolab precinct, located off Williamtown Drive, Williamtown NSW (the Site). The site location is shown on Figure 1, Appendix A.

The site comprises proposed Lots 200-212 of the Astra Aerolab industrial subdivision. The Site Masterplan for Lot 200-212 is attached in Appendix A, and shows the location of Lot 200-212 (the site) within the larger Astra Aerolab precinct.

Previous assessments have been completed for the site, as listed below. A summary of the previous reports is provided in Section 3.0 below.

- Douglas Partners Pty Ltd (DP) (2009) Stage 1 Preliminary Contamination Assessment (PCA) (ref: 39728.03, dated 16 April 2009). This report covered the larger Astra Aerolab subdivision, which includes the current site; and,
- Qualtest (2024) Preliminary Contamination Review, ref: NEW24P-0090-AAv1, dated 14 May 2024.

The PCR (Qualtest, 2024) identified three Areas of Environmental Concern (AECs) for the site. The AECs related to: 1. Use of fill material in access tracks and stockpiling of fill materials; 2. Illegal dumping of waste materials; and 3. Migration of PFAS contamination onto the site from the RAAF Base.

As part of the Development Application for the proposed subdivision Greater Newcastle Aerotropolis Pty Ltd (GNAPL) require a Detailed Site Investigation (DSI), which will be submitted to Port Stephens Council (Council).

The DSI report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)*, NEPC 2013, Canberra (referred to as ASC NEPM 2013). This report comprises a stage 2 detailed site investigation as described by State Environmental Planning Policy (Resilience and Hazards) 2021 Chapter 4.

1.1 Objectives

The objectives of the assessment were to:

- Assess the presence of contamination in soil and surface water (if any) on the site;
- Update the Conceptual Site Model (CSM) for the site based on the findings of the DSI; and
- Provide recommendations for further assessments, remediation and/or management, as required.

1.2 Scope of Works

In order to achieve the above objective, Qualtest carried out the following scope:

- Excavation of 53 test pits, including 45 test pits into stockpiles, and collection of soil samples;
- Collection of 9 surface soil samples;
- Laboratory analysis of selected soil samples for identified Contaminants of Potential Concern (COPC); and,
- Data assessment and preparation of this Detailed Site Investigation Report.

2.0 Site Description

2.1 Site Identification

General site information is provided below in Table 2.1. The site location is shown in Figure 1, Appendix A.

Table 2.1: Summary of Site Details

Site Address:	38 Cabbage Tree Road, Williamtown NSW. Note, site is accessed off Williamtown Drive, Williamtown NSW.
Approximate site area and dimensions:	Approx. 1.5ha. Approx. 150m wide by 100m long at its widest and longest points.
Title Identification Details:	Part Lot 11 DP 1036501 and Part Lot 1 DP 1147810, within the Port Stephens Council local government area. The site within Lot 11 and Lot 1 is shown on Figure 2, Appendix A.
Current Zoning	B7 Business Park
Current Ownership:	Greater Newcastle Aerotropolis Pty Ltd
Previous and Current Landuse:	Former sand quarry Vacant land
Proposed Landuse:	Light industrial and commercial
Adjoining Site Uses:	Newcastle Airport and RAAF Base to the north. Rural-residential properties to the south. Bushland and former sand quarry to the west. Former sand quarry to the east.
Site Coordinates for southern corner of site:	32°48'28.36" S 151°50'3.28" E

2.2 Topography and Drainage

Reference to Google Earth Pro (<https://www.google.com/earth/about/versions/>) indicated the elevation of the site was less than 5m AHD.

During the site walkover, the site was observed to be generally level.

Rain falling on the site would be expected to infiltrate into site soils. Excess surface water would likely flow to Dawsons Drain, located 1.1m south-west of the site. Dawsons Drain discharges to Fullerton Cove located approximately 2.4km south-west of the site.

2.3 Regional Geology

The 1:100,000 Nelson Bay Coastal Quaternary Geology map indicates that the site is underlain by a Coastal Barrier System comprising Pleistocene dune: marine sand, indurated sand.

2.4 Hydrogeology

Groundwater beneath the site is anticipated to be present in an unconfined aquifer and located within 2m below ground surface (bgs).

Groundwater flow direction is anticipated to flow to the south south-west, and discharge to Dawson Drain located 1.1km south-west of the site, and Fullerton Cove located approximately 2.4km south-west of the site.

It should be noted that groundwater conditions can vary due to rainfall and other influences including regional groundwater flow, temperature, permeability, recharge areas, surface condition, and subsoil drainage.

A search of the NSW Department of Primary Industries (Office of Water) registered groundwater bores located within a 500m radius of the site was undertaken. The search revealed that there were no bores within this radius. A copy of the search was provided in Appendix B of the PCR (Qualtest, 2024).

2.5 Acid Sulfate Soils

Reference to the Acid Sulfate Soil online database from State of NSW and Department of Planning, Industry and Environment, 2021 (<https://espade.environment.nsw.gov.au>) the site is located in an area of 'Low probability >3m below ground surface' of acid sulfate soils within an aeolian sand plain at an elevation of >4m AHD.

3.0 Previous Reports

3.1 DP (2009) Preliminary Contamination Assessment

A copy of a Stage 1 Preliminary Contamination Assessment (PCA), dated 16 April 2009 prepared by Douglas Partners (DP), was provided to Qualtest.

DP were engaged to provide a PCA for the proposed Defence Airport Related Employment Zone (DAREZ) development in 2009. The PCA covered the larger Astra Aerolab precinct (approx. 86ha) which includes the current site (Lots 200-212). Relevant information for the current site from the report is summarised below. The site overlain on Drawing No. 1 from DP (2009) is presented as Figure 4, Appendix A.

The objective of the PCA was to "... identify past and present contaminating activities, report on site condition, and provide a preliminary assessment of site contamination."

DP carried out the following scope of work:

- Discussion with current land owners;
- Review of Council records, historical aerial photos, NSW Department of Environment and Climate Change (DECC) records, NSW WorkCover Dangerous Goods Search and published data;
- Site inspection;
- Preparation of this report which discusses the findings of the PCA.

Information from the DP (2009) site history assessment is summarised below:

- Historical titles search for Lot 11 DP1036501 (includes current site) identified the site was owned by the Sansom family, who were farmers, from 1900 to 1989. From 1989 to at least

2009 the site was owned by B & M Ellison Pty Ltd. Qualtest note that GNAPL indicated that they purchased the site from B & M Ellison Pty Ltd in 2019.

- Aerial photographs from 1954, 1966, and 1975 indicated that the current site (Lot 200-212) was covered with vegetation. An access track was visible in the southern portion of the site in 1974. The majority of the site was cleared in the 1984 photograph, but appeared grassed and undeveloped. The site in 1998 was similar to 1984, but with grass also cleared, and a gravel or asphalt access track, on the southern edge of the site.
- Anecdotal information provided to DP by Mr Barrie Ellison in 2009 indicated that the site has historically been used for cattle grazing. A sand quarry was present on the broader Astra Aerolab site. Based on the plans provided, the sand quarrying does not appear to have encroached onto the site. The quarried sand was used at the neighbouring RAAF base. Mr Ellison was not aware of any material being imported to his property. Mr Ellison was also unaware of any building infrastructure built on the site as part of the quarrying works.
- DP undertook a site walkover of Lot 11 DP1036501, however it is difficult to identify precisely which of their observations relate to the current site (Lots 200-212). The DP site walkover observations that likely relate to the current site have been summarised below:
 - Vegetation appeared to be mostly dense bushland and multiple sand dunes particularly in the central and eastern portion;
 - Rubbish including corrugated iron, steel, old rubbish bins and some timbers were identified. Qualtest note this appears to have been located in the southern portion of the current site;
 - Gravel unpaved access tracks generally consisting of coal reject/carbonaceous siltstone, imported fill and asphalt were identified through the central portion. Qualtest note this appears to have been located in the southern portion of the current site;
 - Stockpiles appearing to comprise of coal reject to carbonaceous siltstone to iron stained coffee rock were observed along access tracks; Qualtest note these may have been located in the southern portion of the current site, or located further south of the site;
- DP collected surface water samples from across the site and tested each sample for pH and electrical conductivity (EC). The results of the pH and EC testing suggested neutral to slightly acidic and fresh surface waters.

DP identified the following principal sources of contamination, that are considered relevant to the current site:

- Fill materials on unpaved roads and within stockpiles;
- Waste materials; and,
- Asphalt pavements.

DP recommended additional investigation in targeted areas to assess potential contaminants, and to provide recommendations for remediation (if required).

3.2 Qualtest (2024) Preliminary Contamination Review

Qualtest carried out a Preliminary Contamination Review (PCR) for the Site in May 2024.

The objectives of the Preliminary Contamination Review were to provide:

- An assessment of the likelihood for contamination to be present on the site from past uses and activities, based on the DP (2009) PCA and review of updated information; and,

- Provide recommendations on the need for further assessment, management and/or remediation (if required).

In order to achieve the above objective, Qualtest carried out the following scope:

- Review of DP (2009) PCA;
- Review of historical aerial photographs between 2009 and 2024;
- Search of the NSW EPA's list of contaminated sites relevant to the site and nearby properties;
- Site walkover; and
- Data assessment and preparation of a Preliminary Contamination Review Report.

The site history assessment indicated the site was used for cattle grazing from circa 1900 to about 1989. The site was uncleared bushland until between 1975 and 1984, when the majority of the site was cleared of trees. Between 1984 and 1998, grass was cleared and a gravel or asphalt access track was constructed in the southern portion/edge of the site. The site remained relatively unchanged from 1998 to today.

During the site walkover, several stockpiles of material were observed on the site:

- SP1 – located in the south-eastern corner of the site. The stockpile was overgrown with vegetation and difficult to observe. One small area of material was visible and showed gravelly sand, grey-brown. The stockpile was between about 300m³ to 400m³ – noting that the volume of the stockpile was difficult to assess due to vegetation;
- SP2 – located in the central portion of the site. The stockpile comprised about 11 x 10m³ piles of gravel that appeared to be imported quarry material;
- SP3 – located in the central portion of the site. The stockpile comprised about 10m³ of gravel that appeared to be imported quarry material;
- SP4 – located in the south-western portion of the site. The size and material type of the stockpile was unable to be observed due to dense vegetation growing on the stockpile;
- SP5 – located in south-eastern portion of the site. The stockpile was overgrown with vegetation and difficult to observe. The stockpile was about 1,320m³ – noting that the volume of the stockpile was difficult to assess due to vegetation;
- SP6 – located in the north-eastern portion of the site. The stockpile was overgrown with vegetation and difficult to observe. The stockpile was about 1,430m³ – noting that the volume of the stockpile was difficult to assess due to vegetation.

About 10 concrete pipes were observed in the central portion of the site. No other anthropogenic material was observed, noting that visibility of the site was limited by dense vegetation.

Three Areas of Environmental Concern (AECs) were identified based on the site history and site observations. The AECs related to: 1. Use of fill material in access tracks and stockpiling of fill materials; 2. Illegal dumping of waste materials; and 3. Migration of PFAS contamination onto the site from the RAAF Base.

The Preliminary Conceptual Site Model (CSM) indicated that there was potential for soil and groundwater contamination to exist on the site and potentially complete exposure pathways could exist to site users, construction workers, and the environment.

Based on the above, it was recommended that a Detailed Site Investigation, comprising intrusive investigations, be carried out on the site.

3.3 Williamtown RAAF Base PFAS Assessments

The Williamtown RAAF Base and surrounds have been the subject of numerous investigations due to the occurrence of Per and Poly-FluoroAlkyl Substances (PFAS) contamination. The PFAS contamination has been identified across and beyond the RAAF Base boundaries, largely spread via groundwater and surface water.

Information is publicly available from the Australian Government Department of Defence – PFAS Investigation and Management Program, RAAF Base Williamtown website (<https://www.defence.gov.au/environment/pfas/williamtown/Default.asp>).

The website states: “In October 2018, Defence completed the detailed environmental investigation into per- and poly-fluoroalkyl substances (PFAS) on, and in the vicinity of, RAAF Base Williamtown. All findings from the investigation are available on the publications page including detailed reports and factsheets.

Defence is now focusing on management and remediation of PFAS contamination within the Management Area. The outcomes of the investigation have been used to develop a PFAS Management Area Plan (PMAP) that outlines the best management and remediation solutions for the unique circumstances at Williamtown.”

Qualtest carried out a review of the PMAP (ref: RAAF Base Williamtown, PFAS Management Area Plan, 23 September 2023 Revision 1) as part of the PCR (Qualtest, 2024). The review showed the site was located in the Primary Management Zone.

Groundwater and Surface Water Monitoring

The PMAP states that groundwater, surface water and sediment sampling on and off Base will occur every 6 months. The most recent report publicly available is the AECOM (October, 2022) Annual Interpretive Report – 2021 (AECOM, 2022).

Based on the AECOM, 2022 report, there are no groundwater monitoring bores, or surface water/sediment sampling locations on the site. There are a number of offsite groundwater monitoring wells, and surface water/sediment sampling locations, surroundings the site, at various distances from the site.

Data from the AECOM (2022) report for the closest groundwater monitoring wells up- and down-gradient of the site have been compared to adopted criteria for human health.

There is no human health criteria for PFAS in groundwater based on land use, the human health criteria is for Tolerable Daily Intake (TDI) based on drinking water or recreational water use. As the potential exposure pathway for human receptors for groundwater is during construction, recreational water use is considered the most representative. Therefore, the criteria for recreational water presented in Table 1 of the PFAS NEMP was adopted.

The AECOM (2022) data (for samples collected May 2021) are presented below compared to the

Location	Date Sampled	PFOA (µg/L)	PFOS + PFHxS (µg/L)	Approx. Location from site
MW175D	17/05/2021	0.04	1.7	~175m north – up-gradient
MW468	17/05/2021	0.32	21.5	
MW109D	17/05/2021	0.5	20.5	

Location	Date Sampled	PFOA (µg/L)	PFOS + PFHxS (µg/L)	Approx. Location from site
MW466	24/05/2021	0.41	25.8	
MW108D	17/05/2021	<0.01	0.55	~340m north-west – up-gradient
MW108S	17/05/2021	0.06	0.84	
MW178	19/05/2021	<0.01	0.2	~950m south-west
MW271D	13/11/2020	<0.01	<0.01	~900m south – down-gradient
MW271S	13/11/2020	<0.01	0.03	
MW278S	13/05/2021	<0.01	<0.01	~1.1km south – down-gradient
MW278D	13/05/2021	<0.01	<0.01	
Adopted Criteria		10	2	

Note: Results in **bold** exceed the adopted criteria

Based on the review of the data in the AECOM (2022) report, groundwater beneath the site is inferred to be contaminated with PFAS (PFOS + PFHxS) above the adopted criteria for protection of construction workers.

3.4 Northrop (2024) PFAS Management Plan for Astra Aerolab Stages 2A, 2C, 4 & 5

Northrop Consulting Engineers Pty Ltd (Northrop) prepared a PFAS Management Plan for Astra Aerolab Stages 2A, 2C, 4 & 5 (ref: NL182640-16 dated 25 March 2024, Revision A) (Northrop, 2024).

The PFAS Management Plan provides procedures and management measures for handling of soil and groundwater potentially contaminated with PFAS during earthworks and construction works.

4.0 Preliminary Conceptual Site Model

Based on the results of the preliminary site investigation carried out on the site, a preliminary Conceptual Site Model (CSM) was developed.

Table 4.0 – Preliminary Conceptual Site Model

AEC	COPC	Likelihood of Contamination	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Potential & Complete Exposure Pathways
1. Fill material: - Potential use of contaminated fill on access tracks. - Potential stockpiling of contaminated fill.	TRH, BTEX, PAH, Metals, Asbestos, PFAS	Low to Medium	- Import of contaminated fill. - Leaching of fill contaminants to surface water and groundwater.	- Fill soils - Surface Soils - Surface water - Groundwater	- Site users - Construction workers - Soil biota/plants and transitory wildlife - Offsite surface water – Dawsons Drain located about 1.1km south-west of the site, and Fullerton Cove located approximately 2.4km south-west of the site - Offsite groundwater discharge point – Fullerton Cove located approximately 2.4km south-west of the site.	- Direct dermal contact with contaminated soil and/or groundwater - Ingestion of contaminated soil and/or groundwater - Inhalation of asbestos fibres or contaminated soil (as dust) - Inhalation of hydrocarbon vapours - Leaching of soil contaminants to surface water and/or groundwater - Surface water discharge to Dawsons Drain. - Groundwater discharge to Fullerton Cove.	- Potentially complete exposure pathway for site users and construction workers. - Potentially complete exposure pathway for ecological receptors. - Likely incomplete exposure pathway for surface water due to and localised nature of potential contamination and distance to Dawsons Drain (1.1km). - Likely incomplete exposure pathway for groundwater due to top-down and localised nature of potential contamination, and expected depth of groundwater (~2m bgs).
2. Waste materials: Potential contamination from illegally dumped waste materials.	TRH, BTEX, PAH, Metals, Asbestos (CoPCs dependent on waste type)	Low to Medium	- Top-down leaks/spills, flakes/fibres onto soil. - Leaching of soil contaminants to surface water and groundwater.				
3. PFAS contamination: Potential migration of contaminated groundwater and surface water onto the site.	PFAS	Med to High	- Migration of contaminated groundwater. - Migration of contaminated surface water across site, contaminating surface soils.	- Soil - Surface water - Groundwater	- Site users - Construction workers	- Direct dermal contact with contaminated soil or groundwater - Ingestion of contaminated soil or groundwater	- Potentially complete exposure pathway for future construction and/or maintenance workers, if excavations extend to the groundwater table. - Incomplete exposure pathway for site visitors and site users, as they are unlikely to come into contact with groundwater. - PFAS in the region is managed under the RAAF Base Williamtown, PFAS Management Area Plan.
Notes: TRH = Total Recoverable Hydrocarbons; BTEX = Benzene, Toluene, Ethylbenzene, Xylenes; PAH = Polycyclic Aromatic Hydrocarbons; Metals = arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury; PFAS = Per- & Poly-Fluoroalkyl Substances							

5.0 Data Quality Objectives

5.1 Step 1 – State the Problem

The PCR (Qualtest, 2024) identified three AECs for the site, as shown in Table 4.0 above. It is not known if contamination is present in the AECs identified.

5.2 Step 2 – Identify the Decisions/Goal of the Study

The decisions to be made based on the DSI are:

- Is the sampling adequate to characterise the site from a contamination perspective?
- Is the site suitable for the proposed land use (commercial/industrial)?
- Is further contamination assessment required? and
- Will the site require remediation to make the site suitable for the proposed land use, from a contamination perspective?

5.3 Step 3 – Identify the Information Inputs

Inputs into the decision are:

- Have samples been collected in the required areas of the site (the identified AECs)?
- Have samples been collected at the required frequencies and adequately represent the conditions on site?
- Is the data set adequate to perform statistical analysis, if required (i.e. calculate 95% UCL)?
- Have the samples been analysed for the COPCs identified?
- Have concentrations exceeding the adopted criteria been reported in the samples?
- If concentrations exceeding adopted criteria have been reported, will these areas require remediation and/or management?

The informational inputs into the decision are:

- Field observations);
- Laboratory results (concentrations of contaminants in soil);
- QA/QC documentation and data;
- Adopted assessment criteria (see Section 7); and,
- Relevant NSW EPA endorsed Guidelines.

The media to be sampled and analysed is:

- Soil.

5.4 Step 4 – Define the Boundaries of the Study

The study boundary is defined laterally as the site boundary, Part Lot 11 DP1036501 and Part Lot 1 DP1147810, within the Port Stephens Council local government area. The site is approximately 1.5ha in size. Vertically, the study boundary will be defined by the depth of soil contamination, depth of fill, and/or depth to groundwater. It is anticipated the vertical boundary would be a maximum of 4m bgs. Temporally the study boundary is the date of sampling, 8 to 10 May 2024. The site boundaries are shown on Figures 1 and 2, Appendix A.

5.5 Step 5 – Develop the Analytical Approach

The analytical approach can be defined as: -

- If the laboratory quality assurance/ quality control data are within the acceptable ranges, the data will be considered suitable for use;
- If the COPCs are reported above the adopted criteria and/or at elevated levels (where no criteria are available) then it will be considered whether further assessment, remediation and/or management measures are required;
- Where practical and/or appropriate, the 95% Upper Confidence Limit (UCL) of the validation samples will be calculated. If the 95% UCL is above the adopted criteria, then it will be considered whether further assessment, remediation and/or management measures are required; and,
- Where concentrations are below the assessment criteria, then no further assessment, remediation and/or management of that contaminant, in that area, in that media, is required. This is provided samples have been collected at the required frequencies (as per NSW EPA guidelines) and adequately represent the conditions on site, if not, additional sampling may be required.

5.6 Step 6 – Specify Performance or Acceptable Criteria

There are two types of errors:

- Type 1 – finding that the site is contaminated, when it is not;
- Type 2 – finding that the site is uncontaminated, when it is.

To reduce the potential for errors, the following will be applied:

- Appropriate field sampling methodologies and collection of field data (including sampling frequency);
- Robust QA/QC assessment of field procedures and laboratory data;
- Appropriate sampling and analytical density;
- Use of statistics (i.e. 95% UCL) to assess arithmetic average of COPCs. Use of statistics will also take into account:
 - No sample should report a concentration more than 250% of the adopted criteria; and,
 - The standard deviation of a sample population should not exceed 50% of the adopted criteria.

5.7 Step 7 – Develop the Plan for Obtaining Data

The methodologies presented in this report are designed to meet the nominated DQOs.

Optimisation of the data collection process will be achieved by:

- Working closely with the analytical laboratories and sampling equipment suppliers so that appropriate procedures and processes are developed and implemented prior to and during the field work and that sampling, handling, and transport to, and processing by, the analytical laboratories is appropriate.
- Conduct sampling in accordance with industry best practice and Standard Operating Procedures (SOPs) for the type of sampling being conducted.

6.0 Field and Laboratory Investigations

6.1 Sampling Plan

The site is about 1.5ha in area. The NSW EPA (2022) Sampling Design Part 1 – Application, Contaminated Land Guidelines recommends a minimum of 25 sampling locations to characterise a site of 1.5ha. Due to the identified AECs (i.e. number of stockpiles present), a higher sampling density was adopted.

The field investigations were carried out on 8 to 10 May 2024 by an experienced Qualtest environmental scientist. The following sampling activities were carried out on the site:

- Excavation of 8 test pits (TP01, TP02, TP04, and TP05 to TP09), and collection of soil samples. It is noted that TP03 and TP10 were proposed, but the locations were inaccessible due to dense bush;
- Excavation of 45 test pits into six stockpiles (SP1 to SP6), and collection of soil samples; and
- Collection of 9 surface soil samples (SS1 to SS4 and SS6 to SS10). It is noted that SS5 was proposed, but the location was inaccessible due to dense bush.

The sampling locations are shown on Figures 4 and 5, Appendix A. The location of the samples in relation to the identified AECs is shown in Table 6.1 below.

It is noted that surface water sampling was proposed if a dam was encountered. No dams were encountered, and therefore no surface water sampling was carried out.

Table 6.1 AECs and Sampling Locations

AEC	Description	Samples Collected	
1. Use of fill material in access tracks and stockpiling of fill materials.	Access track approx. 250m long	SS6 to SS10	TRH, BTEX, PAH, Metals – 5 samples PFAS – 2 samples Asbestos NEPM – 2 samples Asbestos gravimetric – 5 samples
	SP1 – size unknown. Assumed to be up to 500m ³ .	SP1-1 0.0m to SP1-10 0.0m SP1-1 1.0m to SP1-10 1.0m	TRH, BTEX, PAH, Metals, Asbestos NEPM, PFAS – 10 samples Asbestos gravimetric – 10 samples
	SP2 – approx. 11 x 10m ³ piles (total 110m ³)	SP2-1 to SP2-4	TRH, BTEX, PAH, Metals, PFAS – 4 samples Asbestos NEPM – 2 samples Asbestos gravimetric – 4 samples

AEC	Description	Samples Collected	
	SP3 – approx. 10m ³	SP3-1	TRH, BTEX, PAH, Metals, Asbestos NEPM, PFAS – 1 sample Asbestos gravimetric – 1 sample
	SP4 – approx. between 300m ³ to 400m ³	SP4-1 to SP4-10	TRH, BTEX, PAH, Metals, Asbestos NEPM, PFAS – 10 samples Asbestos gravimetric – 10 samples
	SP5 – approx. 1,320m ³	SP5-1 0.0m to SP5-10 0.0m SP5-1 1.0m to SP5-10 1.0m	TRH, BTEX, PAH, Metals, Asbestos NEPM, PFAS – 10 samples Asbestos gravimetric – 10 samples
	SP6 – approx. 2,000m ³	SP6-1 to SP6-10	TRH, BTEX, PAH, Metals, Asbestos NEPM, PFAS – 10 samples Asbestos gravimetric – 10 samples
2. Potential illegal dumping of waste materials.	None observed, so no sampling carried out.	-	-
3. Migration of PFAS contamination onto the site from the RAAF Base.	Surface soils across the site – 1.35ha	TP01, TP02, TP04, TP05 SS1 to SS5	TRH, BTEX, PAH, Metals – 9 samples PFAS -9 samples Asbestos NEPM - 6 Asbestos gravimetric – 9 samples

6.2 Soil Sampling and Laboratory Analysis

The test pits were excavated using a 5.5t excavator equipped with a 450mm bucket. Samples were collected at the surface, and then approximately 0.5m intervals to the base of the pit. Samples were collected directly from the excavator bucket.

Samples were collected from the stockpiles by excavating pits into the stockpiles with the 5.5t excavator. One to two samples were collected from each pit, with samples varying between 0.3m to 1m depth into the stockpiles. Samples were collected directly from the excavator bucket.

Surface soil samples were collected with the aid of the 5.5t excavator. The excavator loosened the soil at the surface, and a sample was collected directly from the loosened soil.

Asbestos samples from the surface of each test pit location, stockpile samples, and surface soil samples, were collected using the gravimetric method. The gravimetric method comprised collection of a 10L sample, screening through a 6.7mm sieve, and weighing of potential ACM fragments (if any). A separate 500ml sample was also collected for laboratory analysis. The results of the gravimetric testing are shown in Table 3, Appendix B, and discussed in Section 9.2.

Head-space screening for potential volatile contamination with a photo-ionisation detector was not carried out as volatile contaminants were not a primary contaminant of concern, which was supported by field observations as no odours, stained soils, or sheens were observed.

A clean pair of nitrile gloves were used when handling each sample. The soil samples were placed into laboratory supplied glass jars and plastic PFAS jars, and zip locked bags for laboratory analysis. Each soil sample (except asbestos samples) were placed directly into an ice-chilled esky and remained chilled during fieldwork and transportation to the laboratory.

Soil samples were dispatched to NATA-accredited SGS Australia under chain of custody conditions. Samples were selected for analysis based on field observations, and providing a spread across the site. The soil samples were analysed as shown in Table 6.1 above.

7.0 Investigation Criteria

7.1 Health Investigation / Screening Levels

The health and ecological investigation levels for soil, presented in the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)*, NEPC 2013, Canberra (referred to as ASC NEPM 2013) are generally used in NSW when selecting investigation levels for chemical contaminants in soil.

The purpose of the ASC NEPM (2013) is to '*establish a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by the community which includes regulators, site assessors, environmental auditors, landowners, developers and industry*'.

ASC NEPM (2013) provides health investigation and screening levels for different exposure scenarios based on a proposed land use. Health investigation and screening levels are applicable to the first stage (Tier 1) of site assessment and are used to assist in the iterative development of a Conceptual Site Model (CSM). They are adopted as concentrations of a contaminant above which either further appropriate investigation and/or evaluation will be required, or development of an appropriate management strategy (including remediation).

Health Investigation Levels (HILs) and Health Screening levels (HSLs) are applicable for assessing human health risk via relevant exposure pathways.

The HILs were developed for a broad range of metals and organic substances. These are generic to all soil types.

The HSLs have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via inhalation and direct contact with soil and groundwater. The HSLs depend on specific soil physicochemical properties, building configurations, land use scenarios and the depth that groundwater is encountered.

Based on the proposed site use, the investigation and screening levels for commercial/industrial land use have been adopted for the site and are shown in Table 7.6, below.

7.2 Ecological Investigation / Screening Levels

To assess the impact on site vegetation and animals from contamination within the upper 2m of the subsurface, ASC NEPM presents ecological investigation levels (EILs) and ecological screening levels (ESLs) for different settings (e.g. areas of ecological significance, urban residential / public open space, commercial).

Section 3.5.1 of Schedule 5a of NEPM states that the aim of the EILs is that varying levels of protection will be provided to the following ecological receptors at all sites:

- *'Biota supporting ecological processes including microorganisms and soil invertebrates*
- *Native flora and fauna*
- *Introduced flora and fauna*
- *Transitory or permanent wildlife.'*

Further, NEPM states: *'Commercial and industrial land, particularly in long-established industrial areas, is often heavily contaminated by past activities or fill materials used to level the area. In these cases, jurisdictions may determine that HILs are the most appropriate soil quality criteria and that EILs are not applicable. In many cases, the only generic ecological value for this land use will be 'transitory wildlife'.'*

The site is proposed to be developed for a commercial/industrial subdivision, and the plans provided show the site will be covered by buildings and associated car parks. Therefore, plant life and permanent or transitory wildlife are inhibited from entering/growing on the site. Based on this, HILs are considered more appropriate to assess soil quality for commercial/industrial land uses.

Based on the above, EILs and ESLs have not been adopted.

7.3 Asbestos Materials in Soil

The assessment of known and suspected asbestos contamination in soil is based on:

- *National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra; and*
- *WA DoH 2009 Guidelines of the assessment and management of asbestos contaminated sites in Western Australia, WA Department of Health and Department of Environment and Conservation.*

Schedule B1, Section 4 NEPM (2013) provides guidance on the assessment of both friable and non-friable forms of asbestos in soil. This guidance is based on the WA DoH (2009) Guidelines that presented risk-based screening levels for asbestos in soil under various land use scenarios.

For the purpose of assessing asbestos impacts in soil, three groups are recognised:

- *Asbestos Containing Material (ACM)* - which is in sound condition although possibly broken or fragmented and the asbestos is bound in a matrix. This is restricted to material that cannot pass through a 7mm x 7mm sieve;
- *Fibrous asbestos (FA)* - friable asbestos material, such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products;
- *Asbestos fines (AF)* - includes free fibres of asbestos, small fibre bundles and also ACM fragments that pass through a 7mm x 7mm sieve.

The adopted health screening levels for asbestos in soil, are shown in Table 7.6, below.

7.4 Management Limits

The ASC NEPM (2013) provides management limits for petroleum hydrocarbons. The purpose of the Management Limits is to 'avoid or minimise' potential effects of petroleum hydrocarbons. NEPM (1999, amended 2013) Schedule B(1) provides these as effects as:

- Formation of observable Light Non-Aqueous Phase Liquid (LNAPL);
- Fire and explosive hazards; and,
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons.

Management limits were derived by Canada-Wide Standard for Petroleum Hydrocarbons (CWS-PHC) in Soil (2008) where the lowest limiting value for each effect became the Recommended Management Limit. Based on site specific information, the applicability of management limits as soil investigation levels for the site was reviewed, and is discussed further in Table 7.4 below.

Table 7.4 discusses the derivation of the revised management limits. These management limits will be applied to soils. As described in the ASC NEPM (2013) the magnitude of an exceedance will be considered in the context of whether the exposure pathways are plausible and whether exposure will result in harm. Depending on the level of the exceedance further qualitative or quantitative risk assessment may be required.

Table 7.4: Site Specific Applicability of Management Limits

TRH Fraction	Basis of Recommended Management Limits (coarse soils)	Appropriateness of Recommended Management Limits for Adopted Criteria
F1 (C6-C10)	Formation of free phase NAPL <i>700mg/kg</i> Effects on Workers in Trenches <i>1,000mg/kg</i> Fire/Explosion Risk <i>1,400mg/kg</i>	The limiting value of 700mg/kg for formation of free phase NAPL is considered appropriate. The value for effects on workers is not considered relevant as HSLs have been derived for Australian conditions and considered to be more appropriate.
F2 (C10-C16)	Effects on Workers in Trenches <i>1,000mg/kg</i> Formation of free-phase <i>Total F1 to F3 10,000mg/kg</i> Fire/Explosion Risk <i>5,200mg/kg</i>	'Effects on Workers in Trenches' is not appropriate for adoption as a criteria. These values are based on occupational exposure limits for gasoline and jet fuel, as there is no relevant acute toxicity endpoints available. CRC Care (2011) has established HSLs for 'Intrusive Maintenance Worker' for both vapour intrusion and direct contact of 'Not Limiting' and 20,000mg/kg respectively. HSLs are considered more appropriate for Australian conditions and the robustness in which they are derived.

TRH Fraction	Basis of Recommended Management Limits (coarse soils)	Appropriateness of Recommended Management Limits for Adopted Criteria
		The limiting value of 5,200mg/kg for explosion risk to intrusive maintenance workers is considered appropriate.
F3 (C16-C34)	Effectiveness of bioremediation 3,500mg/kg Formation of free phase NAPL Total F1 to F3 10,000mg/kg	'Effectiveness of bioremediation' is not appropriate as a validation criteria, rather more of a guide for assessing whether bioremediation may be a viable option. It should be noted that this criterion was developed based on Canadian conditions, where bioremediation may not be as accelerated compared to the generally warmer Australian climate. The limiting value of 10,000mg/kg for formation of free phase NAPL is considered appropriate.
F4 (C34-C40)	Formation of free phase NAPL 10,000mg/kg	The limiting value of 10,000mg/kg for formation of free phase NAPL is considered appropriate.

7.5 PFAS Criteria

The health investigation levels for PFAS in soil, presented in the *PFAS National Environmental Management Plan* (January 2020) HEPA 2020 (referred to as PFAS NEMP 2020) are used in NSW when selecting investigation levels for PFAS.

The PFAS NEMP (2020) "Provides guidance about per- and poly-fluoroalkyl substances referred to as PFOS, PFOA, and perfluorohexane sulfonate (PFHxS), and their direct and indirect precursors, as these are the most widely studied PFA compounds." The guidance includes investigation levels for human health.

Similar to the ASC NEPM (2013), the health investigation levels are applicable to the first stage (Tier 1) of site assessment and are used to assist in the iterative development of a Conceptual Site Model (CSM). They are adopted as concentrations of a contaminant above which either further appropriate investigation and/or evaluation will be required, or development of an appropriate management strategy (including remediation).

Based on the proposed development, the criteria for commercial/industrial land use have been adopted, and are shown in Table 7.6, below.

7.6 Adopted Soil Criteria

The adopted assessment criteria (for commercial/industrial land use) are listed in Table 7.6 below.

Table 7.6: Adopted Soil Assessment Criteria for Human Health

COC	HIL / HSL A (mg/kg)^{1,2,3}	Management Limits (mg/kg)⁴
TRH C6-C10 less BTEX (F1)	260	-
TRH >C10-C16 less Naphthalene (F2)	NL	-
TRH >C6 - C10	-	700
TRH >C10 - C16	-	5,200
TRH >C16 - C34	-	10,000
TRH >C34 - C40	-	10,000
Benzo(a)pyrene (CRC Care)	-	-
Carcinogenic PAH as B(a)p TEQ	40	-
Total PAHs	4,000	-
Arsenic	3,000	-
Cadmium	900	-
Chromium	3,600 (CrVI)	-
Copper	240,000	-
Lead	1,500	-
Nickel	6,000	-
Mercury	730	-
Zinc	400,000	-
Naphthalene	NL	-
Benzene	3	-
Toluene	NL	-
Ethylbenzene	NL	-
Total Xylene	230	-
Asbestos – bonded and FA/AF	No visible asbestos for surface soils	-
Asbestos – FA and AF (Friable asbestos)	0.001%	-
Asbestos – bonded	0.05%	-
Perfluorooctanoic Acid (PFOA)	50	-
Sum (PFHxS + PFOS)	20	-

Notes:

NL – Not limiting

1 – ASC NEPM (2013) - Health Investigation Levels- HIL D

2 - ASC NEPM - Soil Health Screening Levels for Vapour Intrusion, Commercial/Industrial, Sand 0m to <1m

3 – HEPA (2020) Health Investigation Levels - HIL D

4 - ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture (adjusted as described in Section 7.1.3, above)

8.0 Quality Assurance/Quality Control

Sampling activities were undertaken in accordance with normal, industry accepted practices and standards. The assessment of field and laboratory quality assurance / quality control (QA / QC) procedures is provided below, and a data validation report is presented in Appendix E.

Samples were collected for two adjacent sites in the sample sampling event. Therefore, the QA/QC assessment, and data validation report, covers both sites (Lot 200-212 and Lot 400-500).

8.1 Holding Times

Samples were extracted and analysed within the holding times.

8.2 Field QC Samples

In order to assess field quality assurance / quality control (QA/QC) procedures, the following quality control samples were collected and analysed:

Site	QC Sample	Type	Laboratory	Analysis
Lot 200-212	D.8.5.24	Duplicate of SP1-1	SGS	TRH, BTEX, PAH, Metals
Lot 200-212	T.8.5.24	Triplicate of SP1-1	Eurofins	TRH, BTEX, PAH, Metals
Lot 200-212	D1.8.5.24	Duplicate of SP6-1	SGS	TRH, BTEX, PAH, Metals
Lot 200-212	T1.8.5.24	Triplicate of SP6-1	Eurofins	TRH, BTEX, PAH, Metals
Lot 200-212	D.9.5.24	Duplicate of TP09 0.0-0.1	SGS	TRH, BTEX, PAH, Metals
Lot 200-212	T.9.5.24	Triplicate of TP09 0.0-0.1	Eurofins	TRH, BTEX, PAH, Metals, PFAS
Lot 400-500	D1.9.5.24	Duplicate of TP19 0.0-0.1	SGS	TRH, BTEX, PAH, Metals, PFAS
Lot 400-500	D2.9.5.24	Duplicate of TP26 0.0-0.1	SGS	TRH, BTEX, PAH, Metals, PFAS
Lot 400-500	T2.9.24	Triplicate of TP26 0.0-0.1	Eurofins	TRH, BTEX, PAH, Metal, PFAS

Primary and intra lab duplicate samples were analysed by the NATA-accredited SGS Australia laboratory. Inter-lab duplicate samples were analysed by the NATA-accredited Eurofins laboratory

8.3 Soil QA/QC

Table 3, Appendix B, presents the relative percentage differences (RPDs) between the primary and duplicate samples. A review of the Qualtest QA / QC results indicates that RPDs were within the acceptable range. It is noted that low concentrations can exaggerate the percentage differences with respect to small total concentrations, therefore where results for primary and duplicate sample were less than 10 times the LOR, the RPDs have been disregarded.

The laboratory internal QA/QC reports indicated that the appropriate laboratory QA / QC procedures and rates were undertaken for contamination studies, and that:

- Laboratory blank samples were free of contamination;
- Matrix spike recoveries were within the control limits, with the exception of:
 - Batch 265014 - TRH >C16-C34 (147%). The lab quoted code 9 which states: *"Recovery failed acceptance criteria due to sample heterogeneity"*. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of TRH were below the criteria, this does not affect the data usability.
 - Batch 265014B - Fluoranthene (45%), pyrene (42%) and zinc (19%). The lab quoted code 9 which states: *"Recovery failed acceptance criteria due to sample heterogeneity"*, and code 5 which states: *"Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds spike level)"*. As the recoveries were lower than the control limits, theoretically concentrations could be higher in the samples than that recovered. Concentrations of PAHs and zinc were well below the adopted criteria. Therefore, these recoveries do not affect the outcome of the assessment.
 - Batch 1096083 – Several PAH compounds (62% to 140%). The lab quoted code Q08 which states: *The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference."*. As the recoveries were generally lower than the control limits, theoretically concentrations could be higher in the samples than that recovered. Concentrations of PAHs were well below the adopted criteria. Therefore, these recoveries do not affect the outcome of the assessment.
- Laboratory duplicate RPDs were recorded within the control limits except for:
 - Batch 265014 - a range of PAHs (57%-128%) and zinc (42%). The laboratory quoted code 2 which states: *"The RPD failed acceptance criteria due to sample heterogeneity."* Based on this, these RPDs do not affect data usability;
 - Batch 265014B - a range of PAHs (86%-147%) and nickel (38%) and zinc (46%). The laboratory quoted code 2 which states: *"The RPD failed acceptance criteria due to sample heterogeneity."* Based on this, these RPDs do not affect data usability;
- Surrogates and laboratory control samples were within the laboratories acceptable range with the exception of:
 - Batch 265905A - surrogate for PFAS compounds for samples SP4-1 and SP6-9, recoveries of 141% and 135%. The lab did not provide a reason the recoveries. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of PFAS were below the criteria, this does not affect the data usability.
 - Batch 265014 – surrogate for PAH compounds for sample D.9.5.24 (d5-nitrobenzene 136%). The lab quoted code 1, which states: *"At least 2 of 3 surrogates are within acceptance criteria"*. Based on this, the surrogate outlier is not considered to affect the usability of the results. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As

the concentrations of PAHs were below the criteria, this does not affect the outcome of the report.

- Batch 265014A - surrogate for PFAS compounds for samples TP11 0.0-0.1, TP12 0.0-0.1 and TP13 0.0-0.1, recoveries of 179%, 186%, and 161%. The lab did not provide a reason the recoveries. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of PFAS were below the criteria, this does not affect the data usability.
- Batch 265014C - surrogate for PFAS compounds for 14 samples, recoveries between 141% and 460%. The lab did not provide a reason the recoveries. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of PFAS were below the criteria, this does not affect the data usability.

8.4 Data Usability

Based on the above, and the data validation report in Appendix E, it is considered that the field and laboratory methods for soil sampling are appropriate and that the data obtained is usable and considered to reasonably represent the concentrations at the sampling points at the time of sampling.

9.0 Results

9.1 Subsurface Conditions

The soils observed during field works are summarised below in Table 9.1.1 – soil profile observed in test pits, and Table 9.1.2 – soils observed in surface soil samples and stockpiles. The test pit logs are presented in Appendix C. Selected photographs of test pits are also included in Appendix C.

Table 9.1.1 – Summary of Soil Units and Types

Unit	Soil Type	Description	Depth Range (m bgs)
1	Fill (TP01 only)	Gravelly CLAY – medium plasticity, dark grey to dark grey-brown, fine to medium grained gravel.	0.0 to 0.2m
2	Topsoil	SAND – fine to medium grained, dark brown to dark grey-brown	0.0 to 0.1
3	Aeolian Soils	SAND - fine to medium grained, grey Indurated SAND - fine to medium grained, brown to dark brown, pale brown	0.1/0.2 to 0.5*/1.6*

Note: * - end of pit

Table 9.1.2 – Summary of Soil Types Encountered at Surface Sample Locations and Stockpiles

Location	Description
SP1	Silty SAND – fine to medium grained, brown to dark brown, fines of lo plasticity. Stockpile covered in vegetation.
SP2	GRAVEL – fine grained, grey to blue-grey. Appears to be imported quarry material.
SP3	GRAVEL – medium grained, grey to blue-grey. Appears to be imported quarry material.
SP4	SAND – fine to medium grained, brown to grey-brown. Stockpile covered in vegetation.
SP5	Gravelly SAND – fine to coarse grained, grey to dark grey with some brown, fine to coarse grained gravel, with some clay. Trace PVC pipe, plastic mesh, and crusher dust. Stockpile covered in vegetation.
SP6	Gravelly SAND – fine to coarse grained, grey to dark grey with some brown, fine to coarse grained gravel, with some clay. Trace PVC pipe, plastic mesh, and crusher dust. Stockpile covered in vegetation.
SS1 to SS3	SAND – fine to medium grained, grey
SS4, SS6 to SS10	Sandy GRAVEL – grey to dark grey with some highly weathered shale type rock

No groundwater inflows were observed during test pitting. It is noted that works were carried out during a period of heavy rain, and ponded surface water flowed into some test pits during excavation.

9.2 Laboratory Results

Soil analytical results are summarised in Tables 1 and Table 2, Appendix B. The laboratory analytical reports are also included in Appendix D.

The laboratory results were compared to the investigation levels described in Section 7. The analytical results indicated that concentrations of contaminants were reported below the adopted criteria, and no asbestos was detected, with the exception of:

- AF exceeded the HSL (0.001%w/w) in sample SP4-6 (0.008 %w/w). The FA comprised Chrysotile >2mm and <7mm.

10.0 Conceptual Site Model

Based on the results of the contamination assessment carried out on the site, a Conceptual Site Model (CSM) has been developed. Refer to Table 10.0, below.

Table 10.0 – Updated Conceptual Site Model Following Assessment

AEC	COPC	Likelihood of Contamination	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Potential & Complete Exposure Pathways
1. Fill material: - Potential use of contaminated fill on access tracks. - Potential stockpiling of contaminated fill.	TRH, BTEX, PAH, Metals, Asbestos, PFAS	Low to Medium	- Import of contaminated fill. - Leaching of fill contaminants to surface water and groundwater.	- Fill soils - Surface Soils - Surface water - Groundwater	- Site users - Construction workers - Soil biota/plants and transitory wildlife - Offsite surface water – Dawsons Drain located about 1.1km south-west of the site, and Fullerton Cove located approximately 2.4km south-west of the site	- Direct dermal contact with contaminated soil and/or groundwater - Ingestion of contaminated soil and/or groundwater - Inhalation of asbestos fibres or contaminated soil (as dust) - Inhalation of hydrocarbon vapours - Leaching of soil contaminants to surface water and/or groundwater	SS6 to SS10 (access track) SP1-1 to SP1-10 SP2-1 to SP2-4 SP3-1 SP4-1 to SP4-10 SP5-1 to SP5-10 SP6-1 to SP6-10	- Complete exposure pathway for site users and construction workers handling SP4, as AF identified above HSL in one sample. - Incomplete exposure pathway for site users and construction workers for remainder of site, as no contamination identified. - Incomplete exposure pathway for surface water as no contamination identified other than asbestos in SP4, and distance to Dawsons Drain (1.1km). - Incomplete exposure pathway for site activities to have contaminated groundwater, as no contamination other than asbestos in SP4 identified. Groundwater is contaminated with PFAS, as discussed below for AEC 3.
2. Waste materials: Potential contamination from illegally dumped waste materials.	TRH, BTEX, PAH, Metals, Asbestos (CoPCs dependent on waste type)	Low to Medium	- Top-down leaks/spills, flakes/fibres onto soil. - Leaching of soil contaminants to surface water and groundwater.		Offsite groundwater discharge point – Fullerton Cove located approximately 2.4km south-west of the site.	- Surface water discharge to Dawsons Drain. - Groundwater discharge to Fullerton Cove.	No waste encountered, so no sampling completed.	
3. PFAS contamination: Potential migration of contaminated groundwater and surface water onto the site.	PFAS	Med to High	- Migration of contaminated groundwater. - Migration of contaminated surface water across site, contaminating surface soils.	- Soil - Surface water - Groundwater	- Site users - Construction workers	- Direct dermal contact with contaminated soil or groundwater - Ingestion of contaminated soil or groundwater	TP01, TP02, TP04, TP05 SS1 to SS5	- Potentially complete exposure pathway for future construction and/or maintenance workers, if excavations extend to the groundwater table. - Incomplete exposure pathway for site visitors and site users, as they are unlikely to come into contact with groundwater, and no soil PFAS contamination identified. - PFAS in the region is managed under the RAAF Base Williamtown, PFAS Management Area Plan.

11.0 Conclusions and Recommendations

The sampling and analysis identified contamination in the form of Asbestos Fines (AF) in one sample in stockpile SP4. No other contamination was identified on the site, from past or current activities.

Based on the review of the data in the AECOM (2022) report, groundwater beneath the site is inferred to be contaminated with PFAS (PFOS + PFHxS) above the adopted criteria for protection of construction workers.

The Conceptual Site Model identified a complete exposure pathway for:

- Human receptors handling the soils in SP4; and,
- Human receptors (construction workers) during construction/earthworks, if excavations extended into groundwater due regional PFAS contamination of groundwater.

Based on the results of the Detailed Site Investigation, it is considered the site can be made suitable for the proposed commercial/industrial development, with the following recommendations:

- Preparation and implementation of a Remediation Action Plan (RAP) for the asbestos contamination identified in SP4;
- Preparation of a Validation Report, following remediation works;
- Implementation of the Northrop (2024) PFAS Management Plan for Astra Aerolab Stages 2A, 2C, 4 & 5 during earthworks and construction works; and,
- Preparation of an Unexpected Finds Procedure, which would be implemented during earthworks and construction works. This will be included in the RAP to be prepared for the site.

Provided the recommendations made within this report are implemented, it is considered that the site can be made suitable, from a contamination point of view, for the proposed commercial/industrial subdivision development.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013). This report comprises a Stage 2 detailed site investigation, as described by State Environmental Planning Policy (Resilience and Hazards) 2021, Chapter 4.

12.0 Limitations

This report has been prepared by Qualtest for Greater Newcastle Aerotropolis Pty Ltd based on the objectives and scope of work list in Sections 1.1 and 1.2. No warranty, expressed or implied, is made as to the information and professional advice included in this report. Anyone using this document does so at their own risk and should satisfy themselves concerning its applicability and, where necessary, should seek expert advice in relation to their particular situation.

The opinions, conclusions and recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. Qualtest has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

In preparing this report Qualtest has relied on information contained in reports, documents and plans by others, and has assumed that the information provided in those reports is accurate. In preparing this report Qualtest has relied on information contained in searches of government websites and has not independently verified or checked the data contained on these websites.

In preparing this report, current guidelines for assessment and management of contaminated land were followed. The conclusions reached in this report are dependent on the limitations inherent in all subsurface investigations where horizontal and vertical variation in contaminant concentrations can occur. No subsurface assessment can accurately predict the contaminant concentration at all points.

Site conditions may change after the date of this Report. Qualtest does not accept responsibility arising from, or in connection with, any change to the site conditions.

13.0 References

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NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), Canberra (ASC NEPM 2013).

WA Department of Health (2009) Guidelines for the assessment and management of asbestos contaminated sites in Western Australia, WA Department of Health and Department of Environment and Conservation.

WA Department of Health (2021) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia, WA Department of Health and Department of Environment and Conservation.

NSW EPA (2007) Guidelines for the Assessment and Management of Groundwater Contamination.

Douglas Partners Pty Ltd (DP) (2009) Stage 1 Preliminary Contamination Assessment, ref: 39728.03 dated 16 April 2009

Qualtest (2024) Preliminary Contamination Review (PCR), ref: NEW24P-0090-AAv1 dated 14 May 2024

APPENDIX A:

Figures



Image obtained from Nearmaps, image dated 25 September 2023



Client:	GREATER NEWCASTLE AEROTROPOLIS PTY LTD	Drawing No:	FIGURE 1
Project:	DETAILED SITE INVESTIGATION	Project No:	NEW24P-0090-AC
Location:	PROPOSED LOT 200-212, ASTRA AEROLAB, WILLIAMTOWN NSW	Scale:	N.T.S.
Title:	SITE LOCATION PLAN	Date:	10/05/2024



Image obtained from Nearmaps, image dated 12 October 2023



Client:	GREATER NEWCASTLE AEROTROPOLIS PTY LTD	Drawing No:	FIGURE 3
Project:	DETAILED SITE INVESTIGATION	Project No:	NEW24P-0090-AC
Location:	PROPOSED LOT 200-212, ASTRA AEROLAB, WILLIAMTOWN NSW	Scale:	N.T.S.
Title:	SITE FEATURES PLAN	Date:	10/05/2024



Image obtained from Nearmaps, image dated 12 October 2023



Client:	GREATER NEWCASTLE AEROTROPOLIS PTY LTD	Drawing No:	FIGURE 4
Project:	DETAILED SITE INVESTIGATION	Project No:	NEW24P-0090-AC
Location:	PROPOSED LOT 200-212, ASTRA AEROLAB, WILLIAMTOWN NSW	Scale:	N.T.S.
Title:	SAMPLE LOCATION PLAN - STOCKPILES	Date:	16/05/2024



Image obtained from Nearmaps, image dated 12 October 2023



Client:	GREATER NEWCASTLE AEROTROPOLIS PTY LTD	Drawing No:	FIGURE 5
Project:	DETAILED SITE INVESTIGATION	Project No:	NEW24P-0090-AC
Location:	PROPOSED LOT 200-212, ASTRA AEROLAB, WILLIAMTOWN NSW	Scale:	N.T.S.
Title:	SAMPLE LOCATION PLAN - REMAINDER OF SITE	Date:	16/05/2024



LEGEND:

Location	Depth
Contaminant	Concentration Exceeds HSL

● Stockpile sampling locations

Approx. Scale Bar

0m 20m 40m 80m



Image obtained from Nearmaps, image dated 12 October 2023

Client:	GREATER NEWCASTLE AEROTROPOLIS PTY LTD	Drawing No:	FIGURE 6
Project:	DETAILED SITE INVESTIGATION	Project No:	NEW24P-0090-AC
Location:	PROPOSED LOT 200-212, ASTRA AEROLAB, WILLIAMTOWN NSW	Scale:	N.T.S.
Title:	IDENTIFIED CONTAMINATION	Date:	17/05/2024

APPENDIX B:

Tables

					Field ID	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0	SP2-1	SP2-2	SP2-3	SP2-4
					Date	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024
Analytes		Units	LOR	HIL/HSL D ^{1,2}	Mgmt Limits ³														
pH & CEC	pH (1:5 Aqueous extract)	pH units	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cation Exchange Capacity	meq/100g	0.05			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	Arsenic	mg/kg	1	3000		2	3	3	3	3	3	3	4	3	3	<1	<1	<1	1
	Cadmium	mg/kg	0.3	900		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Chromium	mg/kg	0.5	3600		16	17	16	17	14	19	20	2.8	17	14	25	19	21	18
	Copper	mg/kg	0.5	240000		12	13	13	15	13	15	15	10	12	12	11	12	14	9.5
	Lead	mg/kg	1	1500		21	18	20	20	17	20	19	17	16	15	2	1	1	2
	Nickel	mg/kg	0.5	6000		6.5	5.8	5.7	7.4	5.5	6.4	6.2	4.1	5.2	5.1	16	12	12	11
	Zinc	mg/kg	2	400000		37	29	28	33	33	26	22	34	20	22	31	30	27	29
	Mercury	mg/kg	0.05	730		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.17	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
PAHs	Naphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluorene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenanthrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluoranthene	mg/kg	0.1			<0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
	Pyrene	mg/kg	0.1			<0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chrysene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(b&j)fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Carcinogenic PAHs	mg/kg	0.3	40		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Total PAH (18)	mg/kg	0.8	4000		<0.8	<0.8	<0.8	<0.8	0.8	<0.8	<0.8	<0.8	3.2	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	4000		<0.8	<0.8	<0.8	<0.8	0.8	<0.8	<0.8	<0.8	1.5	<0.8	<0.8	<0.8	<0.8	<0.8	
BTEX	Benzene	mg/kg	0.1	3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylenes - Total	mg/kg	0.3	230		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
TRH	Naphthalene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TRH C6-C10	mg/kg	25		700	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH C6-C10 less BTEX (F1)	mg/kg	25	260		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH >C10-C16	mg/kg	25		5200	<25	<25	<25	<25	29	<25	<25	26	<25	<25	<25	<25	<25	<25
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	25	NL		<25	<25	<25	<25	29	<25	<25	26	<25	<25	<25	<25	<25	<25
	TRH >C16-C34	mg/kg	90		10000	<90	<90	160	150	250	<90	<90	110	190	<90	<90	<90	<90	<90
	TRH >C34-C40	mg/kg	120		10000	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	

Notes

- Not Analysed

Result Concentration exceeds adopted HIL/HSL A

Results Concentration exceeds the adopted Mgmt Limits

¹ ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Commercial/Industrial, Sand 0m to <1m

² ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture

				Field ID	SP3-1	SP4-1 0.0	SP4- 1.0	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6	SP4-7	SP4-8	SP4-9	SP4-10	SP5-1 1.0	SP5-2 1.0
				Date	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024
Analytes		Units	LOR	HIL/HSL D ^{1,2}	Mgmt Limits ³													
pH & CEC	pH (1:5 Aqueous extract)	pH units	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-
	Cation Exchange Capacity	meq/100g	0.05			-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	Arsenic	mg/kg	1	3000		1	2	1	2	1	2	2	1	1	<1	1	1	2
	Cadmium	mg/kg	0.3	900		<0.3	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.3
	Chromium	mg/kg	0.5	3600		<0.5	4.9	2.8	3.3	3.7	3.8	8.2	5.1	4.7	2.6	2.4	4.1	5
	Copper	mg/kg	0.5	240000		<0.5	12	9.1	9.9	9.7	6	13	18	10	6.8	7.2	8	4.9
	Lead	mg/kg	1	1500		3	8	8	6	6	5	6	8	6	5	7	5	3
	Nickel	mg/kg	0.5	6000		<0.5	0.8	0.9	1	1.2	1.8	5.2	1.7	2.3	1	0.7	1.6	2.7
	Zinc	mg/kg	2	400000		7.7	20	33	19	29	21	38	32	26	20	21	25	8.9
	Mercury	mg/kg	0.05	730		<0.05	0.06	0.07	0.09	0.09	0.05	0.08	0.14	0.07	0.06	0.06	0.07	<0.05
PAHs	Naphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthylene	mg/kg	0.1			<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
	Fluorene	mg/kg	0.1			<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
	Phenanthrene	mg/kg	0.1			<0.1	0.1	0.2	2.6	0.1	0.1	0.1	0.3	0.2	0.1	3.9	0.2	<0.1
	Anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1
	Fluoranthene	mg/kg	0.1			<0.1	0.3	0.6	4.1	0.4	0.4	0.3	0.7	0.5	0.4	5.1	0.5	<0.1
	Pyrene	mg/kg	0.1			<0.1	0.3	0.6	3.6	0.4	0.4	0.3	0.6	0.5	0.4	4.5	0.4	<0.1
	Benzo(a)anthracene	mg/kg	0.1			<0.1	0.1	0.3	1.1	0.1	0.1	0.1	0.2	0.2	<0.1	1.4	0.1	<0.1
	Chrysene	mg/kg	0.1			<0.1	0.1	0.3	1.2	0.2	0.2	0.1	0.3	0.2	0.2	1.5	0.2	<0.1
	Benzo(b&j)fluoranthene	mg/kg	0.1			<0.1	0.2	0.4	1.6	0.2	0.2	0.2	0.4	0.3	0.2	1.8	0.2	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1			<0.1	<0.1	0.1	0.7	0.1	0.1	<0.1	0.2	0.1	0.1	0.8	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1			<0.1	0.2	0.3	1.6	0.2	0.2	0.2	0.3	0.3	0.2	1.7	0.2	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1			<0.1	0.1	0.3	1.2	0.2	0.2	0.1	0.3	0.2	0.2	1.2	0.2	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1			<0.1	0.1	0.3	1.3	0.2	0.2	0.2	0.3	0.2	0.2	1.2	0.2	<0.1
	Carcinogenic PAHs	mg/kg	0.3	40		<0.3	0.3	0.5	2.2	0.4	0.4	0.3	0.6	0.5	0.4	2.4	0.4	<0.3
	Total PAH (18)	mg/kg	0.8	4000		<0.8	1.8	3.3	20	2.3	2.2	1.8	3.5	2.7	2.1	24	2.3	<0.8
	Total PAH (NEPM/WHO 16)	mg/kg	0.8	4000		<0.8	1.8	3.3	20	2.3	2.2	1.8	3.5	2.7	2.1	24	2.3	<0.8
BTEX	Benzene	mg/kg	0.1	3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylenes - Total	mg/kg	0.3	230		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
TRH	Naphthalene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TRH C6-C10	mg/kg	25		700	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH C6-C10 less BTEX (F1)	mg/kg	25	260		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH >C10-C16	mg/kg	25		5200	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	25	NL		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH >C16-C34	mg/kg	90		10000	<90	<90	120	160	150	120	110	160	100	110	220	130	140
	TRH >C34-C40	mg/kg	120		10000	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120

Notes

- Not Analysed

Result Concentration exceeds adopted HIL/HSL A

Results Concentration exceeds the adopted Mgmt Limits

¹ ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Commercial/Industrial, Sand 0m to <1m

² ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture

					Field ID	SP5-3 0.0	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SP6-1	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6	SP6-7	SP6-8	SP6-9
					Date	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024
Analytes		Units	LOR	HIL/HSL D ^{1,2}	Mgmt Limits ³																		
pH & CEC	pH (1:5 Aqueous extract)	pH units	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cation Exchange Capacity	meq/100g	0.05			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	Arsenic	mg/kg	1	3000		3	2	1	2	2	2	2	1	2	1	3	2	3	<1	1	1	1	2
	Cadmium	mg/kg	0.3	900		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	
	Chromium	mg/kg	0.5	3600		2.3	3.7	5.1	4.7	3.8	5.9	5.6	4.6	7.5	2.5	6.8	4.6	5.5	1	3.7	2.9	18	2
	Copper	mg/kg	0.5	240000		2.4	3.1	3	4	3.4	4.7	4.8	4.7	6.7	2.7	7.6	3	1.9	3	4.5	3.9	3.1	1.9
	Lead	mg/kg	1	1500		4	3	6	40	4	4	5	6	4	8	5	6	6	5	6	7	5	5
	Nickel	mg/kg	0.5	6000		1.2	1.8	0.8	1.6	1.8	2.9	3.3	0.9	3.5	0.9	2.8	1.1	0.6	<0.5	1.6	1.3	1.3	0.8
	Zinc	mg/kg	2	400000		12	15	13	16	13	24	24	10	25	16	27	13	2.7	12	23	23	12	25
	Mercury	mg/kg	0.05	730		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
PAHs	Naphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	2-methylnaphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	1-methylnaphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Acenaphthylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Acenaphthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Fluorene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Phenanthrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
	Pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
	Benzo(a)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chrysene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(b&j)fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Carcinogenic PAHs	mg/kg	0.3	40		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Total PAH (18)	mg/kg	0.8	4000		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	2.1	1.7	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
	Total PAH (NEPM/WHO 16)	mg/kg	0.8	4000		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	2.1	1.7	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
BTEX	Benzene	mg/kg	0.1	3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Toluene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Ethylbenzene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Xylenes - Total	mg/kg	0.3	230		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
TRH	Naphthalene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	TRH C6-C10	mg/kg	25		700	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	
	TRH C6-C10 less BTEX (F1)	mg/kg	25	260		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	
	TRH >C10-C16	mg/kg	25		5200	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	27	47	40	61	52	<25	<25
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	25	NL		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	27	47	40	61	52	<25	<25
	TRH >C16-C34	mg/kg	90		10000	<90	<90	<90	<90	<90	<90	<90	<90	<90	200	91	250	460	370	390	400	200	100
	TRH >C34-C40	mg/kg	120		10000	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	200	350	210	330	<120	<120

Notes

- Not Analysed

Result Concentration exceeds adopted HIL/HSL A

Results Concentration exceeds the adopted Mgmt Limits

¹ ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Commercial/Industrial, Sand 0m to <1m

² ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture

				Field ID	SP6-10	TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	TP06 0.0-0.1	TP08 0.0-0.1	SS1	SS2	SS3	SS6	SS7	SS8	SS9	SS10
				Date	8/05/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024	9/5/2024	9/5/2024	8/5/2024	8/5/2024	8/5/2024	9/05/2024	9/05/2024	9/05/2024	9/05/2024	9/05/2024
Analytes		Units	LOR	HIL/HSL D ^{1,2}	Mgmt Limits ³														
pH & CEC	pH (1:5 Aqueous extract)	pH units	0.1			-	-	-	-	-	-	-	-	4.5	-	-	-	-	-
	Cation Exchange Capacity	meq/100g	0.05			-	-	-	-	-	-	-	0.14	-	-	-	-	-	-
Metals	Arsenic	mg/kg	1	3000		2	6	<1	<1	<1	<1	<1	<1	<1	13	22	4	10	14
	Cadmium	mg/kg	0.3	900		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Chromium	mg/kg	0.5	3600		6.1	3.9	2.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	2.9	1.9	3.3	1.3	3
	Copper	mg/kg	0.5	240000		6.2	15	3.1	1.3	1.5	1.5	1.1	1.8	-	<0.5	14	10	19	14
	Lead	mg/kg	1	1500		4	14	2	3	3	4	4	3	-	1	20	26	13	17
	Nickel	mg/kg	0.5	6000		4.2	6.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	4.9	4.1	7.9	5
	Zinc	mg/kg	2	400000		31	50	4.8	3.8	3.7	6	4.6	2.4	-	<2	67	56	40	39
	Mercury	mg/kg	0.05	730		<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	0.18	0.14	<0.05	0.12
PAHs	Naphthalene	mg/kg	0.1			<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.2	0.2	0.3	0.3	0.2
	2-methylnaphthalene	mg/kg	0.1			<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.7	0.7	1.1	1	0.6
	1-methylnaphthalene	mg/kg	0.1			<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.8	0.8	1	1	0.7
	Acenaphthylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluorene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenanthrene	mg/kg	0.1			<0.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.7	0.7	1.5	1.2	0.5
	Anthracene	mg/kg	0.1			<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	0.2	0.1	<0.1
	Fluoranthene	mg/kg	0.1			<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.2	0.1	0.9	0.4	0.2
	Pyrene	mg/kg	0.1			<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.2	0.2	0.6	0.4	0.2
	Benzo(a)anthracene	mg/kg	0.1			<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.1	0.1	0.3	0.3	0.1
	Chrysene	mg/kg	0.1			<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.1	0.1	0.5	0.3	0.1
	Benzo(b&j)fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	0.3	0.2	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	0.1	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
	Carcinogenic PAHs	mg/kg	0.3	40		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	0.3	<0.3	<0.3
	Total PAH (18)	mg/kg	0.8	4000		<0.8	4.7	<0.8	<0.8	<0.8	<0.8	<0.8	-	<0.8	2.9	2.9	6.9	5.1	2.6
	Total PAH (NEPM/WHO 16)	mg/kg	0.8	4000		<0.8	2.5	<0.8	<0.8	<0.8	<0.8	<0.8	-	<0.8	1.4	1.4	4.9	3	1.2
BTEX	Benzene	mg/kg	0.1	3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylenes - Total	mg/kg	0.3	230		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
TRH	Naphthalene	mg/kg	0.1	NL		<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.2	0.2	0.3	0.3	0.2
	TRH C6-C10	mg/kg	25		700	<25	<25	<25	<25	<25	<25	<25	-	<25	<25	<25	<25	<25	<25
	TRH C6-C10 less BTEX (F1)	mg/kg	25	260		<25	<25	<25	<25	<25	<25	<25	-	<25	<25	<25	<25	<25	<25
	TRH >C10-C16	mg/kg	25		5200	<25	44	<25	<25	<25	<25	39	<25	-	<25	31	30	48	53
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	25	NL		<25	44	<25	<25	<25	<25	39	<25	-	<25	31	30	48	53
	TRH >C16-C34	mg/kg	90		10000	<90	140	<90	<90	<90	92	<90	<90	-	<90	97	110	200	230
	TRH >C34-C40	mg/kg	120		10000	<120	<120	<120	<120	<120	<120	<120	<120	-	<120	<120	<120	<120	<120

Notes

- Not Analysed

Result Concentration exceeds adopted HIL/HSL A

Results Concentration exceeds the adopted Mgmt Limits

¹ ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Commercial/Industrial, Sand 0m to <1m

² ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture

				Field ID	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0	SP2-1	SP2-3	SP3-1	SP4-1 0.0	SP4- 1.0	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
				Date	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024
Analytes		Units	LOR	HIL/HSL D ^{1,2}																				
PFAS	Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016		0.012	0.032	0.031	0.01	0.016	0.057	0.09	0.0078	0.07	0.033	<0.0016	<0.0016	<0.0016	0.0041	0.009	0.0093	0.0063	0.0084	0.0048	0.0076
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016		0.078	0.22	0.11	0.041	0.11	0.63	0.46	0.014	0.64	0.22	<0.0016	<0.0016	<0.0016	0.091	0.14	0.15	0.098	0.071	0.064	0.088
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	50	0.0011	0.0031	0.0029	<0.0008	<0.0008	0.0065	0.0069	<0.0008	0.0088	0.002	<0.0008	<0.0008	<0.0008	<0.0008	0.0011	0.0013	0.001	0.0012	<0.0008	0.0012
	Sum (PFHxS + PFOS)*	mg/kg	0.0016	20	0.089	0.25	0.14	0.051	0.13	0.69	0.55	0.022	0.71	0.25	<0.0016	<0.0016	<0.0016	0.095	0.14	0.16	0.1	0.08	0.069	0.096
	Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016		0.079	0.23	0.11	0.041	0.11	0.64	0.47	0.014	0.65	0.22	<0.0016	<0.0016	<0.0016	0.091	0.14	0.15	0.099	0.073	0.064	0.089
	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.0016		0.09	0.26	0.14	0.051	0.13	0.7	0.56	0.022	0.72	0.26	<0.0016	<0.0016	<0.0016	0.095	0.15	0.16	0.11	0.081	0.069	0.097
	Sum of PFASs (n=30)*	mg/kg	0.0008		0.09	0.26	0.15	<0.08	0.13	0.71	0.58	<0.08	0.74	0.26	<0.08	<0.08	<0.08	0.09	0.15	0.16	0.11	0.08	<0.08	0.1

Notes
- Not Analysed
Result Concentration exceeds adopted HIL/HSL A
3 HEPA (2020) PFAS National Environmental Management Plan, Version 2.0 - Human Health Guideline Values, Commercial/Industrial



				Field ID	SP4-7	SP4-8	SP4-9	SP4-10	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SP6-1	SP6-2	SP6-3	SP6-4	SP6-5
				Date	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024
Analytes		Units	LOR	HIL/HSL D ^{1,2}																				
PFAS	Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016		0.0045	0.0029	0.0076	0.0044	<0.0016	0.0097	<0.0016	<0.0016	0.006	<0.0016	<0.0016	0.017	<0.0016	0.0052	0.007	0.0062	<0.0016	0.011	0.029	0.0096
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016		0.067	0.075	0.18	0.1	<0.0016	0.13	<0.0016	0.0049	0.076	0.019	0.0088	0.18	0.0031	0.095	0.11	0.062	0.034	0.13	0.17	0.22
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	50	0.0011	<0.0008	0.0012	<0.0008	<0.0008	0.0022	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0024	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0011	0.0018	<0.0008
	Sum (PFHxS + PFOS)*	mg/kg	0.0016	20	0.071	0.078	0.19	0.11	<0.0016	0.14	<0.0016	0.0049	0.082	0.019	0.0088	0.2	0.0031	0.1	0.11	0.068	0.034	0.14	0.2	0.23
	Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016		0.068	0.075	0.18	0.1	<0.0016	0.13	<0.0016	0.0049	0.076	0.019	0.0088	0.19	0.0031	0.095	0.11	0.062	0.034	0.13	0.17	0.22
	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.0016		0.072	0.078	0.19	0.11	<0.0016	0.14	<0.0016	0.0049	0.082	0.019	0.0088	0.2	0.0031	0.1	0.11	0.068	0.034	0.14	0.2	0.23
Sum of PFASs (n=30)*		mg/kg	0.0008		<0.08	<0.08	0.19	0.11	<0.08	0.14	<0.08	<0.08	0.08	<0.08	<0.08	0.2	<0.08	0.1	0.11	<0.08	<0.08	0.14	0.21	0.23

Notes
- Not Analysed
Result Concentration exceeds adopted HIL/HSL A
3 HEPA (2020) PFAS National Environmental Management Plan, Version 2.0 - Human Health Guideline Values, Commercial/Industrial

				Field ID	SP6-6	SP6-7	SP6-8	SP6-9	SP6-10	TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	TP06 0.0-0.1	TP07 0.0-0.1	TP08 0.0-0.1	TP09 0.0-0.1	SS1	SS2	SS3	SS4	SS7	SS9
				Date	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	8/5/2024	8/5/2024	8/5/2024	9/05/2024	9/05/2024	9/05/2024
Analytes			Units	LOR	HIL/HSL D ^{1,2}																		
PFAS	Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016		0.017	0.014	0.0028	<0.0016	<0.0016	<0.0016	0.012	<0.0016	<0.0016	<0.0016	0.002	0.0024	0.0058	0.0023	<0.0016	0.0039	<0.0016	<0.0016	<0.0016
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016		0.25	0.31	0.13	0.076	0.042	<0.0016	0.071	<0.0016	0.0058	0.013	0.041	0.044	0.043	0.03	0.0031	0.034	<0.0016	<0.0016	<0.0016
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	50	0.0029	0.001	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
	Sum (PFHxS + PFOS)*	mg/kg	0.0016	20	0.27	0.32	0.13	0.076	0.042	<0.0016	0.084	<0.0016	0.0058	0.013	0.043	0.046	0.049	0.032	0.0031	0.038	<0.0016	<0.0016	<0.0016
	Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016		0.26	0.31	0.13	0.076	0.042	<0.0016	0.071	<0.0016	0.0058	0.013	0.041	0.044	0.043	0.03	0.0031	0.034	<0.0016	<0.0016	<0.0016
	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.0016		0.27	0.33	0.13	0.076	0.042	<0.0016	0.084	<0.0016	0.0058	0.013	0.043	0.046	0.049	0.032	0.0031	0.038	<0.0016	<0.0016	<0.0016
	Sum of PFASs (n=30)*	mg/kg	0.0008		0.28	0.33	0.13	<0.08	<0.08	<0.08	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

Notes

- Not Analysed

Result Concentration exceeds adopted HIL/HSL A

3 HEPA (2020) PFAS National Environmental Management Plan, Version 2.0 - Human Health Guideline Values, Commercial/Industrial

Sample ID	Sample Date	ACM weight (g)	ACM weight (kg)	Soil density (kg/L)	Soil Volume (L)	Asbestos Content (%)	%w/w ACM in Soil	HSL-D - ACM	%w/w FA/AF in Soil	HSL-D - FA/AF
SP1-1 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-2 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-3 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-4 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-5 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-6 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-7 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-8 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-9 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-9 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP1-10 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP2-1	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP2-3	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP3-1	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-1 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-1 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-2	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-3	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-4	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-5	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-6	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	0.008	0.001
SP4-7	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-8	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-9	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP4-10	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-1 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-2 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-3 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-4 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-4 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-5 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-6 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-7 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-8 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-9 1.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP5-10 0.0	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-1	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-2	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-3	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-4	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-5	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-6	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-7	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-8	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001

Sample ID	Sample Date	ACM weight (g)	ACM weight (kg)	Soil density (kg/L)	Soil Volume (L)	Asbestos Content (%)	%w/w ACM in Soil	HSL-D - ACM	%w/w FA/AF in Soil	HSL-D - FA/AF
SP6-9	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SP6-10	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
TP01 0.0-0.1	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
TP02 0.0-0.1	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SS1	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SS2	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	-	0.001
SS3	8/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SS4	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	-	0.001
SS6	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	-	0.001
SS7	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SS8	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	-	0.001
SS9	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	< 0.001	0.001
SS10	9/05/2024	0	0	1.8	10	15	< 0.01	0.05	-	0.001

%w/w asbestos in soil calculated using: % asbestos content x bonded ACM (kg) / soil volume (L) x soil density (kg/L)

* asbestos fragments >7mm detected by lab included

Result Exceeds adopted criteria

Result Asbestos detected on surface below adopted criteria

Criteria from ASC NEPM (2013) Table 7 - Health Screening Level (HSL) for Asbestos, Commercial/Industrial Land Use

			Sample ID		SP1-1	D.8.5.24	RPD %	SP1-1	T.8.5.24	RPD %	SP6-1	D1.8.5.24	RPD %	SP6-1	T1.8.5.24	RPD %	TP09 0.0-0.1	D.9.5.24	RPD %	TP09 0.0-0.1	T.9.5.24	RPD %	D.9.5.24	T.9.5.24	RPD %	TP19 0.0-0.1							
			Date		8/05/2024	8/05/2024		8/05/2024	8/05/2024		8/05/2024	8/05/2024		8/05/2024	8/05/2024		8/05/2024	8/05/2024		8/05/2024	8/05/2024		8/05/2024	8/05/2024		8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024	8/05/2024
			Type		Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	Duplicate	Triplicate	Primary			
Analytes			Soil Units	LOR																													
Metals	Arsenic	mg/kg	2	2	2	0	2	< 2	0	1	2	67	1	< 2	0	-	<1	-	-	< 2	-	<1	< 2	0	1								
	Cadmium	mg/kg	0.4	<0.3	<0.3	0	<0.3	< 0.4	0	<0.3	<0.3	0	<0.3	< 0.4	0	-	<0.3	-	-	< 0.4	-	<0.3	< 0.4	0	<0.3								
	Chromium	mg/kg	5	16	16	0	16	17	6	2.5	5.6	77	2.5	7.5	100	-	<0.5	-	-	< 5	-	<0.5	< 5	0	<0.5								
	Copper	mg/kg	5	12	14	15	12	13	8	2.7	4.7	54	2.7	5.2	63	-	0.9	-	-	< 5	-	0.9	< 5	0	2.3								
	Lead	mg/kg	5	21	21	0	21	20	5	8	4	67	8	6.5	21	-	4	-	-	5.5	-	4	5.5	32	6								
	Nickel	mg/kg	5	6.5	6.4	2	6.5	8.1	22	0.9	2.8	143	0.9	< 5	0	-	<0.5	-	-	< 5	-	<0.5	< 5	0	<0.5								
	Zinc	mg/kg	5	37	34	8	37	37	0	16	22	32	16	25	44	-	5.1	-	-	5.6	-	5.1	5.6	9	8.6								
	Mercury	mg/kg	5	<0.05	<0.05	0	<0.05	< 0.1	0	<0.05	<0.05	0	<0.05	< 0.1	0	-	<0.05	-	-	< 0.1	-	<0.05	< 0.1	0	<0.05								
PAHs	Naphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	0	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1								
	1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1								
	Acenaphthylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	0	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Acenaphthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	0	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Fluorene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	0	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Phenanthrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.2	<0.1	67	0.2	<0.5	86	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	0	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Fluoranthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.4	<0.1	120	0.4	< 0.5	22	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.4	<0.1	120	0.4	< 0.5	22	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.1	<0.1	0	0.1	< 0.5	133	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Chrysene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.1	<0.1	0	0.1	< 0.5	133	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.2	<0.1	67	0.2	< 0.5	86	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	0	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.2	<0.1	67	0.2	< 0.5	86	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.2	<0.1	67	0.2	< 0.5	86	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	-	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	0.2	<0.1	67	0.2	< 0.5	86	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	Carcinogenic PAHs	mg/kg	0.3	<0.3	<0.3	0	<0.3	0.6	0	0.3	<0.3	0	0.3	0.6	67	-	<0.3	-	-	0.6	-	<0.3	0.6	0	<0.3								
	Total PAH (18)	mg/kg	0.8	<0.8	<0.8	0	<0.8	< 0.5	0	2.1	< 0.8	90	2.1	< 0.5	123	-	<0.8	-	-	< 0.5	-	<0.8	< 0.5	0	<0.8								
	Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	0	<0.8	-	-	2.1	< 0.8	90	2.1	-	-	-	<0.8	-	-	-	-	<0.8	-	-	-	<0.8							
BTEX	Benzene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	-	<0.1	-	-	<0.1	-	<0.1	<0.1	0	<0.1								
	Toluene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	-	<0.1	-	-	<0.1	-	<0.1	<0.1	0	<0.1								
	Ethylbenzene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	-	<0.1	-	-	<0.1	-	<0.1	<0.1	0	<0.1								
	Xylenes - Total	mg/kg	0.3	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0	-	<0.3	-	-	<0.3	-	<0.3	<0.3	0	<0.3								
TRH	Naphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1	< 0.5	0	<0.1	<0.1	0	<0.1	< 0.5	0	-	<0.1	-	-	< 0.5	-	<0.1	< 0.5	0	<0.1								
	TRH C6-C10	mg/kg	25	<25	<25	0	<25	< 20	0	<25	<25	0	<25	< 20	0	-	<25	-	-	< 20	-	<25	< 20	0	<25								
	TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	0	<25	< 20	0	<25	<25	0	<25	< 20	0	-	<25	-	-	< 20	-	<25	< 20	0	<25								
	TRH >C10-C16	mg/kg	25	<25	<25	0	<25	< 50	0	<25	<25	0	<25	< 50	0	-	<25	-	-	< 50	-	<25	< 50	0	<25								
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	25	<25	<25	0	<25	< 50	0	<25	<25	0	<25	< 50	0	-	<25	-	-	< 50	-	<25	< 50	0	<25								
	TRH >C16-C34	mg/kg	90	<90	<90	0	<90	< 100	0	200	<90	76	200	<100	67	-	<90	-	-	< 100	-	<90	< 100	0	<90								
PFAS	TRH >C34-C40	mg/kg	120	<120	<120	0	<120	< 100	0	<120	<120	0	<120	< 100	0	-	<120	-	-	< 100	-	<120	< 100	0	<120								
	Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0058	-	-	0.0058	<0.005	15	-	< 0.005	-	-							
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	-	-	-	-	-	-	-	-	-	-	-	-	-	0.043	-	-	0.043	0.045	5	-	< 0.045	-	-							
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0008	-	-	<0.0008	< 0.005	0	-	< 0.005	-	-							



		D1.9.5.24	RPD %	TP26 0.0-0.1	D2.9.5.24	RPD %	TP26 0.0-0.1	T2.9.5.24	RPD %
		9/05/2024		9/05/2024	9/05/2024		9/05/2024		
		Duplicate		Primary	Duplicate		Primary	Triplicate	
Analytes									
Metals	Arsenic	<1	0	<1	<1	0	<1	< 2	0
	Cadmium	<0.3	0	<0.3	<0.3	0	<0.3	< 0.4	0
	Chromium	<0.5	0	<0.5	<0.5	0	<0.5	< 5	0
	Copper	2	14	0.9	0.6	40	0.9	< 5	0
	Lead	3	67	1	1	0	1	6.3	0
	Nickel	<0.5	0	<0.5	<0.5	0	<0.5	< 5	0
	Zinc	6.7	25	2.1	2.7	25	2.1	11	136
	Mercury	<0.05	0	<0.05	<0.05	0	<0.05	< 0.1	0
PAHs	Naphthalene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	2-methylnaphthalene	<0.1	0	<0.1	<0.1	0	<0.1	-	0
	1-methylnaphthalene	<0.1	0	<0.1	<0.1	0	<0.1	-	0
	Acenaphthylene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Acenaphthene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Fluorene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Phenanthrene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Anthracene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Fluoranthene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Pyrene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Benzo(a)anthracene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Chrysene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Benzo(b&j)fluoranthene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Benzo(k)fluoranthene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Benzo(a)pyrene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Indeno(1,2,3-cd)pyrene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Dibenzo(ah)anthracene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Benzo(ghi)perylene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	Carcinogenic PAHs	<0.3	0	<0.3	<0.3	0	<0.3	0.6	0
	Total PAH (18)	<0.8	0	<0.8	<0.8	0	<0.8	< 0.5	0
Total PAH (NEPM/WHO 16)	<0.8	0	<0.8	<0.8	0	<0.8	-	0	
BTEX	Benzene	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Toluene	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Ethylbenzene	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Xylenes - Total	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0
TRH	Naphthalene	<0.1	0	<0.1	<0.1	0	<0.1	< 0.5	0
	TRH C6-C10	<25	0	<25	<25	0	<25	< 20	0
	TRH C6-C10 less BTEX (F1)	<25	0	<25	<25	0	<25	< 20	0
	TRH >C10-C16	25	0	<25	<25	0	<25	< 50	0
	TRH >C10-C16 less Naphthalene (F2)	25	0	<25	<25	0	<25	< 50	0
	TRH >C16-C34	94	4	<90	<90	0	<90	< 100	0
TRH >C34-C40	<120	0	<120	<120	0	<120	< 100	0	
PFAS	Perfluorohexane sulfonate (PFHxS)	-	-	-	-	-	<0.0016	<0.005	0
	Perfluorooctane sulfonate (PFOS)	-	-	-	-	-	0.005	<0.005	0
	Perfluorooctanoic Acid (PFOA)	-	-	-	-	-	<0.0008	<0.005	0

*RPDs have only been considered where a concentration is grea

**High RPDs are in bold (Acceptable RPD range is 30% (>10 x EC

APPENDIX C:

Test Pit Logs & Photographs

ENGINEERING LOG - TEST PIT

CLIENT: GREATER NEWCASTLE AEROTROPOLIS PTY LTD

PROJECT: LOT 200-212

LOCATION: NEWCASTLE AIRPORT - WILLIAMTOWN

TEST PIT NO:

TP01

PAGE:

1 OF 1

JOB NO:

NEW24P-0090

LOGGED BY:

BS

DATE:

8/5/24

EQUIPMENT TYPE: 5 TONNE EXCAVATOR

SURFACE RL:

TEST PIT LENGTH:

WIDTH:

DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result			
E		E 0.10m				CI	FILL: Gravelly CLAY - medium plasticity, dark grey to dark grey-brown, fine to medium grained, sub-angular to angular gravel.	W				FILL		
							0.20m					SAND - fine to medium grained, grey.	AEOLIAN DEPOSITS	
		0.40m				SP								
		E 0.50m		0.5										
		0.90m												
		E 1.00m		1.0										
		1.40m												
		E 1.50m		1.5										
						1.20m	SAND (Indurated) - fine to medium grained, brown to dark brown.							
						1.60m								
							Hole Terminated at 1.60 m Collapse							

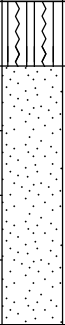
ENGINEERING LOG - TEST PIT

CLIENT: GREATER NEWCASTLE AEROTROPOLIS PTY LTD
PROJECT: LOT 200-212
LOCATION: NEWCASTLE AIRPORT - WILLIAMTOWN

TEST PIT NO: TP02
PAGE: 1 OF 1
JOB NO: NEW24P-0090
LOGGED BY: BS
DATE: 8/5/24

EQUIPMENT TYPE: 5 TONNE EXCAVATOR
TEST PIT LENGTH: **WIDTH:**

SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
E		E 0.10m				SP	TOPSOIL: SAND - fine to medium grained, dark brown to dark grey-brown.					TOPSOIL
		0.20m					SAND - fine to medium grained, grey.					AEOLIAN DEPOSITS
		E 0.30m				SP						
				0.5			Hole Terminated at 0.50 m					
				1.0								
				1.5								

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₅₀	50mm Diameter tube sample	VS	Very Soft	<25	D Dry
 Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M Moist
 Water Inflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W Wet
 Water Outflow		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L Liquid Limit
 Gradational or transitional strata		Field Tests		H	Hard	>400	
 Definitive or distinct strata change		PID	Photoionisation detector reading (ppm)	Fb	Friable		
		DCP(x-y)	Dynamic penetrometer test (test depth interval shown)	Density		V Very Loose	Density Index <15%
		HP	Hand Penetrometer test (UCS kPa)	L	Loose	MD Medium Dense	Density Index 15 - 35%
				D	Dense	D	Density Index 35 - 65%
				VD	Very Dense	D	Density Index 65 - 85%
						D	Density Index 85 - 100%



ENGINEERING LOG - TEST PIT

CLIENT: GREATER NEWCASTLE AEROTROPOLIS PTY LTD

PROJECT: LOT 200-212

LOCATION: NEWCASTLE AIRPORT - WILLIAMTOWN

TEST PIT NO:

TP04

PAGE:

1 OF 1

JOB NO:

NEW24P-0090

LOGGED BY:

BS

DATE:

8/5/24

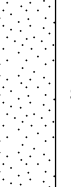
EQUIPMENT TYPE: 5 TONNE EXCAVATOR

SURFACE RL:

TEST PIT LENGTH:

WIDTH:

DATUM:

Drilling and Sampling					Material description and profile information						Field Test		Structure and additional observations				
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result						
E		E 0.10m				SP	TOPSOIL: SAND - fine to medium grained, dark grey-brown, root affected.					TOPSOIL					
		0.20m				SP	SAND - fine to medium grained, grey.					AEOLIAN DEPOSITS					
		E 0.30m															
		0.40m															
		E 0.50m		0.5			SAND (Indurated) - fine to medium grained, brown.	W									
													Pale brown, trace fines of low plasticity.				
		0.90m															
		E 1.00m		1.0													
				1.5			Hole Terminated at 1.30 m										

LEGEND:

Water

-  Water Level
(Date and time shown)
-  Water Inflow
-  Water Outflow

Strata Changes

- Strata changes
- — Gradational or transitional strata
 - Definitive or distinct strata change

Notes, Samples and Tests

U ₅₀	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample (Glass jar, sealed and chilled on site)
ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

[illegible]

VS	Very Soft
S	Soft
F	Firm
St	Stiff
VSt	Very Stiff
H	Hard
Fb	Friable

UCS (kPa)

- <25
25 - 50
50 - 100
100 - 200
200 - 400
>400

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_l	Liquid Limit

Density

<u>Density</u>			
V	Very Loose	Density Index	<15%
L	Loose	Density Index	15 - 35%
MD	Medium Dense	Density Index	35 - 65%
D	Dense	Density Index	65 - 85%
VD	Very Dense	Density Index	85 - 100%



ENGINEERING LOG - TEST PIT

CLIENT: GREATER NEWCASTLE AEROTROPOLIS PTY LTD
PROJECT: LOT 200-212
LOCATION: NEWCASTLE AIRPORT - WILLIAMTOWN

TEST PIT NO: TP05
PAGE: 1 OF 1
JOB NO: NEW24P-0090
LOGGED BY: BS
DATE: 8/5/24

EQUIPMENT TYPE: 5 TONNE EXCAVATOR
TEST PIT LENGTH: WIDTH:

SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
E		E 0.10m				SP	FILL-TOPSOIL: SAND - fine to medium grained, grey to dark grey, root affected.					FILL - TOPSOIL
		0.20m				SP	SAND - fine to medium grained, grey.					AEOLIAN DEPOSITS
		E 0.30m				SP						
				0.5		SP	SAND (Indurated) - fine to medium grained, brown.					
							Hole Terminated at 0.50 m					

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition	
Water		U ₅₀ 50mm Diameter tube sample		VS	Very Soft	<25	D	Dry
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S	Soft	25 - 50	M	Moist
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F	Firm	50 - 100	W	Wet
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St	Stiff	100 - 200	W _p	Plastic Limit
Strata Changes		B Bulk Sample		VSt	Very Stiff	200 - 400	W _L	Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400		
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb	Friable			
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		Density		V	Very Loose	Density Index <15%
		HP Hand Penetrometer test (UCS kPa)				L	Loose	Density Index 15 - 35%
						MD	Medium Dense	Density Index 35 - 65%
						D	Dense	Density Index 65 - 85%
						VD	Very Dense	Density Index 85 - 100%



ENGINEERING LOG - TEST PIT

CLIENT: GREATER NEWCASTLE AEROTROPOLIS PTY LTD
PROJECT: LOT 200-212
LOCATION: NEWCASTLE AIRPORT - WILLIAMTOWN

TEST PIT NO: TP06
PAGE: 1 OF 1
JOB NO: NEW24P-0090
LOGGED BY: BS
DATE: 9/5/24

EQUIPMENT TYPE: 5 TONNE EXCAVATOR
TEST PIT LENGTH: WIDTH: SURFACE RL: DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
E		E 0.10m				SP	TOPSOIL: SAND - fine to medium grained, dark brown to dark grey-brown.					TOPSOIL
		0.20m					SAND - fine to medium grained, grey.					AEOLIAN DEPOSITS
		E 0.30m				SP						
				0.5								
							Hole Terminated at 0.50 m					

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes --- Gradational or transitional strata — Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample (Glass jar, sealed and chilled on site) ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled) B Bulk Sample Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable	UCS (kPa) D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit	Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	Moisture Condition Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%

EQUIPMENT TYPE:					5 TONNE EXCAVATOR					SURFACE RL:				
TEST PIT LENGTH:					WIDTH:					DATUM:				
Drilling and Sampling					Material description and profile information						Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result			
E		E 0.10m				SP	TOPSOIL: SAND - fine to medium grained, dark brown to dark grey-brown.					TOPSOIL		
							SAND - fine to medium grained, grey.					AEOLIAN DEPOSITS		
		0.20m												
		E 0.30m					SP							
				0.5			0.50m							
							Hole Terminated at 0.50 m							
</														



ENGINEERING LOG - TEST PIT

CLIENT: GREATER NEWCASTLE AEROTROPOLIS PTY LTD

PROJECT: LOT 200-212

LOCATION: NEWCASTLE AIRPORT - WILLIAMTOWN

TEST PIT NO:

TP08

PAGE:

1 OF 1

JOB NO:

NEW24P-0090

LOGGED BY:

BS

DATE:

9/5/24

EQUIPMENT TYPE: 5 TONNE EXCAVATOR

SURFACE RL:

TEST PIT LENGTH:

WIDTH:

DATUM:

Drilling and Sampling					Material description and profile information						Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result				
E		E 0.10m		0.5		SP	TOPSOIL: SAND - fine to medium grained, dark brown to dark grey-brown.	W				TOPSOIL			
		-----										AEOLIAN DEPOSITS			
		0.20m				SP	SAND - fine to medium grained, grey.								
		E 0.30m													
Hole Terminated at 0.50 m															
				1.0											
				1.5											

LEGEND:

Water

-  Water Level
(Date and time shown)
-  Water Inflow
-  Water Outflow

Strata Changes

- Strata changes
- — Gradational or transitional strata
 - Definitive or distinct strata change

Notes, Samples and Tests

U ₅₀	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample (Glass jar, sealed and chilled on site)
ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

[illegible]

VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

UCS (kPa)

VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_l	Liquid Limit

Density

<u>Density</u>			
V	Very Loose	Density Index	<15%
L	Loose	Density Index	15 - 35%
MD	Medium Dense	Density Index	35 - 65%
D	Dense	Density Index	65 - 85%
VD	Very Dense	Density Index	85 - 100%



ENGINEERING LOG - TEST PIT

CLIENT: GREATER NEWCASTLE AEROTROPOLIS PTY LTD
PROJECT: LOT 200-212
LOCATION: NEWCASTLE AIRPORT - WILLIAMTOWN

TEST PIT NO: TP09
PAGE: 1 OF 1
JOB NO: NEW24P-0090
LOGGED BY: BS
DATE: 9/5/24

EQUIPMENT TYPE: 5 TONNE EXCAVATOR
TEST PIT LENGTH: WIDTH: SURFACE RL: DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
E		E 0.10m				SP	TOPSOIL: SAND - fine to medium grained, dark brown to dark grey-brown.					TOPSOIL
						SP	SAND - fine to medium grained, grey.					AEOLIAN DEPOSITS
		0.40m										
		E 0.50m		0.5								
							Hole Terminated at 0.60 m					
				1.0								
				1.5								

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes Gradational or transitional strata Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample (Glass jar, sealed and chilled on site) ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled) B Bulk Sample Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	UCS (kPa) Moisture Condition D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



Photograph 1 - Showing SP1.



Photograph 2 - Showing close up of material observed in SP1.



Photograph 3 - Showing material observed in SP2.

	Client:	Greater Newcastle Aerotropolis Pty Ltd	Project No:	NEW24P-0090-AC
	Project:	Detailed Site Investigation	Date taken:	15/05/2024
	Location:	Lot 200-212 Astra Aerolab, Williamtown NSW	No:	1 to 3
	Title:	Test Pit & Stockpile Photographs		



Photograph 4 - Showing material observed in SP3.



Photograph 5 - Showing SP4.



Photograph 6 - Showing close up of material observed in SP4.

	Client:	Greater Newcastle Aerotropolis Pty Ltd	Project No:	NEW24P-0090-AC
	Project:	Detailed Site Investigation	Date taken:	15/05/2024
	Location:	Lot 200-212 Astra Aerolab, Williamtown NSW	No:	3 to 6
	Title:	Test Pit & Stockpile Photographs		



Photograph 7 - Showing material observed in SP5.



Photograph 8 - Showing material observed in SP5.



Photograph 9 - Showing material observed in SP6.

	Client:	Greater Newcastle Aerotropolis Pty Ltd	Project No:	NEW24P-0090-AC
	Project:	Detailed Site Investigation	Date taken:	15/05/2024
	Location:	Lot 200-212 Astra Aerolab, Williamtown NSW	No:	6 to 9
	Title:	Test Pit & Stockpile Photographs		



Photograph 10 - Showing material in SP6.



Photograph 11 - Showing material observed in TP05.

	Client:	Greater Newcastle Aerotropolis Pty Ltd	Project No:	NEW24P-0090-AC
	Project:	Detailed Site Investigation	Date taken:	15/05/2024
	Location:	Lot 200-212 Astra Aerolab, Williamtown NSW	No:	10 and 11
	Title:	Test Pit & Stockpile Photographs		

APPENDIX D:

Laboratory Documentation

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

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

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Eurofins ProMicro Pty Ltd

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Sample Receipt Advice

Company name:	Qualtest
Contact name:	Emma Coleman
Project name:	GNAPL-ASTRA
Project ID:	NEW24P-0090
Turnaround time:	5 Day
Date/Time received	May 11, 2024 2:35 PM
Eurofins reference	1096083

Sample Information

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

Notes

Contact

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

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

Results will be delivered electronically via email to Emma Coleman - emmacoleman@qualtest.com.au.

Note: A copy of these results will also be delivered to the general Qualtest email address.

Qualtest
2 Murray Dwyer Circuit
Mayfield West
NSW 2304



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: **Emma Coleman**

Report **1096083-S**
 Project name **GNAPL-ASTRA**
 Project ID **NEW24P-0090**
 Received Date **May 11, 2024**

Client Sample ID			T.9.5.24	T2.9.5.24
Sample Matrix			Soil	Soil
Eurofins Sample No.			S24-My0031446	S24-My0031447
Date Sampled			May 09, 2024	May 09, 2024
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	56	53
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			T.9.5.24	T2.9.5.24
Sample Matrix			Soil	Soil
Eurofins Sample No.			S24-My0031446	S24-My0031447
Date Sampled			May 09, 2024	May 09, 2024
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	109	89
p-Terphenyl-d14 (surr.)	1	%	107	88
Heavy Metals				
Arsenic	2	mg/kg	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5
Copper	5	mg/kg	< 5	< 5
Lead	5	mg/kg	5.5	6.3
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5
Zinc	5	mg/kg	5.6	11
Sample Properties				
% Moisture	1	%	22	26
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5
13C4-PFBA (surr.)	1	%	101	106
13C5-PFPeA (surr.)	1	%	108	105
13C5-PFHxA (surr.)	1	%	110	125
13C4-PFHpA (surr.)	1	%	114	120
13C8-PFOA (surr.)	1	%	130	107
13C5-PFNA (surr.)	1	%	106	106
13C6-PFDA (surr.)	1	%	119	118
13C2-PFUnDA (surr.)	1	%	116	122
13C2-PFDoDA (surr.)	1	%	116	113
13C2-PFTeDA (surr.)	1	%	121	131

Client Sample ID			T.9.5.24	T2.9.5.24
Sample Matrix			Soil	Soil
Eurofins Sample No.			S24-My0031446	S24-My0031447
Date Sampled			May 09, 2024	May 09, 2024
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10
13C8-FOSA (surr.)	1	%	107	119
D3-N-MeFOSA (surr.)	1	%	106	125
D5-N-EtFOSA (surr.)	1	%	115	117
D7-N-MeFOSE (surr.)	1	%	103	105
D9-N-EtFOSE (surr.)	1	%	97	102
D5-N-EtFOSAA (surr.)	1	%	124	130
D3-N-MeFOSAA (surr.)	1	%	130	132
Perfluoroalkyl sulfonic acids (PFASs)				
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	45	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5
13C3-PFBS (surr.)	1	%	112	133
18O2-PFHxS (surr.)	1	%	127	120
13C8-PFOS (surr.)	1	%	113	113
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	108	84
13C2-6:2 FTSA (surr.)	1	%	96	97
13C2-8:2 FTSA (surr.)	1	%	123	132
13C2-10:2 FTSA (surr.)	1	%	136	161
PFASs Summations				
Sum (PFHxS + PFOS)*	5	ug/kg	45	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	45	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	45	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	45	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50

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	May 16, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	May 16, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	May 16, 2024	14 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	May 16, 2024	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	May 16, 2024	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	May 16, 2024	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	May 11, 2024	14 Days
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Sydney	May 16, 2024	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Sydney	May 16, 2024	28 Days
Perfluoroalkyl sulfonic acids (PFSA)s - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Sydney	May 16, 2024	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Sydney	May 16, 2024	28 Days
PFASs Summations - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Sydney	May 11, 2024	



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email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

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Company Name:

Address:

Project Name:

Project ID:

Qualtest

2 Murray Dwyer Circuit

Mayfield West

NSW 2304

GNAPL-ASTRA

NEW24P-0090

Order No.:

Report #:

Phone:

Fax:

1096083

02 4968 4468

02 4960 9775

Received:

Due:

Priority:

Contact Name:

May 11, 2024 2:35 PM

May 17, 2024

5 Day

Emma Coleman

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Moisture Set	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)
						X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	T.9.5.24	May 09, 2024		Soil	S24-My0031446	X	X	X
2	T2.9.5.24	May 09, 2024		Soil	S24-My0031447	X	X	X
Test Counts						2	2	2

Eurofins Environment Testing 179 Magowar Road, Girraween NSW, Australia, 2145
ABN : 50 005 085 521 Telephone: +61 2 9900 8400

Page 5 of 15

Date Reported: May 20, 2024

Internal Quality Control Review and Glossary

General

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

Holding Times

Please refer to the '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 before sample receipt deadlines as stated on the SRA.

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

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

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

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	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	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
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 moisture has been determined on a solid sample, the result is expressed on a dry weight 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 represents 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 similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -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 6.0
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 only be used as a guide 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. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as 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 are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/kg	< 5			5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5			5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5			5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5			5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5			5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5			5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5			5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5			5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5			5	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	< 5			5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5			5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5			5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5			5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5			5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5			5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5			5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10			10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10			10	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSA's)							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5			5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5			5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5			5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5			5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5			5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5			5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5			5	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10			10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5			5	Pass	
Method Blank							
PFASs Summations							
Sum of US EPA PFAS (PFOS + PFOA)*	ug/kg	-			5	N/A	
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							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	97			70-130	Pass	
TRH C10-C14	%	75			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
TRH >C10-C16	%	74			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	107			70-130	Pass	
Toluene	%	103			70-130	Pass	
Ethylbenzene	%	103			70-130	Pass	
m&p-Xylenes	%	109			70-130	Pass	
o-Xylene	%	105			70-130	Pass	
Xylenes - Total*	%	107			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	75			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	97			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	81			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	84			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	69			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	77			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	76			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	80			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	74			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	89			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	81			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	82			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	82			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	79			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	78			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	85			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	73			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	80			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	82			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	64			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	71			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	70			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	80			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	68			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	66			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	51			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	89			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	73			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	97			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	64			50-150	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	86			70-130	Pass	
Acenaphthylene	%	85			70-130	Pass	
Anthracene	%	87			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(a)pyrene	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	%	86			70-130	Pass	
Benzo(g,h,i)perylene	%	118			70-130	Pass	
Benzo(k)fluoranthene	%	75			70-130	Pass	
Chrysene	%	81			70-130	Pass	
Dibenz(a,h)anthracene	%	94			70-130	Pass	
Fluoranthene	%	85			70-130	Pass	
Fluorene	%	86			70-130	Pass	

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene				%	98			70-130	Pass	
Naphthalene				%	87			70-130	Pass	
Phenanthrene				%	103			70-130	Pass	
Pyrene				%	84			70-130	Pass	
LCS - % Recovery										
Heavy Metals										
Arsenic				%	93			80-120	Pass	
Cadmium				%	98			80-120	Pass	
Chromium				%	106			80-120	Pass	
Copper				%	107			80-120	Pass	
Lead				%	107			80-120	Pass	
Mercury				%	106			80-120	Pass	
Nickel				%	100			80-120	Pass	
Zinc				%	97			80-120	Pass	
Test	Lab Sample ID	QA Source		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons					Result 1					
TRH C6-C9	S24-My0031686	NCP	%	99				70-130	Pass	
TRH C10-C14	S24-My0026542	NCP	%	82				70-130	Pass	
TRH C6-C10	S24-My0031686	NCP	%	100				70-130	Pass	
TRH >C10-C16	S24-My0026542	NCP	%	81				70-130	Pass	
Spike - % Recovery										
BTEX					Result 1					
Benzene	S24-My0031686	NCP	%	90				70-130	Pass	
Toluene	S24-My0031686	NCP	%	109				70-130	Pass	
Ethylbenzene	S24-My0031686	NCP	%	124				70-130	Pass	
m&p-Xylenes	S24-My0031686	NCP	%	126				70-130	Pass	
o-Xylene	S24-My0049252	NCP	%	94				70-130	Pass	
Xylenes - Total*	S24-My0031686	NCP	%	130				70-130	Pass	
Spike - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					Result 1					
Naphthalene	S24-My0031686	NCP	%	110				70-130	Pass	
Spike - % Recovery										
Polycyclic Aromatic Hydrocarbons					Result 1					
Acenaphthene	S24-My0038764	NCP	%	82				70-130	Pass	
Acenaphthylene	S24-My0038764	NCP	%	82				70-130	Pass	
Anthracene	S24-My0038764	NCP	%	81				70-130	Pass	
Benz(a)anthracene	S24-My0038764	NCP	%	68				70-130	Fail	Q08
Benzo(a)pyrene	S24-My0038764	NCP	%	62				70-130	Fail	Q08
Benzo(b&j)fluoranthene	S24-My0038764	NCP	%	66				70-130	Fail	Q08
Benzo(g,h,i)perylene	S24-My0038764	NCP	%	140				70-130	Fail	Q08
Benzo(k)fluoranthene	S24-My0038764	NCP	%	67				70-130	Fail	Q08
Chrysene	S24-My0038764	NCP	%	79				70-130	Pass	
Dibenz(a,h)anthracene	S24-My0038764	NCP	%	78				70-130	Pass	
Fluoranthene	S24-My0038764	NCP	%	71				70-130	Pass	
Fluorene	S24-My0038764	NCP	%	82				70-130	Pass	
Indeno(1.2.3-cd)pyrene	S24-My0038764	NCP	%	87				70-130	Pass	
Naphthalene	S24-My0038764	NCP	%	91				70-130	Pass	
Phenanthrene	S24-My0038764	NCP	%	98				70-130	Pass	
Pyrene	S24-My0038764	NCP	%	64				70-130	Fail	Q08
Spike - % Recovery										
Heavy Metals					Result 1					
Arsenic	S24-My0031441	NCP	%	78				75-125	Pass	
Cadmium	S24-My0031441	NCP	%	84				75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium	S24-My0031441	NCP	%	82			75-125	Pass	
Copper	S24-My0031441	NCP	%	87			75-125	Pass	
Lead	S24-My0031441	NCP	%	89			75-125	Pass	
Mercury	S24-My0031441	NCP	%	93			75-125	Pass	
Nickel	S24-My0031441	NCP	%	83			75-125	Pass	
Zinc	S24-My0031441	NCP	%	77			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	S24-My0031447	CP	%	97			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	S24-My0031447	CP	%	95			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	S24-My0031447	CP	%	90			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	S24-My0031447	CP	%	97			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S24-My0031447	CP	%	98			50-150	Pass	
Perfluorononanoic acid (PFNA)	S24-My0031447	CP	%	97			50-150	Pass	
Perfluorodecanoic acid (PFDA)	S24-My0031447	CP	%	84			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	S24-My0031447	CP	%	95			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	S24-My0031447	CP	%	98			50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	S24-My0031447	CP	%	102			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S24-My0031447	CP	%	98			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	S24-My0031447	CP	%	92			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S24-My0031447	CP	%	99			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S24-My0031447	CP	%	88			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S24-My0031447	CP	%	96			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S24-My0031447	CP	%	98			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S24-My0031447	CP	%	87			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S24-My0031447	CP	%	105			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	S24-My0031447	CP	%	97			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	S24-My0031447	CP	%	94			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S24-My0031447	CP	%	79			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S24-My0031447	CP	%	77			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S24-My0031447	CP	%	95			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S24-My0031447	CP	%	92			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S24-My0031447	CP	%	91			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	S24-My0031447	CP	%	81			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S24-My0031447	CP	%	94			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S24-My0031447	CP	%	100			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S24-My0031447	CP	%	110			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S24-My0031447	CP	%	94			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S24-My0031440	NCP	mg/kg	16	18	11	30%	Pass	
Cadmium	S24-My0031440	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S24-My0031440	NCP	mg/kg	19	25	27	30%	Pass	
Copper	S24-My0031440	NCP	mg/kg	22	24	8.2	30%	Pass	
Lead	S24-My0031440	NCP	mg/kg	17	19	12	30%	Pass	
Mercury	S24-My0031440	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S24-My0031440	NCP	mg/kg	< 5	5.8	24	30%	Pass	
Zinc	S24-My0031440	NCP	mg/kg	59	70	16	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S24-My0031441	NCP	%	19	20	7.5	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotridecanoic acid (PFTTrDA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S24-My0031446	CP	ug/kg	< 10	< 10	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S24-My0031446	CP	ug/kg	< 10	< 10	<1	30%	Pass	

Duplicate								
Perfluoroalkyl sulfonic acids (PFASs)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	S24-My0031446	CP	ug/kg	45	50	10	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	S24-My0031446	CP	ug/kg	< 10	< 10	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S24-My0031446	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C6-C9	S24-My0031447	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C10-C14	S24-My0031447	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	S24-My0031447	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	S24-My0031447	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C6-C10	S24-My0031447	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	S24-My0031447	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S24-My0031447	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S24-My0031447	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S24-My0031447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	S24-My0031447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	S24-My0031447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	S24-My0031447	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	S24-My0031447	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	S24-My0031447	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Benzo(g,h,i)perylene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S24-My0031447	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S24-My0031447	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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Andrew Black	Analytical Services Manager
Fang Yee Tan	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-PFAS
Roopesh Rangarajan	Senior Analyst-Sample Properties
Roopesh Rangarajan	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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Emily Yin
Environment, Health & Safety
Sample Receipt

SGS Australia Pty Ltd
Unit 16, 33 Maddox Street
Alexandria NSW 2015

Phone: +61 (0)2 8594 0400
Fax: +61 (0)2 8594 0499
E-mail: emily.yin@sgs.com

From: Emma Coleman <EmmaColeman@qualtest.com.au>
Sent: Thursday, May 9, 2024 12:47 PM
To: Yin, Emily (Sydney) <Emily.Yin@sgs.com>; Libby Betz <LibbyBetz@qualtest.com.au>; Billy Snow <LibbySnow@qualtest.com.au>
Cc: Luong, Thi Song Van (Sydney) <ThiSongVan.Luong@sgs.com>
Subject: [EXTERNAL] RE: SE264905 - NEW24[-0090]

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Hi Emily,

Please analyse samples D.8.5.24 and D1.8.5.24 for Suite CL10 (TRH, BTEX, PAH, Metals) and PFAS

Please send samples T.8.5.24 and T1.8.5.24 to Eurofins, with testing for Suite B7 (TRH, BTEX, PAH, Metals) and PFAS. Let me know if you need me to provide a COC for the Eurofins samples.

With the PFAS testing, what TAT is expected?

Regards,

Emma Coleman

Senior Environmental Scientist

Certified Environmental Practitioner – Site Contamination Specialist

Mob: 0429 359 411

Tel: 02 4968 4468

Web: www.qualtest.com.au

2 Murray Dwyer Circuit, Mayfield West, NSW, 2304

emmacoleman@qualtest.com.au

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From: Yin, Emily (Sydney) <Emily.Yin@sgs.com>
Sent: Thursday, 9 May 2024 12:40 PM
To: Libby Betz <LibbyBetz@qualtest.com.au>; Billy Snow <LibbySnow@qualtest.com.au>; Emma Coleman <EmmaColeman@qualtest.com.au>
Cc: Luong, Thi Song Van (Sydney) <ThiSongVan.Luong@sgs.com>
Subject: SE264905 - NEW24[-0090]

1096095

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

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Eurofins ProMicro Pty Ltd

ABN: 47 009 120 549

Perth ProMicro
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Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Sample Receipt Advice

Company name:	Qualtest
Contact name:	Emma Coleman
Project name:	CONTAMINATION SPECIALIST
Project ID:	SE264905-NEW2490090
Turnaround time:	5 Day
Date/Time received	May 11, 2024 10:00 AM
Eurofins reference	1096095

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

We not received correct containers to PFAS- analyze cancel.

Contact

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

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

Results will be delivered electronically via email to Emma Coleman - emmacoleman@qualtest.com.au.

Note: A copy of these results will also be delivered to the general Qualtest email address.

Qualtest
2 Murray Dwyer Circuit
Mayfield West
NSW 2304



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: **Emma Coleman**

Report **1096095-S**
Project name **CONTAMINATION SPECIALIST**
Project ID **SE264905-NEW2490090**
Received Date **May 11, 2024**

Client Sample ID			T.8.5.24	T1.8.5.25
Sample Matrix			Soil	Soil
Eurofins Sample No.			S24-My0031741	S24-My0031742
Date Sampled			May 09, 2024	May 09, 2024
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	82	< 50
TRH C10-C36 (Total)	50	mg/kg	82	< 50
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	91	91
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			T.8.5.24	T1.8.5.25
Sample Matrix			Soil	Soil
Eurofins Sample No.			S24-My0031741	S24-My0031742
Date Sampled			May 09, 2024	May 09, 2024
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	101	105
p-Terphenyl-d14 (surr.)	1	%	109	93
Heavy Metals				
Arsenic	2	mg/kg	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	17	7.5
Copper	5	mg/kg	13	5.2
Lead	5	mg/kg	20	6.5
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	8.1	< 5
Zinc	5	mg/kg	37	25
Sample Properties				
% Moisture	1	%	30	7.4

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	May 15, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	May 15, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	May 15, 2024	14 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	May 15, 2024	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	May 15, 2024	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	May 15, 2024	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	May 11, 2024	14 Days



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

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

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Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554

NZBN: 9429046024954

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Company Name:

Address:

Project Name:

Project ID:

Qualtest

2 Murray Dwyer Circuit

Mayfield West

NSW 2304

CONTAMINATION SPECIALIST

SE264905-NEW2490090

Order No.:

Report #:

Phone:

Fax:

1096095

02 4968 4468

02 4960 9775

Received:

Due:

Priority:

Contact Name:

May 11, 2024 10:00 AM

May 17, 2024

5 Day

Emma Coleman

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Moisture Set	Eurofins Suite B7
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	T.8.5.24	May 09, 2024		Soil	S24-My0031741	X	X
2	T1.8.5.25	May 09, 2024		Soil	S24-My0031742	X	X
Test Counts						2	2

Eurofins Environment Testing 179 Magowar Road, Girraween NSW, Australia, 2145

ABN : 50 005 085 521 Telephone: +61 2 9900 8400

Page 4 of 10

Date Reported:May 20, 2024

Internal Quality Control Review and Glossary

General

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

Holding Times

Please refer to the '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 before sample receipt deadlines as stated on the SRA.

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

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

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

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	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	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
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 moisture has been determined on a solid sample, the result is expressed on a dry weight 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 represents 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 similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -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 6.0
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 only be used as a guide 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. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as 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 are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
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	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	114			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14			%	75			70-130	Pass	
TRH C6-C10			%	112			70-130	Pass	
TRH >C10-C16			%	74			70-130	Pass	
LCS - % Recovery									
BTEX									
Benzene			%	123			70-130	Pass	
Toluene			%	119			70-130	Pass	
Ethylbenzene			%	114			70-130	Pass	
m&p-Xylenes			%	122			70-130	Pass	
o-Xylene			%	119			70-130	Pass	
Xylenes - Total*			%	121			70-130	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
Naphthalene			%	96			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	93			80-120	Pass	
Cadmium			%	99			80-120	Pass	
Chromium			%	96			80-120	Pass	
Copper			%	97			80-120	Pass	
Lead			%	95			80-120	Pass	
Mercury			%	107			80-120	Pass	
Nickel			%	102			80-120	Pass	
Zinc			%	101			80-120	Pass	
LCS - % Recovery									
Polycyclic Aromatic Hydrocarbons									
Acenaphthene			%	90			70-130	Pass	
Acenaphthylene			%	89			70-130	Pass	
Anthracene			%	90			70-130	Pass	
Benz(a)anthracene			%	82			70-130	Pass	
Benzo(a)pyrene			%	86			70-130	Pass	
Benzo(b&j)fluoranthene			%	77			70-130	Pass	
Benzo(g,h,i)perylene			%	86			70-130	Pass	
Benzo(k)fluoranthene			%	88			70-130	Pass	
Chrysene			%	87			70-130	Pass	
Dibenz(a,h)anthracene			%	84			70-130	Pass	
Fluoranthene			%	88			70-130	Pass	
Fluorene			%	90			70-130	Pass	
Indeno(1,2,3-cd)pyrene			%	87			70-130	Pass	
Naphthalene			%	90			70-130	Pass	
Phenanthrene			%	84			70-130	Pass	
Pyrene			%	88			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S24-My0031741	CP	%	80			70-130	Pass	
TRH C10-C14	S24-My0026542	NCP	%	82			70-130	Pass	
TRH C6-C10	S24-My0030208	NCP	%	83			70-130	Pass	
TRH >C10-C16	S24-My0026542	NCP	%	81			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S24-My0030208	NCP	%	71			70-130	Pass	
Toluene	S24-My0030208	NCP	%	89			70-130	Pass	
Ethylbenzene	S24-My0030208	NCP	%	93			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	S24-My0030208	NCP	%	91			70-130	Pass	
o-Xylene	S24-My0030208	NCP	%	88			70-130	Pass	
Xylenes - Total*	S24-My0030208	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S24-My0031752	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S24-My0038206	NCP	%	108			70-130	Pass	
Acenaphthylene	S24-My0038206	NCP	%	97			70-130	Pass	
Anthracene	S24-My0038206	NCP	%	113			70-130	Pass	
Benz(a)anthracene	S24-My0038206	NCP	%	91			70-130	Pass	
Benzo(a)pyrene	S24-My0038206	NCP	%	93			70-130	Pass	
Benzo(b&j)fluoranthene	S24-My0038206	NCP	%	85			70-130	Pass	
Benzo(g,h,i)perylene	S24-My0038206	NCP	%	84			70-130	Pass	
Benzo(k)fluoranthene	S24-My0038206	NCP	%	104			70-130	Pass	
Chrysene	S24-My0038206	NCP	%	103			70-130	Pass	
Dibenz(a,h)anthracene	S24-My0038206	NCP	%	78			70-130	Pass	
Fluoranthene	S24-My0038206	NCP	%	98			70-130	Pass	
Fluorene	S24-My0038206	NCP	%	106			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S24-My0038206	NCP	%	85			70-130	Pass	
Naphthalene	S24-My0038206	NCP	%	101			70-130	Pass	
Phenanthrene	S24-My0038206	NCP	%	98			70-130	Pass	
Pyrene	S24-My0038206	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S24-My0031697	NCP	%	96			75-125	Pass	
Cadmium	S24-My0031697	NCP	%	102			75-125	Pass	
Chromium	S24-My0031697	NCP	%	101			75-125	Pass	
Copper	S24-My0031697	NCP	%	100			75-125	Pass	
Lead	S24-My0031697	NCP	%	100			75-125	Pass	
Mercury	S24-My0031697	NCP	%	111			75-125	Pass	
Nickel	S24-My0031697	NCP	%	105			75-125	Pass	
Zinc	S24-My0031697	NCP	%	92			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S24-My0026544	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S24-My0026544	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S24-My0026544	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S24-My0026544	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S24-My0026544	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S24-My0026544	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Dibenz(a,h)anthracene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1.2.3-cd)pyrene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S24-My0030078	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S24-My0042902	NCP	mg/kg	**	7.6	13	30%	Pass
Cadmium	S24-My0042902	NCP	mg/kg	**	< 0.4	1.9	30%	Pass
Chromium	S24-My0042902	NCP	mg/kg	**	18	4.5	30%	Pass
Copper	S24-My0042902	NCP	mg/kg	**	39	4.2	30%	Pass
Lead	S24-My0042902	NCP	mg/kg	**	50	5.9	30%	Pass
Mercury	S24-My0042902	NCP	mg/kg	**	< 0.1	12	30%	Pass
Nickel	S24-My0042902	NCP	mg/kg	**	11	21	30%	Pass
Zinc	S24-My0042902	NCP	mg/kg	**	81	6.9	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	S24-My0031718	NCP	%	14	14	2.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C6-C9	S24-My0031742	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C6-C10	S24-My0031742	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S24-My0031742	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	S24-My0031742	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	S24-My0031742	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	S24-My0031742	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	S24-My0031742	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	S24-My0031742	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S24-My0031742	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	No
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Andrew Black	Analytical Services Manager
Fang Yee Tan	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Sample Properties
Roopesh Rangarajan	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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Project NEW24P-0090 - GNAPL - ASTRA
Order Number NEW24P-0090
Samples 37

LABORATORY DETAILS

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SGS Reference SE264905 R0
Date Received 9/5/2024
Date Reported 10/5/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin

SIGNATORIES



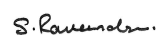
Bennet LO
Senior Chemist



Huong CRAWFORD
Production Manager



Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader



Shane MCDERMOTT
Inorganic/Metals Chemist



Teresa NGUYEN
Organic Chemist

VOC's in Soil [AN433] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SP2-1	SP2-2	SP2-3	SP2-4	SP3-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.012	8/5/2024 SE264905.013	8/5/2024 SE264905.014	8/5/2024 SE264905.015	8/5/2024 SE264905.016
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SP4-1 0.0	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.017	8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

VOC's in Soil [AN433] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.022	8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SS1	SS3
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.027	8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	D.8.5.24
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.032	8/5/2024 SE264905.033	8/5/2024 SE264905.034	8/5/2024 SE264905.035	8/5/2024 SE264905.036
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	D1.8.5.24
			SOIL
			8/5/2024 SE264905.037
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1



ANALYTICAL RESULTS

SE264905 R0

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.011
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP2-1	SP2-2	SP2-3	SP2-4	SP3-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.012	8/5/2024 SE264905.013	8/5/2024 SE264905.014	8/5/2024 SE264905.015	8/5/2024 SE264905.016
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP4-1 0.0	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.017	8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.022	8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SS1	SS3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.027	8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25



ANALYTICAL RESULTS

SE264905 R0

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 9/5/2024 (continued)

			TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	D.8.5.24
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024
PARAMETER	UOM	LOR	SE264905.032	SE264905.033	SE264905.034	SE264905.035	SE264905.036
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

			D1.8.5.24
			SOIL
			-
			8/5/2024
PARAMETER	UOM	LOR	SE264905.037
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	24
TRH C15-C28	mg/kg	45	<45	<45	70	70	120
TRH C29-C36	mg/kg	45	<45	<45	120	110	190
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	29
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	29
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	160	150	250
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	190	180	330
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	280

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.011
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	83	84	<45
TRH C29-C36	mg/kg	45	62	66	<45	140	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	26	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	26	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	110	190	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	220	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	SP2-1	SP2-2	SP2-3	SP2-4	SP3-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.012	8/5/2024 SE264905.013	8/5/2024 SE264905.014	8/5/2024 SE264905.015	8/5/2024 SE264905.016
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210



ANALYTICAL RESULTS

SE264905 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	SP4-1 0.0	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.017	8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	57	79	<45	<45
TRH C29-C36	mg/kg	45	65	98	83	87	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	120	140	92	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	150	160	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.022	8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SS1	SS3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.027	8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	D.8.5.24
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.032	8/5/2024 SE264905.033	8/5/2024 SE264905.034	8/5/2024 SE264905.035	8/5/2024 SE264905.036
TRH C10-C14	mg/kg	20	28	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	120	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	44	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	44	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	140	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	150	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	D1.8.5.24
			SOIL
			8/5/2024 SE264905.037
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	46
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	0.2
Pyrene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	0.8

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.011
Naphthalene	mg/kg	0.1	<0.1	<0.1	0.3	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0.9	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0.7	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.6	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1	0.1	0.2	0.2	<0.1
Pyrene	mg/kg	0.1	0.1	0.1	0.2	0.2	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	3.2	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	1.5	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	SP2-1	SP2-2	SP2-3	SP2-4	SP3-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.012	8/5/2024 SE264905.013	8/5/2024 SE264905.014	8/5/2024 SE264905.015	8/5/2024 SE264905.016
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	SP4-1 0.0	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.017	8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	0.2	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.3	0.6	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.3	0.6	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.1	0.3	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.1	0.3	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.4	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.2	0.3	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	0.3	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.1	0.3	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	0.2	0.4	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	0.3	0.5	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	0.3	0.5	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	1.8	3.3	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.8	3.3	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.022	8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SS1	SS3
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.027	8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	D.8.5.24
			SOIL - 8/5/2024 SE264905.032	SOIL - 8/5/2024 SE264905.033	SOIL - 8/5/2024 SE264905.034	SOIL - 8/5/2024 SE264905.035	SOIL - 8/5/2024 SE264905.036
Naphthalene	mg/kg	0.1	0.4	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	1.2	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	1.0	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	1.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	4.7	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	2.5	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	D1.8.5.24
			SOIL - 8/5/2024 SE264905.037
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
Arsenic, As	mg/kg	1	2	3	3	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	16	17	16	17	14
Copper, Cu	mg/kg	0.5	12	13	13	15	13
Lead, Pb	mg/kg	1	21	18	20	20	17
Nickel, Ni	mg/kg	0.5	6.5	5.8	5.7	7.4	5.5
Zinc, Zn	mg/kg	2	37	29	28	33	33

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.011
Arsenic, As	mg/kg	1	3	3	4	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	19	20	2.8	17	14
Copper, Cu	mg/kg	0.5	15	15	10	12	12
Lead, Pb	mg/kg	1	20	19	17	16	15
Nickel, Ni	mg/kg	0.5	6.4	6.2	4.1	5.2	5.1
Zinc, Zn	mg/kg	2	26	22	34	20	22

PARAMETER	UOM	LOR	SP2-1	SP2-2	SP2-3	SP2-4	SP3-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.012	8/5/2024 SE264905.013	8/5/2024 SE264905.014	8/5/2024 SE264905.015	8/5/2024 SE264905.016
Arsenic, As	mg/kg	1	<1	<1	<1	1	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	25	19	21	18	<0.5
Copper, Cu	mg/kg	0.5	11	12	14	9.5	<0.5
Lead, Pb	mg/kg	1	2	1	1	2	3
Nickel, Ni	mg/kg	0.5	16	12	12	11	<0.5
Zinc, Zn	mg/kg	2	31	30	27	29	7.7

PARAMETER	UOM	LOR	SP4-1 0.0	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.017	8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021
Arsenic, As	mg/kg	1	2	1	2	<1	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.9	2.8	5.0	3.5	2.3
Copper, Cu	mg/kg	0.5	12	9.1	4.9	2.2	2.4
Lead, Pb	mg/kg	1	8	8	3	4	4
Nickel, Ni	mg/kg	0.5	0.8	0.9	2.7	1.2	1.2
Zinc, Zn	mg/kg	2	20	33	22	8.9	12

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 9/5/2024

			SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024
			SE264905.022	SE264905.023	SE264905.024	SE264905.025	SE264905.026
PARAMETER	UOM	LOR					
Arsenic, As	mg/kg	1	2	1	2	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.7	5.1	4.7	3.8	5.9
Copper, Cu	mg/kg	0.5	3.1	3.0	4.0	3.4	4.7
Lead, Pb	mg/kg	1	3	6	40	4	4
Nickel, Ni	mg/kg	0.5	1.8	0.8	1.6	1.8	2.9
Zinc, Zn	mg/kg	2	15	13	16	13	24

			SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SS1	SS3
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024
			SE264905.027	SE264905.028	SE264905.029	SE264905.030	SE264905.031
PARAMETER	UOM	LOR					
Arsenic, As	mg/kg	1	2	1	2	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.6	4.6	7.5	<0.5	<0.5
Copper, Cu	mg/kg	0.5	4.8	4.7	6.7	1.8	<0.5
Lead, Pb	mg/kg	1	5	6	4	3	1
Nickel, Ni	mg/kg	0.5	3.3	0.9	3.5	<0.5	<0.5
Zinc, Zn	mg/kg	2	24	10	25	2.4	<2.0

			TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	D.8.5.24
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024
			SE264905.032	SE264905.033	SE264905.034	SE264905.035	SE264905.036
PARAMETER	UOM	LOR					
Arsenic, As	mg/kg	1	6	<1	<1	<1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.9	2.5	<0.5	<0.5	16
Copper, Cu	mg/kg	0.5	15	3.1	1.3	1.5	14
Lead, Pb	mg/kg	1	14	2	3	3	21
Nickel, Ni	mg/kg	0.5	6.3	<0.5	<0.5	<0.5	6.4
Zinc, Zn	mg/kg	2	50	4.8	3.8	3.7	34

			D1.8.5.24
			SOIL
			8/5/2024
			SE264905.037
PARAMETER	UOM	LOR	
Arsenic, As	mg/kg	1	2
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.6
Copper, Cu	mg/kg	0.5	4.7
Lead, Pb	mg/kg	1	4
Nickel, Ni	mg/kg	0.5	2.8
Zinc, Zn	mg/kg	2	22

Mercury in Soil [AN312] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.011
Mercury	mg/kg	0.05	<0.05	0.05	0.17	<0.05	0.06

PARAMETER	UOM	LOR	SP2-1	SP2-2	SP2-3	SP2-4	SP3-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.012	8/5/2024 SE264905.013	8/5/2024 SE264905.014	8/5/2024 SE264905.015	8/5/2024 SE264905.016
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SP4-1 0.0	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.017	8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021
Mercury	mg/kg	0.05	0.06	0.07	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.022	8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SS1	SS3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.027	8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	D.8.5.24
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.032	8/5/2024 SE264905.033	8/5/2024 SE264905.034	8/5/2024 SE264905.035	8/5/2024 SE264905.036
Mercury	mg/kg	0.05	0.08	<0.05	<0.05	<0.05	<0.05



ANALYTICAL RESULTS

SE264905 R0

Mercury in Soil [AN312] Tested: 9/5/2024 (continued)

			D1.8.5.24
			SOIL
			-
			8/5/2024
			SE264905.037
PARAMETER	UOM	LOR	
Mercury	mg/kg	0.05	<0.05

Moisture Content [AN002] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
% Moisture	%w/w	1	29.9	34.4	25.1	28.3	20.8

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.011
% Moisture	%w/w	1	36.0	36.2	14.5	26.2	23.6

PARAMETER	UOM	LOR	SP2-1	SP2-2	SP2-3	SP2-4	SP3-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.012	8/5/2024 SE264905.013	8/5/2024 SE264905.014	8/5/2024 SE264905.015	8/5/2024 SE264905.016
% Moisture	%w/w	1	8.1	6.4	5.5	6.3	3.5

PARAMETER	UOM	LOR	SP4-1 0.0	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.017	8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021
% Moisture	%w/w	1	7.8	13.3	12.9	12.2	12.3

PARAMETER	UOM	LOR	SP5-4 0.0	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.022	8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026
% Moisture	%w/w	1	14.2	14.2	10.8	18.1	17.4

PARAMETER	UOM	LOR	SP5-8 0.0	SP5-9 1.0	SP5-10 0.0	SS1	SS3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.027	8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031
% Moisture	%w/w	1	11.5	19.9	10.5	16.9	21.3

PARAMETER	UOM	LOR	TP01 0.0-0.1	TP02 0.0-0.1	TP04 0.0-0.1	TP05 0.0-0.1	D.8.5.24
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.032	8/5/2024 SE264905.033	8/5/2024 SE264905.034	8/5/2024 SE264905.035	8/5/2024 SE264905.036
% Moisture	%w/w	1	15.7	20.4	29.0	24.6	32.2



ANALYTICAL RESULTS

SE264905 R0

Moisture Content [AN002] Tested: 9/5/2024 (continued)

			D1.8.5.24
			SOIL
			-
			8/5/2024
			SE264905.037
PARAMETER	UOM	LOR	
% Moisture	%w/w	1	15.1

Fibre Identification in soil [AS4964/AN602] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-9 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.010
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP1-10 1.0	SP2-1	SP2-3	SP3-1	SP4-1 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.011	8/5/2024 SE264905.012	8/5/2024 SE264905.014	8/5/2024 SE264905.016	8/5/2024 SE264905.017
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0	SP5-4 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021	8/5/2024 SE264905.022
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0	SP5-8 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026	8/5/2024 SE264905.027
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP5-9 1.0	SP5-10 0.0	SS1	SS3	TP01 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031	8/5/2024 SE264905.032
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP02 0.0-0.1
			SOIL
			-
			8/5/2024 SE264905.033
Date Analysed*	No unit	-	10/05/2024 00:00
Asbestos Detected	No unit	-	No
Estimated Fibres*	%w/w	0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 9/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.001	8/5/2024 SE264905.002	8/5/2024 SE264905.003	8/5/2024 SE264905.004	8/5/2024 SE264905.005
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	371	362	328	412	328
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-9 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.006	8/5/2024 SE264905.007	8/5/2024 SE264905.008	8/5/2024 SE264905.009	8/5/2024 SE264905.010
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	331	310	550	349	577
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP1-10 1.0	SP2-1	SP2-3	SP3-1	SP4-1 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024 SE264905.011	8/5/2024 SE264905.012	8/5/2024 SE264905.014	8/5/2024 SE264905.016	8/5/2024 SE264905.017
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	615	740	757	762	677
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0	SP5-4 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021	8/5/2024 SE264905.022
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	652	818	664	763	668
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0	SP5-8 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026	8/5/2024 SE264905.027
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	539	703	559	537	677
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP5-9 1.0	SP5-10 0.0	SS1	SS3	TP01 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031	8/5/2024 SE264905.032
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	680	614	541	754	628
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD



ANALYTICAL RESULTS

SE264905 R0

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 9/5/2024 (continued)

			TP02 0.0-0.1
			SOIL
			-
			8/5/2024
			SE264905.033
PARAMETER	UOM	LOR	
Date Analysed*	No unit	-	10/05/2024 00:00
Total Sample Weight*	g	1	609
Bonded ACM in >7mm Sample*	g	0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001
Fibre Type*	No unit	-	NAD

METHOD

METHODOLOGY SUMMARY

AN002

The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.

AN040/AN320

A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.

AN040

A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.

AN312

Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500

AN403

Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.

AN403

Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.

AN403

The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.

AN420

(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

Total PAH calculated from individual analyte detections at or above the limit of reporting.

AN420

Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all <LOR results are half the LOR and the third assuming all <LOR results are the LOR.

AN433

VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

AN602/AS4964

Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.

AN602/AS4964

Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf). The fibres detected may or may not be asbestos fibres.

AN602/AS4964

AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602/AS4964

The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if-

- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres);
- (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and
- (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

AN605

This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.

AN605

This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.

AN605

Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition.
Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material.
Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.

AN-605

Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE264905 R0

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Project **NEW24P-0090 - GNAPL - ASTRA**
Order Number **NEW24P-0090**
Samples 37

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SGS Reference **SE264905 R0**
Date Received 09 May 2024
Date Reported 10 May 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

SAMPLE SUMMARY

Sample counts by matrix	37 Soil	Type of documentation received	COC
Date documentation received	9/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.8°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Fibre Identification in soil**Method: ME-(AU)-[ENV]AS4964/AN602**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-2 1.0	SE264905.002	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-3 0.0	SE264905.003	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-4 1.0	SE264905.004	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-5 0.0	SE264905.005	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-6 1.0	SE264905.006	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-7 1.0	SE264905.007	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-8 1.0	SE264905.008	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-9 0.0	SE264905.009	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-9 1.0	SE264905.010	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP1-10 1.0	SE264905.011	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP2-1	SE264905.012	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP2-3	SE264905.014	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP3-1	SE264905.016	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP4-1 0.0	SE264905.017	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP4- 1.0	SE264905.018	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-1 1.0	SE264905.019	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-2 1.0	SE264905.020	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-3 0.0	SE264905.021	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-4 0.0	SE264905.022	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-4 1.0	SE264905.023	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-5 1.0	SE264905.024	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-6 0.0	SE264905.025	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-7 1.0	SE264905.026	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-8 0.0	SE264905.027	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-9 1.0	SE264905.028	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SP5-10 0.0	SE264905.029	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SS1	SE264905.030	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
SS3	SE264905.031	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
D.8.5.24	SE264905.036	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024
D1.8.5.24	SE264905.037	LB311895	08 May 2024	09 May 2024	08 May 2025	09 May 2024	08 May 2025	10 May 2024

Gravimetric Determination of Asbestos in Soil**Method: ME-(AU)-[ENV]AN605**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-2 1.0	SE264905.002	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-9 1.0	SE264905.010	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP2-1	SE264905.012	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP2-3	SE264905.014	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP3-1	SE264905.016	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP4-1 0.0	SE264905.017	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP4- 1.0	SE264905.018	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024



HOLDING TIME SUMMARY

SE264905 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Gravimetric Determination of Asbestos in Soil (continued)

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP5-8 0.0	SE264905.027	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SS1	SE264905.030	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SS3	SE264905.031	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
D.8.5.24	SE264905.036	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
D1.8.5.24	SE264905.037	LB311895	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-2-1.0	SE264905.002	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP2-1	SE264905.012	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP2-2	SE264905.013	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP2-3	SE264905.014	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP2-4	SE264905.015	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP3-1	SE264905.016	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP4-1 0.0	SE264905.017	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP4-1 1.0	SE264905.018	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311898	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-8 0.0	SE264905.027	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SS1	SE264905.030	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
SS3	SE264905.031	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
TP04 0.0-0.1	SE264905.034	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
TP05 0.0-0.1	SE264905.035	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
D.8.5.24	SE264905.036	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024
D1.8.5.24	SE264905.037	LB311907	08 May 2024	09 May 2024	05 Jun 2024	09 May 2024	05 Jun 2024	10 May 2024

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-2-1.0	SE264905.002	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Moisture Content (continued)

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP2-1	SE264905.012	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP2-2	SE264905.013	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP2-3	SE264905.014	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP2-4	SE264905.015	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP3-1	SE264905.016	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP4- 1 0.0	SE264905.017	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP4- 1.0	SE264905.018	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311903	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-8 0.0	SE264905.027	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SS1	SE264905.030	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
SS3	SE264905.031	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
TP04 0.0-0.1	SE264905.034	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
TP05 0.0-0.1	SE264905.035	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
D.8.5.24	SE264905.036	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024
D1.8.5.24	SE264905.037	LB311911	08 May 2024	09 May 2024	22 May 2024	09 May 2024	14 May 2024	10 May 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-2 1.0	SE264905.002	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-1	SE264905.012	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-2	SE264905.013	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-3	SE264905.014	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-4	SE264905.015	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP3-1	SE264905.016	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP4- 1 0.0	SE264905.017	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP4- 1.0	SE264905.018	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-8 0.0	SE264905.027	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SS1	SE264905.030	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SS3	SE264905.031	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)**Method: ME-(AU)-[ENV]AN420**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP02 0.0-0.1	SE264905.033	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
TP04 0.0-0.1	SE264905.034	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
TP05 0.0-0.1	SE264905.035	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
D.8.5.24	SE264905.036	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
D1.8.5.24	SE264905.037	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES**Method: ME-(AU)-[ENV]AN40/AN320**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-2 1.0	SE264905.002	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP2-1	SE264905.012	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP2-2	SE264905.013	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP2-3	SE264905.014	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP2-4	SE264905.015	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP3-1	SE264905.016	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP4-1 0.0	SE264905.017	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP4- 1.0	SE264905.018	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311897	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-8 0.0	SE264905.027	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SS1	SE264905.030	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
SS3	SE264905.031	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
TP04 0.0-0.1	SE264905.034	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
TP05 0.0-0.1	SE264905.035	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
D.8.5.24	SE264905.036	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024
D1.8.5.24	SE264905.037	LB311906	08 May 2024	09 May 2024	04 Nov 2024	09 May 2024	04 Nov 2024	10 May 2024

TRH (Total Recoverable Hydrocarbons) in Soil**Method: ME-(AU)-[ENV]AN403**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-2 1.0	SE264905.002	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-1	SE264905.012	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-2	SE264905.013	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-3	SE264905.014	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP2-4	SE264905.015	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024



HOLDING TIME SUMMARY

SE264905 R0

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Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP3-1	SE264905.016	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP4-1 0.0	SE264905.017	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP4- 1.0	SE264905.018	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311900	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-8 0.0	SE264905.027	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SS1	SE264905.030	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
SS3	SE264905.031	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
TP04 0.0-0.1	SE264905.034	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
TP05 0.0-0.1	SE264905.035	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
D.8.5.24	SE264905.036	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024
D1.8.5.24	SE264905.037	LB311905	08 May 2024	09 May 2024	22 May 2024	09 May 2024	18 Jun 2024	10 May 2024

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-2-1.0	SE264905.002	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-1	SE264905.012	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-2	SE264905.013	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-3	SE264905.014	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-4	SE264905.015	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP3-1	SE264905.016	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP4-1 0.0	SE264905.017	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP4- 1.0	SE264905.018	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-8 0.0	SE264905.027	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SS1	SE264905.030	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SS3	SE264905.031	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP04 0.0-0.1	SE264905.034	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP05 0.0-0.1	SE264905.035	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
D.8.5.24	SE264905.036	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024



HOLDING TIME SUMMARY

SE264905 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
D1.8.5.24	SE264905.037	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP1-1 0.0	SE264905.001	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-2-1.0	SE264905.002	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-3 0.0	SE264905.003	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-4 1.0	SE264905.004	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-5 0.0	SE264905.005	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-6 1.0	SE264905.006	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-7 1.0	SE264905.007	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-8 1.0	SE264905.008	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-9 0.0	SE264905.009	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP1-10 1.0	SE264905.011	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-1	SE264905.012	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-2	SE264905.013	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-3	SE264905.014	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP2-4	SE264905.015	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP3-1	SE264905.016	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP4-1 0.0	SE264905.017	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP4- 1.0	SE264905.018	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-1 1.0	SE264905.019	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-2 1.0	SE264905.020	LB311902	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-3 0.0	SE264905.021	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-4 0.0	SE264905.022	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-4 1.0	SE264905.023	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-5 1.0	SE264905.024	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-6 0.0	SE264905.025	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-7 1.0	SE264905.026	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-8 0.0	SE264905.027	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-9 1.0	SE264905.028	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SP5-10 0.0	SE264905.029	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SS1	SE264905.030	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
SS3	SE264905.031	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP01 0.0-0.1	SE264905.032	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP02 0.0-0.1	SE264905.033	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP04 0.0-0.1	SE264905.034	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
TP05 0.0-0.1	SE264905.035	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
D.8.5.24	SE264905.036	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024
D1.8.5.24	SE264905.037	LB311910	08 May 2024	09 May 2024	22 May 2024	09 May 2024	22 May 2024	10 May 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SP1-1 0.0	SE264905.001	%	70 - 130%	110
	SP1-2 1.0	SE264905.002	%	70 - 130%	111
	SP1-3 0.0	SE264905.003	%	70 - 130%	114
	SP1-4 1.0	SE264905.004	%	70 - 130%	109
	SP1-5 0.0	SE264905.005	%	70 - 130%	116
	SP1-6 1.0	SE264905.006	%	70 - 130%	113
	SP1-7 1.0	SE264905.007	%	70 - 130%	119
	SP1-8 1.0	SE264905.008	%	70 - 130%	115
	SP1-9 0.0	SE264905.009	%	70 - 130%	114
	SP1-10 1.0	SE264905.011	%	70 - 130%	113
	SP2-1	SE264905.012	%	70 - 130%	108
	SP2-2	SE264905.013	%	70 - 130%	108
	SP2-3	SE264905.014	%	70 - 130%	114
	SP2-4	SE264905.015	%	70 - 130%	108
	SP3-1	SE264905.016	%	70 - 130%	108
	SP4-1 0.0	SE264905.017	%	70 - 130%	104
	SP4- 1.0	SE264905.018	%	70 - 130%	104
	SP5-1 1.0	SE264905.019	%	70 - 130%	102
	SP5-2 1.0	SE264905.020	%	70 - 130%	106
	SP5-3 0.0	SE264905.021	%	70 - 130%	80
	SP5-4 0.0	SE264905.022	%	70 - 130%	99
	SP5-4 1.0	SE264905.023	%	70 - 130%	103
	SP5-5 1.0	SE264905.024	%	70 - 130%	101
	SP5-6 0.0	SE264905.025	%	70 - 130%	112
	SP5-7 1.0	SE264905.026	%	70 - 130%	105
	SP5-8 0.0	SE264905.027	%	70 - 130%	100
	SP5-9 1.0	SE264905.028	%	70 - 130%	104
	SP5-10 0.0	SE264905.029	%	70 - 130%	110
	SS1	SE264905.030	%	70 - 130%	100
	SS3	SE264905.031	%	70 - 130%	104
	TP01 0.0-0.1	SE264905.032	%	70 - 130%	109
	TP02 0.0-0.1	SE264905.033	%	70 - 130%	97
	TP04 0.0-0.1	SE264905.034	%	70 - 130%	100
	TP05 0.0-0.1	SE264905.035	%	70 - 130%	101
	D.8.5.24	SE264905.036	%	70 - 130%	104
	D1.8.5.24	SE264905.037	%	70 - 130%	107
d14-p-terphenyl (Surrogate)	SP1-1 0.0	SE264905.001	%	70 - 130%	120
	SP1-2 1.0	SE264905.002	%	70 - 130%	119
	SP1-3 0.0	SE264905.003	%	70 - 130%	117
	SP1-4 1.0	SE264905.004	%	70 - 130%	115
	SP1-5 0.0	SE264905.005	%	70 - 130%	118
	SP1-6 1.0	SE264905.006	%	70 - 130%	115
	SP1-7 1.0	SE264905.007	%	70 - 130%	125
	SP1-8 1.0	SE264905.008	%	70 - 130%	121
	SP1-9 0.0	SE264905.009	%	70 - 130%	122
	SP1-10 1.0	SE264905.011	%	70 - 130%	121
	SP2-1	SE264905.012	%	70 - 130%	98
	SP2-2	SE264905.013	%	70 - 130%	98
	SP2-3	SE264905.014	%	70 - 130%	102
	SP2-4	SE264905.015	%	70 - 130%	96
	SP3-1	SE264905.016	%	70 - 130%	96
	SP4-1 0.0	SE264905.017	%	70 - 130%	102
	SP4- 1.0	SE264905.018	%	70 - 130%	100
	SP5-1 1.0	SE264905.019	%	70 - 130%	100
	SP5-2 1.0	SE264905.020	%	70 - 130%	104
	SP5-3 0.0	SE264905.021	%	70 - 130%	110
	SP5-4 0.0	SE264905.022	%	70 - 130%	106
	SP5-4 1.0	SE264905.023	%	70 - 130%	113
	SP5-5 1.0	SE264905.024	%	70 - 130%	112
	SP5-6 0.0	SE264905.025	%	70 - 130%	119
	SP5-7 1.0	SE264905.026	%	70 - 130%	117

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)**Method: ME-(AU)-[ENV]AN420**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	SP5-8 0.0	SE264905.027	%	70 - 130%	114
	SP5-9 1.0	SE264905.028	%	70 - 130%	116
	SP5-10 0.0	SE264905.029	%	70 - 130%	115
	SS1	SE264905.030	%	70 - 130%	112
	SS3	SE264905.031	%	70 - 130%	114
	TP01 0.0-0.1	SE264905.032	%	70 - 130%	115
	TP02 0.0-0.1	SE264905.033	%	70 - 130%	114
	TP04 0.0-0.1	SE264905.034	%	70 - 130%	116
	TP05 0.0-0.1	SE264905.035	%	70 - 130%	108
	D.8.5.24	SE264905.036	%	70 - 130%	113
	D1.8.5.24	SE264905.037	%	70 - 130%	112
d5-nitrobenzene (Surrogate)	SP1-1 0.0	SE264905.001	%	70 - 130%	123
	SP1-2 1.0	SE264905.002	%	70 - 130%	125
	SP1-3 0.0	SE264905.003	%	70 - 130%	123
	SP1-4 1.0	SE264905.004	%	70 - 130%	122
	SP1-5 0.0	SE264905.005	%	70 - 130%	126
	SP1-6 1.0	SE264905.006	%	70 - 130%	125
	SP1-7 1.0	SE264905.007	%	70 - 130%	128
	SP1-8 1.0	SE264905.008	%	70 - 130%	125
	SP1-9 0.0	SE264905.009	%	70 - 130%	125
	SP1-10 1.0	SE264905.011	%	70 - 130%	128
	SP2-1	SE264905.012	%	70 - 130%	128
	SP2-2	SE264905.013	%	70 - 130%	122
	SP2-3	SE264905.014	%	70 - 130%	126
	SP2-4	SE264905.015	%	70 - 130%	118
	SP3-1	SE264905.016	%	70 - 130%	118
	SP4-1 0.0	SE264905.017	%	70 - 130%	98
	SP4- 1.0	SE264905.018	%	70 - 130%	102
	SP5-1 1.0	SE264905.019	%	70 - 130%	102
	SP5-2 1.0	SE264905.020	%	70 - 130%	106
	SP5-3 0.0	SE264905.021	%	70 - 130%	88
	SP5-4 0.0	SE264905.022	%	70 - 130%	106
	SP5-4 1.0	SE264905.023	%	70 - 130%	109
	SP5-5 1.0	SE264905.024	%	70 - 130%	107
	SP5-6 0.0	SE264905.025	%	70 - 130%	123
	SP5-7 1.0	SE264905.026	%	70 - 130%	117
	SP5-8 0.0	SE264905.027	%	70 - 130%	111
	SP5-9 1.0	SE264905.028	%	70 - 130%	114
	SP5-10 0.0	SE264905.029	%	70 - 130%	117
	SS1	SE264905.030	%	70 - 130%	102
	SS3	SE264905.031	%	70 - 130%	110
	TP01 0.0-0.1	SE264905.032	%	70 - 130%	114
	TP02 0.0-0.1	SE264905.033	%	70 - 130%	110
	TP04 0.0-0.1	SE264905.034	%	70 - 130%	109
	TP05 0.0-0.1	SE264905.035	%	70 - 130%	111
	D.8.5.24	SE264905.036	%	70 - 130%	117
	D1.8.5.24	SE264905.037	%	70 - 130%	116

VOC's in Soil**Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP1-1 0.0	SE264905.001	%	60 - 130%	85
	SP1-2 1.0	SE264905.002	%	60 - 130%	85
	SP1-3 0.0	SE264905.003	%	60 - 130%	89
	SP1-4 1.0	SE264905.004	%	60 - 130%	88
	SP1-5 0.0	SE264905.005	%	60 - 130%	88
	SP1-6 1.0	SE264905.006	%	60 - 130%	88
	SP1-7 1.0	SE264905.007	%	60 - 130%	81
	SP1-8 1.0	SE264905.008	%	60 - 130%	91
	SP1-9 0.0	SE264905.009	%	60 - 130%	80
	SP1-10 1.0	SE264905.011	%	60 - 130%	115
	SP2-1	SE264905.012	%	60 - 130%	87

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP2-2	SE264905.013	%	60 - 130%	87
	SP2-3	SE264905.014	%	60 - 130%	93
	SP2-4	SE264905.015	%	60 - 130%	87
	SP3-1	SE264905.016	%	60 - 130%	95
	SP4-1 0.0	SE264905.017	%	60 - 130%	88
	SP4- 1.0	SE264905.018	%	60 - 130%	92
	SP5-1 1.0	SE264905.019	%	60 - 130%	94
	SP5-2 1.0	SE264905.020	%	60 - 130%	92
	SP5-3 0.0	SE264905.021	%	60 - 130%	90
	SP5-4 0.0	SE264905.022	%	60 - 130%	97
	SP5-4 1.0	SE264905.023	%	60 - 130%	90
	SP5-5 1.0	SE264905.024	%	60 - 130%	97
	SP5-6 0.0	SE264905.025	%	60 - 130%	92
	SP5-7 1.0	SE264905.026	%	60 - 130%	89
	SP5-8 0.0	SE264905.027	%	60 - 130%	95
	SP5-9 1.0	SE264905.028	%	60 - 130%	93
	SP5-10 0.0	SE264905.029	%	60 - 130%	98
	SS1	SE264905.030	%	60 - 130%	93
	SS3	SE264905.031	%	60 - 130%	87
	TP01 0.0-0.1	SE264905.032	%	60 - 130%	86
	TP02 0.0-0.1	SE264905.033	%	60 - 130%	98
	TP04 0.0-0.1	SE264905.034	%	60 - 130%	93
	TP05 0.0-0.1	SE264905.035	%	60 - 130%	91
	D.8.5.24	SE264905.036	%	60 - 130%	83
	D1.8.5.24	SE264905.037	%	60 - 130%	103
d4-1,2-dichloroethane (Surrogate)	SP1-1 0.0	SE264905.001	%	60 - 130%	77
	SP1-2 1.0	SE264905.002	%	60 - 130%	75
	SP1-3 0.0	SE264905.003	%	60 - 130%	82
	SP1-4 1.0	SE264905.004	%	60 - 130%	80
	SP1-5 0.0	SE264905.005	%	60 - 130%	81
	SP1-6 1.0	SE264905.006	%	60 - 130%	81
	SP1-7 1.0	SE264905.007	%	60 - 130%	76
	SP1-8 1.0	SE264905.008	%	60 - 130%	81
	SP1-9 0.0	SE264905.009	%	60 - 130%	73
	SP1-10 1.0	SE264905.011	%	60 - 130%	113
	SP2-1	SE264905.012	%	60 - 130%	76
	SP2-2	SE264905.013	%	60 - 130%	79
	SP2-3	SE264905.014	%	60 - 130%	82
	SP2-4	SE264905.015	%	60 - 130%	78
	SP3-1	SE264905.016	%	60 - 130%	84
	SP4-1 0.0	SE264905.017	%	60 - 130%	78
	SP4- 1.0	SE264905.018	%	60 - 130%	85
	SP5-1 1.0	SE264905.019	%	60 - 130%	83
	SP5-2 1.0	SE264905.020	%	60 - 130%	84
	SP5-3 0.0	SE264905.021	%	60 - 130%	91
	SP5-4 0.0	SE264905.022	%	60 - 130%	98
	SP5-4 1.0	SE264905.023	%	60 - 130%	89
	SP5-5 1.0	SE264905.024	%	60 - 130%	91
	SP5-6 0.0	SE264905.025	%	60 - 130%	101
	SP5-7 1.0	SE264905.026	%	60 - 130%	103
	SP5-8 0.0	SE264905.027	%	60 - 130%	100
	SP5-9 1.0	SE264905.028	%	60 - 130%	95
	SP5-10 0.0	SE264905.029	%	60 - 130%	106
	SS1	SE264905.030	%	60 - 130%	100
	SS3	SE264905.031	%	60 - 130%	81
	TP01 0.0-0.1	SE264905.032	%	60 - 130%	83
	TP02 0.0-0.1	SE264905.033	%	60 - 130%	99
	TP04 0.0-0.1	SE264905.034	%	60 - 130%	92
	TP05 0.0-0.1	SE264905.035	%	60 - 130%	102
	D.8.5.24	SE264905.036	%	60 - 130%	109
	D1.8.5.24	SE264905.037	%	60 - 130%	113

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	SP1-1 0.0	SE264905.001	%	60 - 130%	79
	SP1-2 1.0	SE264905.002	%	60 - 130%	76
	SP1-3 0.0	SE264905.003	%	60 - 130%	84
	SP1-4 1.0	SE264905.004	%	60 - 130%	82
	SP1-5 0.0	SE264905.005	%	60 - 130%	83
	SP1-6 1.0	SE264905.006	%	60 - 130%	83
	SP1-7 1.0	SE264905.007	%	60 - 130%	76
	SP1-8 1.0	SE264905.008	%	60 - 130%	83
	SP1-9 0.0	SE264905.009	%	60 - 130%	75
	SP1-10 1.0	SE264905.011	%	60 - 130%	125
	SP2-1	SE264905.012	%	60 - 130%	78
	SP2-2	SE264905.013	%	60 - 130%	80
	SP2-3	SE264905.014	%	60 - 130%	84
	SP2-4	SE264905.015	%	60 - 130%	80
	SP3-1	SE264905.016	%	60 - 130%	86
	SP4-1 0.0	SE264905.017	%	60 - 130%	80
	SP4- 1.0	SE264905.018	%	60 - 130%	86
	SP5-1 1.0	SE264905.019	%	60 - 130%	84
	SP5-2 1.0	SE264905.020	%	60 - 130%	85
	SP5-3 0.0	SE264905.021	%	60 - 130%	93
	SP5-4 0.0	SE264905.022	%	60 - 130%	105
	SP5-4 1.0	SE264905.023	%	60 - 130%	92
	SP5-5 1.0	SE264905.024	%	60 - 130%	98
	SP5-6 0.0	SE264905.025	%	60 - 130%	97
	SP5-7 1.0	SE264905.026	%	60 - 130%	97
	SP5-8 0.0	SE264905.027	%	60 - 130%	104
	SP5-9 1.0	SE264905.028	%	60 - 130%	101
	SP5-10 0.0	SE264905.029	%	60 - 130%	107
	SS1	SE264905.030	%	60 - 130%	99
	SS3	SE264905.031	%	60 - 130%	93
	TP01 0.0-0.1	SE264905.032	%	60 - 130%	90
	TP02 0.0-0.1	SE264905.033	%	60 - 130%	102
	TP04 0.0-0.1	SE264905.034	%	60 - 130%	80
	TP05 0.0-0.1	SE264905.035	%	60 - 130%	96
	D.8.5.24	SE264905.036	%	60 - 130%	86
	D1.8.5.24	SE264905.037	%	60 - 130%	105

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP1-1 0.0	SE264905.001	%	60 - 130%	85
	SP1-2 1.0	SE264905.002	%	60 - 130%	85
	SP1-3 0.0	SE264905.003	%	60 - 130%	89
	SP1-4 1.0	SE264905.004	%	60 - 130%	88
	SP1-5 0.0	SE264905.005	%	60 - 130%	88
	SP1-6 1.0	SE264905.006	%	60 - 130%	88
	SP1-7 1.0	SE264905.007	%	60 - 130%	81
	SP1-8 1.0	SE264905.008	%	60 - 130%	91
	SP1-9 0.0	SE264905.009	%	60 - 130%	80
	SP1-10 1.0	SE264905.011	%	60 - 130%	115
	SP2-1	SE264905.012	%	60 - 130%	87
	SP2-2	SE264905.013	%	60 - 130%	87
	SP2-3	SE264905.014	%	60 - 130%	93
	SP2-4	SE264905.015	%	60 - 130%	87
	SP3-1	SE264905.016	%	60 - 130%	95
	SP4-1 0.0	SE264905.017	%	60 - 130%	88
	SP4- 1.0	SE264905.018	%	60 - 130%	92
	SP5-1 1.0	SE264905.019	%	60 - 130%	94
	SP5-2 1.0	SE264905.020	%	60 - 130%	92
	SP5-3 0.0	SE264905.021	%	60 - 130%	90
	SP5-4 0.0	SE264905.022	%	60 - 130%	97
	SP5-4 1.0	SE264905.023	%	60 - 130%	90

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP5-5 1.0	SE264905.024	%	60 - 130%	97
	SP5-6 0.0	SE264905.025	%	60 - 130%	92
	SP5-7 1.0	SE264905.026	%	60 - 130%	89
	SP5-8 0.0	SE264905.027	%	60 - 130%	95
	SP5-9 1.0	SE264905.028	%	60 - 130%	93
	SP5-10 0.0	SE264905.029	%	60 - 130%	98
	SS1	SE264905.030	%	60 - 130%	93
	SS3	SE264905.031	%	60 - 130%	87
	TP01 0.0-0.1	SE264905.032	%	60 - 130%	86
	TP02 0.0-0.1	SE264905.033	%	60 - 130%	98
	TP04 0.0-0.1	SE264905.034	%	60 - 130%	93
	TP05 0.0-0.1	SE264905.035	%	60 - 130%	91
	D.8.5.24	SE264905.036	%	60 - 130%	83
	D1.8.5.24	SE264905.037	%	60 - 130%	103
d4-1,2-dichloroethane (Surrogate)	SP1-1 0.0	SE264905.001	%	60 - 130%	77
	SP1-2 1.0	SE264905.002	%	60 - 130%	75
	SP1-3 0.0	SE264905.003	%	60 - 130%	82
	SP1-4 1.0	SE264905.004	%	60 - 130%	80
	SP1-5 0.0	SE264905.005	%	60 - 130%	81
	SP1-6 1.0	SE264905.006	%	60 - 130%	81
	SP1-7 1.0	SE264905.007	%	60 - 130%	76
	SP1-8 1.0	SE264905.008	%	60 - 130%	81
	SP1-9 0.0	SE264905.009	%	60 - 130%	73
	SP1-10 1.0	SE264905.011	%	60 - 130%	113
	SP2-1	SE264905.012	%	60 - 130%	76
	SP2-2	SE264905.013	%	60 - 130%	79
	SP2-3	SE264905.014	%	60 - 130%	82
	SP2-4	SE264905.015	%	60 - 130%	78
	SP3-1	SE264905.016	%	60 - 130%	84
	SP4-1 0.0	SE264905.017	%	60 - 130%	78
	SP4- 1.0	SE264905.018	%	60 - 130%	85
	SP5-1 1.0	SE264905.019	%	60 - 130%	83
	SP5-2 1.0	SE264905.020	%	60 - 130%	84
	SP5-3 0.0	SE264905.021	%	60 - 130%	91
	SP5-4 0.0	SE264905.022	%	60 - 130%	98
	SP5-4 1.0	SE264905.023	%	60 - 130%	89
	SP5-5 1.0	SE264905.024	%	60 - 130%	91
	SP5-6 0.0	SE264905.025	%	60 - 130%	101
	SP5-7 1.0	SE264905.026	%	60 - 130%	103
	SP5-8 0.0	SE264905.027	%	60 - 130%	100
	SP5-9 1.0	SE264905.028	%	60 - 130%	95
	SP5-10 0.0	SE264905.029	%	60 - 130%	106
	SS1	SE264905.030	%	60 - 130%	100
	SS3	SE264905.031	%	60 - 130%	81
	TP01 0.0-0.1	SE264905.032	%	60 - 130%	83
	TP02 0.0-0.1	SE264905.033	%	60 - 130%	99
	TP04 0.0-0.1	SE264905.034	%	60 - 130%	92
	TP05 0.0-0.1	SE264905.035	%	60 - 130%	102
	D.8.5.24	SE264905.036	%	60 - 130%	109
	D1.8.5.24	SE264905.037	%	60 - 130%	113
d8-toluene (Surrogate)	SP1-1 0.0	SE264905.001	%	60 - 130%	79
	SP1-2 1.0	SE264905.002	%	60 - 130%	76
	SP1-3 0.0	SE264905.003	%	60 - 130%	84
	SP1-4 1.0	SE264905.004	%	60 - 130%	82
	SP1-5 0.0	SE264905.005	%	60 - 130%	83
	SP1-6 1.0	SE264905.006	%	60 - 130%	83
	SP1-7 1.0	SE264905.007	%	60 - 130%	76
	SP1-8 1.0	SE264905.008	%	60 - 130%	83
	SP1-9 0.0	SE264905.009	%	60 - 130%	75
	SP1-10 1.0	SE264905.011	%	60 - 130%	125
	SP2-1	SE264905.012	%	60 - 130%	78

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	SP2-2	SE264905.013	%	60 - 130%	80
	SP2-3	SE264905.014	%	60 - 130%	84
	SP2-4	SE264905.015	%	60 - 130%	80
	SP3-1	SE264905.016	%	60 - 130%	86
	SP4-1 0.0	SE264905.017	%	60 - 130%	80
	SP4- 1.0	SE264905.018	%	60 - 130%	86
	SP5-1 1.0	SE264905.019	%	60 - 130%	84
	SP5-2 1.0	SE264905.020	%	60 - 130%	85
	SP5-3 0.0	SE264905.021	%	60 - 130%	93
	SP5-4 0.0	SE264905.022	%	60 - 130%	105
	SP5-4 1.0	SE264905.023	%	60 - 130%	92
	SP5-5 1.0	SE264905.024	%	60 - 130%	98
	SP5-6 0.0	SE264905.025	%	60 - 130%	97
	SP5-7 1.0	SE264905.026	%	60 - 130%	97
	SP5-8 0.0	SE264905.027	%	60 - 130%	104
	SP5-9 1.0	SE264905.028	%	60 - 130%	101
	SP5-10 0.0	SE264905.029	%	60 - 130%	107
	SS1	SE264905.030	%	60 - 130%	99
	SS3	SE264905.031	%	60 - 130%	93
	TP01 0.0-0.1	SE264905.032	%	60 - 130%	90
	TP02 0.0-0.1	SE264905.033	%	60 - 130%	102
	TP04 0.0-0.1	SE264905.034	%	60 - 130%	80
	TP05 0.0-0.1	SE264905.035	%	60 - 130%	96
	D.8.5.24	SE264905.036	%	60 - 130%	86
	D1.8.5.24	SE264905.037	%	60 - 130%	105

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB311898.001	Mercury	mg/kg	0.05	<0.05
LB311907.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB311900.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
Surrogates	d5-nitrobenzene (Surrogate)	%	-	127
	2-fluorobiphenyl (Surrogate)	%	-	113
	d14-p-terphenyl (Surrogate)	%	-	117
LB311905.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
Surrogates	d5-nitrobenzene (Surrogate)	%	-	113
	2-fluorobiphenyl (Surrogate)	%	-	102
	d14-p-terphenyl (Surrogate)	%	-	118

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB311897.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0
LB311906.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB311906.001	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB311900.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
LB311905.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB311902.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
		d8-toluene (Surrogate)	%	-	90
		Bromofluorobenzene (Surrogate)	%	-	97
	Totals	Total BTEX*	mg/kg	0.6	<0.6
LB311910.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	109
		d8-toluene (Surrogate)	%	-	113
		Bromofluorobenzene (Surrogate)	%	-	106
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB311902.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
LB311910.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	109

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311898.014	Mercury	mg/kg	0.05	0.06	<0.05	135	13
SE264905.020	LB311898.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE264905.030	LB311907.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE264905.037	LB311907.022	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311903.011	% Moisture	%w/w	1	23.6	24.2	34	3
SE264905.020	LB311903.021	% Moisture	%w/w	1	12.2	11.8	38	3
SE264905.030	LB311911.011	% Moisture	%w/w	1	16.9	18.6	36	9
SE264905.037	LB311911.019	% Moisture	%w/w	1	15.1	12.9	37	15

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311900.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
SE264905.020	LB311900.024	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	30	4
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	3
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	4
		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.020	LB311900.024	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30
SE264905.030	LB311905.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200
			Fluorene	mg/kg	0.1	<0.1	<0.1	200
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200
			Anthracene	mg/kg	0.1	<0.1	<0.1	200
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200
			Pyrene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200
			Chrysene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30
SE264905.037	LB311905.022		Naphthalene	mg/kg	0.1	<0.1	<0.1	200
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200
			Fluorene	mg/kg	0.1	<0.1	<0.1	200
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200
			Anthracene	mg/kg	0.1	<0.1	<0.1	200
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200
			Pyrene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200
			Chrysene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	30
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311897.014	Arsenic, As	mg/kg	1	3	2	71	19
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	14	14	34	0
		Copper, Cu	mg/kg	0.5	12	11	34	9
		Nickel, Ni	mg/kg	0.5	5.1	4.7	40	9
		Lead, Pb	mg/kg	1	15	14	37	8

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311897.014	Zinc, Zn	mg/kg	2	22	19	40	10
SE264905.020	LB311897.024	Arsenic, As	mg/kg	1	<1	1	124	13
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	3.5	3.9	43	9
		Copper, Cu	mg/kg	0.5	2.2	2.3	52	6
		Nickel, Ni	mg/kg	0.5	1.2	1.3	71	7
		Lead, Pb	mg/kg	1	4	5	51	19
		Zinc, Zn	mg/kg	2	8.9	9.1	52	2
SE264905.030	LB311906.014	Arsenic, As	mg/kg	1	<1	<1	200	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	<0.5	<0.5	149	0
		Copper, Cu	mg/kg	0.5	1.8	1.4	61	22
		Nickel, Ni	mg/kg	0.5	<0.5	<0.5	200	0
		Lead, Pb	mg/kg	1	3	4	57	17
		Zinc, Zn	mg/kg	2	2.4	<2.0	136	18
SE264905.037	LB311906.022	Arsenic, As	mg/kg	1	2	2	88	17
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	5.6	5.2	39	7
		Copper, Cu	mg/kg	0.5	4.7	4.7	41	0
		Nickel, Ni	mg/kg	0.5	2.8	2.7	48	3
		Lead, Pb	mg/kg	1	4	4	54	7
		Zinc, Zn	mg/kg	2	22	22	39	0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311900.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	187	0
		TRH C29-C36	mg/kg	45	<45	<45	145	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	198	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE264905.020	LB311900.024	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	164	0
		TRH C29-C36	mg/kg	45	87	87	82	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	156	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	92	93	127	2
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE264905.030	LB311905.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE264905.037	LB311905.022	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	47	138	5
		TRH C29-C36	mg/kg	45	46	52	122	13
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	182	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]JAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.037	LB311905.022	TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	94	135	4
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]JAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311902.014	Monocyclic Aromatic						
		Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
		o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic						
		Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.3	7.8	50	36
		d8-toluene (Surrogate)	mg/kg	-	12.5	7.9	50	45
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.5	8.5	50	30
		Totals						
		Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE264905.020	LB311902.024	Monocyclic Aromatic						
		Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
		o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic						
		Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	7.1	50	17
		d8-toluene (Surrogate)	mg/kg	-	8.5	7.2	50	17
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	7.8	50	17
		Totals						
		Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE264905.030	LB311910.014	Monocyclic Aromatic						
		Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
		o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic						
		Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	10.2	50	2
		d8-toluene (Surrogate)	mg/kg	-	9.9	9.7	50	2
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.3	50	0
		Totals						
		Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE264905.037	LB311910.022	Monocyclic Aromatic						
		Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
		o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic						
		Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.3	10.8	50	5
		d8-toluene (Surrogate)	mg/kg	-	10.5	9.3	50	13
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	9.6	50	6
		Totals						
		Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
		Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]JAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.011	LB311902.014	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.3	7.8	50	36
		d8-toluene (Surrogate)	mg/kg	-	12.5	7.9	50	45
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.5	8.5	50	30
		VPF F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE264905.020	LB311902.024	TRH C6-C10	mg/kg	25	<25	<25	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264905.020	LB311902.024	TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	7.1	50	17
		d8-toluene (Surrogate)	mg/kg	-	8.5	7.2	50	17
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	7.8	50	17
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE264905.030	LB311910.014	TRH C6-C9	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	10.2	50	2
		d8-toluene (Surrogate)	mg/kg	-	9.9	9.7	50	2
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.3	50	0
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE264905.037	LB311910.022	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.3	10.8	50	5
		d8-toluene (Surrogate)	mg/kg	-	10.5	9.3	50	13
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	9.6	50	6
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311898.002	Mercury	mg/kg	0.05	0.19	0.2	80 - 120	96
LB311907.002	Mercury	mg/kg	0.05	0.19	0.2	80 - 120	97

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311900.002	Naphthalene	mg/kg	0.1	4.8	4	60 - 140	119
	Acenaphthylene	mg/kg	0.1	4.8	4	60 - 140	121
	Acenaphthene	mg/kg	0.1	4.9	4	60 - 140	122
	Phenanthrene	mg/kg	0.1	4.9	4	60 - 140	124
	Anthracene	mg/kg	0.1	5.2	4	60 - 140	130
	Fluoranthene	mg/kg	0.1	5.0	4	60 - 140	126
	Pyrene	mg/kg	0.1	4.8	4	60 - 140	121
	Benzo(a)pyrene	mg/kg	0.1	5.5	4	60 - 140	138
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	123
LB311905.002	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	106
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	114
	Naphthalene	mg/kg	0.1	4.8	4	60 - 140	121
	Acenaphthylene	mg/kg	0.1	4.7	4	60 - 140	116
	Acenaphthene	mg/kg	0.1	4.9	4	60 - 140	124
	Phenanthrene	mg/kg	0.1	4.9	4	60 - 140	122
	Anthracene	mg/kg	0.1	5.1	4	60 - 140	129
	Fluoranthene	mg/kg	0.1	5.1	4	60 - 140	127
	Pyrene	mg/kg	0.1	5.3	4	60 - 140	131
	Benzo(a)pyrene	mg/kg	0.1	5.0	4	60 - 140	125
Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	103
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	114

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311897.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	108
	Cadmium, Cd	mg/kg	0.3	5.1	4.81	70 - 130	105
	Chromium, Cr	mg/kg	0.5	42	38.31	80 - 120	109
	Copper, Cu	mg/kg	0.5	280	290	80 - 120	98
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	104
	Zinc, Zn	mg/kg	2	280	273	80 - 120	103
LB311906.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	107
	Cadmium, Cd	mg/kg	0.3	5.3	4.81	70 - 130	111
	Chromium, Cr	mg/kg	0.5	40	38.31	80 - 120	105
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	101
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	280	273	80 - 120	102

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311900.002	TRH C10-C14	mg/kg	20	37	40	60 - 140	92
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	93
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	86
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	38	40	60 - 140	94
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	90
LB311905.002	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	88
	TRH C10-C14	mg/kg	20	43	40	60 - 140	107
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	104
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	78
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	43	40	60 - 140	108
Surrogates	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	90
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311902.002	Monocyclic	Benzene	mg/kg	0.1	4.2	5	60 - 140
	Aromatic	Toluene	mg/kg	0.1	4.5	5	60 - 140
		Ethylbenzene	mg/kg	0.1	4.6	5	60 - 140
		m/p-xylene	mg/kg	0.2	9.3	10	60 - 140
		o-xylene	mg/kg	0.1	4.7	5	60 - 140
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	10	70 - 130
		d8-toluene (Surrogate)	mg/kg	-	10.0	10	70 - 130
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.5	10	70 - 130
LB311910.002	Monocyclic	Benzene	mg/kg	0.1	4.0	5	60 - 140
	Aromatic	Toluene	mg/kg	0.1	5.6	5	60 - 140
		Ethylbenzene	mg/kg	0.1	5.3	5	60 - 140
		m/p-xylene	mg/kg	0.2	11	10	60 - 140
		o-xylene	mg/kg	0.1	5.4	5	60 - 140
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.3	10	70 - 130
		d8-toluene (Surrogate)	mg/kg	-	10.7	10	70 - 130
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.5	10	70 - 130

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB311902.002	TRH C6-C10	mg/kg	25	72	92.5	60 - 140	78	
	TRH C6-C9	mg/kg	20	62	80	60 - 140	78	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	10	70 - 130	97
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.5	10	70 - 130	95
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	45	62.5	60 - 140	72
LB311910.002	TRH C6-C10	mg/kg	25	81	92.5	60 - 140	88	
	TRH C6-C9	mg/kg	20	70	80	60 - 140	87	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.3	10	70 - 130	113
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.5	10	70 - 130	95
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	50	62.5	60 - 140	79

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264905.001	LB311898.004	Mercury	mg/kg	0.05	0.23	<0.05	0.2	94
SE264905.021	LB311907.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264905.001	LB311900.004	Naphthalene	mg/kg	0.1	4.7	<0.1	4	117
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.7	<0.1	4	118
		Acenaphthene	mg/kg	0.1	4.8	<0.1	4	119
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.8	<0.1	4	119
		Anthracene	mg/kg	0.1	5.1	<0.1	4	126
		Fluoranthene	mg/kg	0.1	5.0	<0.1	4	123
		Pyrene	mg/kg	0.1	4.8	<0.1	4	119
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	5.6	<0.1	4	138
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	5.6	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	5.6	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	5.7	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	39	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	-	117
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	109
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	-	115
SE264905.021	LB311905.004	Naphthalene	mg/kg	0.1	4.8	<0.1	4	120
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.6	<0.1	4	115
		Acenaphthene	mg/kg	0.1	4.8	<0.1	4	120
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.9	<0.1	4	121
		Anthracene	mg/kg	0.1	4.9	<0.1	4	122
		Fluoranthene	mg/kg	0.1	4.9	<0.1	4	123
		Pyrene	mg/kg	0.1	4.9	<0.1	4	123
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	5.0	<0.1	4	125
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	5.0	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	5.1	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	5.1	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	39	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	-	98
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	-	111

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)
Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264905.001	LB311897.004	Arsenic, As	mg/kg	1	53	2	50	101
		Cadmium, Cd	mg/kg	0.3	52	<0.3	50	104
		Chromium, Cr	mg/kg	0.5	67	16	50	101
		Copper, Cu	mg/kg	0.5	57	12	50	89
		Nickel, Ni	mg/kg	0.5	59	6.5	50	105
		Lead, Pb	mg/kg	1	66	21	50	89
SE264905.021	LB311906.004	Zinc, Zn	mg/kg	2	83	37	50	92
		Arsenic, As	mg/kg	1	50	3	50	93
		Cadmium, Cd	mg/kg	0.3	45	<0.3	50	90
		Chromium, Cr	mg/kg	0.5	49	2.3	50	94
		Copper, Cu	mg/kg	0.5	48	2.4	50	92
		Nickel, Ni	mg/kg	0.5	50	1.2	50	97
		Lead, Pb	mg/kg	1	51	4	50	93
		Zinc, Zn	mg/kg	2	59	12	50	95

TRH (Total Recoverable Hydrocarbons) in Soil
Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264905.001	LB311900.004	TRH C10-C14	mg/kg	20	56	<20	40	129
		TRH C15-C28	mg/kg	45	66	<45	40	136
		TRH C29-C36	mg/kg	45	74	<45	40	105
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	200	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F	mg/kg	25	58	<25	40	132
		Bands	mg/kg	25	58	<25	-	-
SE264905.021	LB311905.004	TRH >C10-C16	mg/kg	90	<90	<90	40	124
		TRH >C16-C34 (F3)	mg/kg	120	<120	<120	-	-
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
		TRH C10-C14	mg/kg	20	43	<20	40	105
		TRH C15-C28	mg/kg	45	<45	<45	40	105
		TRH C29-C36	mg/kg	45	<45	<45	40	88
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F	mg/kg	25	45	<25	40	108
		Bands	mg/kg	25	45	<25	-	-
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	45	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	95
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil
Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264905.001	LB311902.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	5.3	<0.1	5	105
			Toluene	mg/kg	0.1	5.8	<0.1	5	115
			Ethylbenzene	mg/kg	0.1	6.0	<0.1	5	119
			m/p-xylene	mg/kg	0.2	12	<0.2	10	119
			o-xylene	mg/kg	0.1	6.1	<0.1	5	121
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	7.7	10	89
			d8-toluene (Surrogate)	mg/kg	-	9.1	7.9	10	91
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	8.5	10	87
		Totals	Total BTEX*	mg/kg	0.6	35	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	18	<0.3	-	-
SE264905.021	LB311910.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.0	<0.1	5	81
			Toluene	mg/kg	0.1	6.1	<0.1	5	122
			Ethylbenzene	mg/kg	0.1	5.3	<0.1	5	106
			m/p-xylene	mg/kg	0.2	11	<0.2	10	112
			o-xylene	mg/kg	0.1	5.5	<0.1	5	111
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	9.1	10	100
			d8-toluene (Surrogate)	mg/kg	-	10.5	9.3	10	105
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	9.0	10	89
		Totals	Total BTEX*	mg/kg	0.6	32	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	17	<0.3	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264905.001	LB311902.004	TRH C6-C10	mg/kg	25	86	<25	92.5	93
		TRH C6-C9	mg/kg	20	76	<20	80	95
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	7.7	10	89
		d8-toluene (Surrogate)	mg/kg	-	9.1	7.9	10	91
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	8.5	-	87
		VPH F						
		Benzene (F0)	mg/kg	0.1	5.3	<0.1	-	-
		Bands						
SE264905.021	LB311910.004	TRH C6-C10 minus BTEX (F1)	mg/kg	25	51	<25	62.5	82
		TRH C6-C10	mg/kg	25	75	<25	92.5	81
		TRH C6-C9	mg/kg	20	68	<20	80	85
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	9.1	10	100
		d8-toluene (Surrogate)	mg/kg	-	10.5	9.3	10	105
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	9.0	-	89
		VPH F						
		Benzene (F0)	mg/kg	0.1	4.0	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	42	<25	62.5	68

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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ANALYTICAL REPORT



Accreditation No. 2562

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Project **NEW24P-0090 - GNAPL - ASTRA**
Order Number **NEW24P-0090**
Samples 31

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SGS Reference **SE264905 R0**
Date Received 09 May 2024
Date Reported 10 May 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthupudin

SIGNATORIES

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE264905.001	SP1-1 0.0	Soil	371g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.002	SP1-2-1.0	Soil	362g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.003	SP1-3 0.0	Soil	328g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.004	SP1-4 1.0	Soil	412g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.005	SP1-5 0.0	Soil	328g Sand, Soil, Rocks, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.006	SP1-6 1.0	Soil	331g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.007	SP1-7 1.0	Soil	310g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.008	SP1-8 1.0	Soil	550g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.009	SP1-9 0.0	Soil	349g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.010	SP1-9 1.0	Soil	577g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.011	SP1-10 1.0	Soil	615g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.012	SP2-1	Soil	740g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.014	SP2-3	Soil	757g Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.016	SP3-1	Soil	762g Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.017	SP4-1 0.0	Soil	677g Sand, Soil, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.018	SP4- 1.0	Soil	652g Sand, Soil, Rocks, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.019	SP5-1 1.0	Soil	818g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.020	SP5-2 1.0	Soil	664g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.021	SP5-3 0.0	Soil	763g Clay, Sand, Soil, Rocks, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.022	SP5-4 0.0	Soil	668g Sand, Soil, Rocks, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.023	SP5-4 1.0	Soil	539g Sand, Soil, Rocks, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.024	SP5-5 1.0	Soil	703g Clay, Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE264905.025	SP5-6 0.0	Soil	559g Sand, Soil, Rocks, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.026	SP5-7 1.0	Soil	537g Clay, Sand, Soil, Rocks, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264905.027	SP5-8 0.0	Soil	677g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.028	SP5-9 1.0	Soil	680g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.029	SP5-10 0.0	Soil	614g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.030	SS1	Soil	541g Sand	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.031	SS3	Soil	754g Sand, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.032	TP01 0.0-0.1	Soil	628g Sand, Soil, Rocks	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264905.033	TP02 0.0-0.1	Soil	609g Sand, Soil, Plant Matter	08 May 2024	10 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 9/5/2024

			SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024
			SE264905.001	SE264905.002	SE264905.003	SE264905.004	SE264905.005
PARAMETER	UOM	LOR					
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	371	362	328	412	328
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

			SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-9 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024
			SE264905.006	SE264905.007	SE264905.008	SE264905.009	SE264905.010
PARAMETER	UOM	LOR					
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	331	310	550	349	577
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

			SP1-10 1.0	SP2-1	SP2-3	SP3-1	SP4-1 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/5/2024	8/5/2024	8/5/2024	8/5/2024	8/5/2024
			SE264905.011	SE264905.012	SE264905.014	SE264905.016	SE264905.017
PARAMETER	UOM	LOR					
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	615	740	757	762	677
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 9/5/2024 (continued)

PARAMETER	UOM	LOR	SP4- 1.0	SP5-1 1.0	SP5-2 1.0	SP5-3 0.0	SP5-4 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.018	8/5/2024 SE264905.019	8/5/2024 SE264905.020	8/5/2024 SE264905.021	8/5/2024 SE264905.022
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	652	818	664	763	668
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP5-4 1.0	SP5-5 1.0	SP5-6 0.0	SP5-7 1.0	SP5-8 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.023	8/5/2024 SE264905.024	8/5/2024 SE264905.025	8/5/2024 SE264905.026	8/5/2024 SE264905.027
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	539	703	559	537	677
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP5-9 1.0	SP5-10 0.0	SS1	SS3	TP01 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905.028	8/5/2024 SE264905.029	8/5/2024 SE264905.030	8/5/2024 SE264905.031	8/5/2024 SE264905.032
Date Analysed*	No unit	-	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00	10/05/2024 00:00
Total Sample Weight*	g	1	680	614	541	754	628
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD



ANALYTICAL REPORT

SE264905 R0

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 9/5/2024 (continued)

			TP02 0.0-0.1
			SOIL
			-
			8/5/2024
			SE264905.033
PARAMETER	UOM	LOR	
Date Analysed*	No unit	-	10/05/2024 00:00
Total Sample Weight*	g	1	609
Bonded ACM in >7mm Sample*	g	0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001
Fibre Type*	No unit	-	NAD

METHOD

METHODOLOGY SUMMARY

AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.
AN605	Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.
AN-605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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Company		Qualitest		Project No		NEW24P-0090		Project Manager		Emma Coleman		Sample(s)		Billy Snow	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		GNAFL - ASTRA		EOD Format		Excel		Handed over by			
Contact Name		Emma Coleman		Analyses		Suite CL10 (TRH, BTEX, PAH, Metals)		EDD Format				Email for Invoice		accounts@qualitest.com.au	
Phone No		0423 359 411		Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to request SUITE pricing.		PFAS		Excel				Email for Results		billysnow@qualitest.com.au emma@qualitest.com.au emma@qualitest.com.au	
Special Directions				Matrix		Asbestos (NEPM %w/w)		Containers		Required Turnaround Time (TAT)		Delivery Instructions		Delivery Instructions	
Purchase Order				Sampled				500mL Plastic		40mL VOA vial		Overnight (reporting by 9am) ☐		Overnight (reporting by 9am) ☒	
Quote ID No		QUAL-IE-OC723-464084		Date/Time				250mL Plastic		500mL PFAS Bottle		Same day ☐		Same day ☒	
Client Sample ID		SP1-1.0.0		Matrix		SOIL		125mL Plastic		Jar (Glass or HDPE)		2 days ☐		2 days ☒	
SP1-1.0		8/05/24		Matrix		SOIL		200mL Amber Glass		Other (Asbestos AS4954, WA Guidelines)		5 days (Standard) ☐		5 days (Standard) ☒	
SP1-2.0.0		8/05/24		Matrix		SOIL		40mL VOA vial		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-3.0.0		8/05/24		Matrix		SOIL		500mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-4.0.0		8/05/24		Matrix		SOIL		250mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-5.0.0		8/05/24		Matrix		SOIL		125mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-6.0.0		8/05/24		Matrix		SOIL		200mL Amber Glass		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-7.0.0		8/05/24		Matrix		SOIL		40mL VOA vial		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-8.0.0		8/05/24		Matrix		SOIL		500mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-9.0.0		8/05/24		Matrix		SOIL		250mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-10.0.0		8/05/24		Matrix		SOIL		125mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-11.0.0		8/05/24		Matrix		SOIL		200mL Amber Glass		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-12.0.0		8/05/24		Matrix		SOIL		40mL VOA vial		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-13.0.0		8/05/24		Matrix		SOIL		500mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-14.0.0		8/05/24		Matrix		SOIL		250mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-15.0.0		8/05/24		Matrix		SOIL		125mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-16.0.0		8/05/24		Matrix		SOIL		200mL Amber Glass		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-17.0.0		8/05/24		Matrix		SOIL		40mL VOA vial		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-18.0.0		8/05/24		Matrix		SOIL		500mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-19.0.0		8/05/24		Matrix		SOIL		250mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-20.0.0		8/05/24		Matrix		SOIL		125mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-21.0.0		8/05/24		Matrix		SOIL		200mL Amber Glass		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-22.0.0		8/05/24		Matrix		SOIL		40mL VOA vial		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-23.0.0		8/05/24		Matrix		SOIL		500mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-24.0.0		8/05/24		Matrix		SOIL		250mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-25.0.0		8/05/24		Matrix		SOIL		125mL Plastic		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-26.0.0		8/05/24		Matrix		SOIL		200mL Amber Glass		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	
SP1-27.0.0		8/05/24		Matrix		SOIL		40mL VOA vial		Other (Asbestos AS4954, WA Guidelines)		Other ☐		Other ☒	

Yin, Emily (Sydney)

From: Emma Coleman <EmmaColeman@qualtest.com.au>
Sent: Thursday, 9 May 2024 12:47 PM
To: Yin, Emily (Sydney); Libby Betz; Billy Snow
Cc: Luong, Thi Song Van (Sydney)
Subject: [EXTERNAL] RE: SE264905 - NEW24[-0090]

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments.

Hi Emily,

36 37
Please analyse samples D.8.5.24 and D1.8.5.24 for Suite CL10 (TRH, BTEX, PAH, Metals) and PFAS

Please send samples T.8.5.24 and T1.8.5.24 to Eurofins, with testing for Suite B7 (TRH, BTEX, PAH, Metals) and PFAS. Let me know if you need me to provide a COC for the Eurofins samples.

With the PFAS testing, what TAT is expected?

Regards,

Emma Coleman

Senior Environmental Scientist

Certified Environmental Practitioner – Site Contamination Specialist

Mob: 0429 359 411

Tel: 02 4968 4468

Web: www.qualtest.com.au

2 Murray Dwyer Circuit, Mayfield West, NSW, 2304

emmacoleman@qualtest.com.au

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From: Yin, Emily (Sydney) <Emily.Yin@sgs.com>
Sent: Thursday, 9 May 2024 12:40 PM
To: Libby Betz <LibbyBetz@qualtest.com.au>; Billy Snow <BillySnow@qualtest.com.au>; Emma Coleman <EmmaColeman@qualtest.com.au>
Cc: Luong, Thi Song Van (Sydney) <ThiSongVan.Luong@sgs.com>
Subject: SE264905 - NEW24[-0090]

Dear All,

Extra samples on last page of COC received.

Please advise if you require analysis done on them.

Also PFAS will be reported in SE264905A on a longer TAT.

Thank You.

Regards,

Yin, Emily (Sydney)

From: Emma Coleman <EmmaColeman@qualtest.com.au>
Sent: Thursday, 9 May 2024 2:10 PM
To: Yin, Emily (Sydney); Libby Betz; Billy Snow
Cc: Luong, Thi Song Van (Sydney)
Subject: RE: [EXTERNAL] RE: SE264905 - NEW24[-0090]

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments.

Hi Emily,
Please cancel asbestos analysis of these. Thanks

Regards,
Emma Coleman
Senior Environmental Scientist
Certified Environmental Practitioner – Site Contamination Specialist

Mob: 0429 359 411
Tel: 02 4968 4468
Web: www.qualtest.com.au
2 Murray Dwyer Circuit, Mayfield West, NSW, 2304
emmacoleman@qualtest.com.au

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From: Yin, Emily (Sydney) <Emily.Yin@sgs.com>
Sent: Thursday, 9 May 2024 1:37 PM
To: Emma Coleman <EmmaColeman@qualtest.com.au>; Libby Betz <LibbyBetz@qualtest.com.au>; Billy Snow <BillySnow@qualtest.com.au>
Cc: Luong, Thi Song Van (Sydney) <ThiSongVan.Luong@sgs.com>
Subject: RE: [EXTERNAL] RE: SE264905 - NEW24[-0090]

Thank You.

Please analyse samples D.8.5.24 and D1.8.5.24 for Suite CL10 (TRH, BTEX, PAH, Metals) and PFAS
Samples not received for PFAS. Do you still want PFAS analysed for these samples.

Please send samples T.8.5.24 and T1.8.5.24 to Eurofins, with testing for Suite B7 (TRH, BTEX, PAH, Metals) and PFAS. Let me know if you need me to provide a COC for the Eurofins samples.
Yes. Please forward the COC for Eurofins.

Also on the attachment, samples with dots on them not received.
#34 and 35 – Asbestos bag not received. Do you want us to subsample and analyse for Asbestos ids.
Please advise as soon as possible.
Thank You.

Regards,



SAMPLE RECEIPT ADVICE

SE264905

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
Address 2 MURRAY DWYER CIRCUIT
MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au

Project **NEW24P-0090 - GNAPL - ASTRA**
Order Number **NEW24P-0090**
Samples 37

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Thu 9/5/2024
Report Due Fri 10/5/2024
SGS Reference **SE264905**

SUBMISSION DETAILS

This is to confirm that 37 samples were received on Thursday 9/5/2024. Results are expected to be ready by COB Friday 10/5/2024. Please quote SGS reference SE264905 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	37 Soil	Type of documentation received	COC
Date documentation received	9/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.8°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS reported in SE264905A
28 Soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.
Red dot container listed not received.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	SP1-1 0.0	1	26	7	10	11	7
002	SP1-2-1.0	1	26	7	10	11	7
003	SP1-3 0.0	1	26	7	10	11	7
004	SP1-4 1.0	1	26	7	10	11	7
005	SP1-5 0.0	1	26	7	10	11	7
006	SP1-6 1.0	1	26	7	10	11	7
007	SP1-7 1.0	1	26	7	10	11	7
008	SP1-8 1.0	1	26	7	10	11	7
009	SP1-9 0.0	1	26	7	10	11	7
011	SP1-10 1.0	1	26	7	10	11	7
012	SP2-1	1	26	7	10	11	7
013	SP2-2	1	26	7	10	11	7
014	SP2-3	1	26	7	10	11	7
015	SP2-4	1	26	7	10	11	7
016	SP3-1	1	26	7	10	11	7
017	SP4-1 0.0	1	26	7	10	11	7
018	SP4- 1.0	1	26	7	10	11	7
019	SP6-1 1.0	1	26	7	10	11	7
020	SP6-2 1.0	1	26	7	10	11	7
021	SP6-3 0.0	1	26	7	10	11	7
022	SP6-4 0.0	1	26	7	10	11	7
023	SP6-4 1.0	1	26	7	10	11	7
024	SP6-5 1.0	1	26	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE264905

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	SP6-6 0.0	1	26	7	10	11	7
026	SP6-7 1.0	1	26	7	10	11	7
027	SP6-8 0.0	1	26	7	10	11	7
028	SP6-9 1.0	1	26	7	10	11	7
029	SP6-10 0.0	1	26	7	10	11	7
030	SS1	1	26	7	10	11	7
031	SS3	1	26	7	10	11	7
032	TP01 0.0-0.1	1	26	7	10	11	7
033	TP02 0.0-0.1	1	26	7	10	11	7
034	TP04 0.0-0.1	1	26	7	10	11	7
035	TP05 0.0-0.1	1	26	7	10	11	7
036	D.8.5.24	1	26	7	10	11	7
037	D1.8.5.24	1	26	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE264905

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Moisture Content
001	SP1-1 0.0	3	10	1
002	SP1-2-1.0	3	10	1
003	SP1-3 0.0	3	10	1
004	SP1-4 1.0	3	10	1
005	SP1-5 0.0	3	10	1
006	SP1-6 1.0	3	10	1
007	SP1-7 1.0	3	10	1
008	SP1-8 1.0	3	10	1
009	SP1-9 0.0	3	10	1
010	SP1-9 1.0	3	10	-
011	SP1-10 1.0	3	10	1
012	SP2-1	3	10	1
013	SP2-2	-	-	1
014	SP2-3	3	10	1
015	SP2-4	-	-	1
016	SP3-1	3	10	1
017	SP4-1 0.0	3	10	1
018	SP4- 1.0	3	10	1
019	SP6-1 1.0	3	10	1
020	SP6-2 1.0	3	10	1
021	SP6-3 0.0	3	10	1
022	SP6-4 0.0	3	10	1
023	SP6-4 1.0	3	10	1
024	SP6-5 1.0	3	10	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE264905

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Moisture Content
025	SP6-6 0.0	3	10	1
026	SP6-7 1.0	3	10	1
027	SP6-8 0.0	3	10	1
028	SP6-9 1.0	3	10	1
029	SP6-10 0.0	3	10	1
030	SS1	3	10	1
031	SS3	3	10	1
032	TP01 0.0-0.1	3	10	1
033	TP02 0.0-0.1	3	10	1
034	TP04 0.0-0.1	-	-	1
035	TP05 0.0-0.1	-	-	1
036	D.8.5.24	-	-	1
037	D1.8.5.24	-	-	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Contact Emma Coleman
 Client QUALTEST LABORATORY NSW PTY LTD
 Address 2 MURRAY DWYER CIRCUIT
 MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
 Facsimile (Not specified)
 Email emmacoleman@qualtest.com.au

Project NEW24P-0090 GNAPL - ASTRA-PFAS
 Order Number NEW24P-0090
 Samples 37

LABORATORY DETAILS

Manager Huong Crawford
 Laboratory SGS Alexandria Environmental
 Address Unit 16, 33 Maddox St
 Alexandria NSW 2015

Telephone +61 2 8594 0400
 Facsimile +61 2 8594 0499
 Email au.environmental.sydney@sgs.com

SGS Reference SE264905A R0
 Date Received 9/5/2024
 Date Reported 14/5/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

PFAS subcontracted to SGS Melbourne, Unit 10/585 Blackburn Road Notting Hill VIC 3168, NATA Accreditation Number 2562, Site number 14420. Report No. ME351568.

MA-1523: Majority of surrogate recoveries within acceptance criteria.

SIGNATORIES



Huong CRAWFORD
 Production Manager

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 14/5/2024

PARAMETER	UOM	LOR	SP1-1 0.0	SP1-2-1.0	SP1-3 0.0	SP1-4 1.0	SP1-5 0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905A.001	8/5/2024 SE264905A.002	8/5/2024 SE264905A.003	8/5/2024 SE264905A.004	8/5/2024 SE264905A.005
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.0011	0.0031	0.0029	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	0.0020	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.012	0.032	0.031	0.010	0.016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	0.0038	0.0029	<0.0016	0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.078	0.22	0.11	0.041	0.11
Sum PFOS and PFHXS	mg/kg	0.0016	0.089	0.25	0.14	0.051	0.13
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.079	0.23	0.11	0.041	0.11
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.090	0.26	0.14	0.051	0.13
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	0.09	0.26	0.15	<0.08	0.13

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SP1-6 1.0	SP1-7 1.0	SP1-8 1.0	SP1-9 0.0	SP1-10 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905A.006	8/5/2024 SE264905A.007	8/5/2024 SE264905A.008	8/5/2024 SE264905A.009	8/5/2024 SE264905A.011
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.0022	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	0.0018	0.0032	<0.0016	0.0042	0.0020
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	0.0020	<0.0016	0.0018	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.0065	0.0069	<0.0008	0.0088	0.0020
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	0.0017	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	0.0055	<0.0016	0.0027	0.0021
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.057	0.090	0.0078	0.070	0.033
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	0.010	0.0086	<0.0016	0.0073	0.0031
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.63	0.46	0.014	0.64	0.22
Sum PFOS and PFHXS	mg/kg	0.0016	0.69	0.55	0.022	0.71	0.25
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.64	0.47	0.014	0.65	0.22
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.70	0.56	0.022	0.72	0.26
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	0.71	0.58	<0.08	0.74	0.26

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SP2-1	SP2-3	SP3-1	SP4-1 0.0	SP4- 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905A.012	8/5/2024 SE264905A.014	8/5/2024 SE264905A.016	8/5/2024 SE264905A.017	8/5/2024 SE264905A.018
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	0.0018
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0011
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.0041	0.0090
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.091	0.14
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.095	0.14
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.091	0.14
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.095	0.15
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	<0.08	0.09	0.15

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-1 1.0	SP6-2 1.0	SP6-3 0.0	SP6-4 0.0	SP6-4 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905A.019	8/5/2024 SE264905A.020	8/5/2024 SE264905A.021	8/5/2024 SE264905A.022	8/5/2024 SE264905A.023
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	0.0022	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	0.0097	<0.0016	<0.0016	0.0060
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	0.0018	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	0.13	<0.0016	0.0049	0.076
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	0.14	<0.0016	0.0049	0.082
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.13	<0.0016	0.0049	0.076
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.14	<0.0016	0.0049	0.082
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	0.14	<0.08	<0.08	0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-5 1.0	SP6-6 0.0	SP6-7 1.0	SP6-8 0.0	SP6-9 1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905A.024	8/5/2024 SE264905A.025	8/5/2024 SE264905A.026	8/5/2024 SE264905A.027	8/5/2024 SE264905A.028
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	0.0024	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	0.017	<0.0016	0.0052
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	0.0022	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.019	0.0088	0.18	0.0031	0.095
Sum PFOS and PFHXS	mg/kg	0.0016	0.019	0.0088	0.20	0.0031	0.10
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.019	0.0088	0.19	0.0031	0.095
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.019	0.0088	0.20	0.0031	0.10
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	0.20	<0.08	0.10

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-10 0.0	SS1	SS3	TP01 0.0-0.1	TP02 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/5/2024 SE264905A.029	8/5/2024 SE264905A.030	8/5/2024 SE264905A.031	8/5/2024 SE264905A.032	8/5/2024 SE264905A.033
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.0070	0.0023	0.0039	<0.0016	0.012
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.11	0.030	0.034	<0.0016	0.071
Sum PFOS and PFHXS	mg/kg	0.0016	0.11	0.032	0.038	<0.0016	0.084
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.11	0.030	0.034	<0.0016	0.071
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.11	0.032	0.038	<0.0016	0.084
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	0.11	<0.08	<0.08	<0.08	0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	TP04 0.0-0.1	TP05 0.0-0.1
			SOIL	SOIL
			-	-
			8/5/2024 SE264905A.034	8/5/2024 SE264905A.035
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	0.0058
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	0.0058
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.0058
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.0058
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08

METHOD

METHODOLOGY SUMMARY

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE264905A R0

CLIENT DETAILS

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Project **NEW24P-0090 GNAPL - ASTRA-PFAS**
Order Number **NEW24P-0090**
Samples 37

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SGS Reference **SE264905A R0**
Date Received 09 May 2024
Date Reported 14 May 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Surrogate	Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples	2 items

SAMPLE SUMMARY

Sample counts by matrix	32 Soil	Type of documentation received	COC
Date documentation received	9/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.8°C
Sample container provider	SGS	Turnaround time requested	Two Days
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

No holding time data is available for this job.

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 130%	93
	SP1-2 1.0	SE264905A.002	%	0 - 130%	123
	SP1-3 0.0	SE264905A.003	%	0 - 130%	96
	SP1-4 1.0	SE264905A.004	%	0 - 130%	38
	SP1-5 0.0	SE264905A.005	%	0 - 130%	113
	SP1-6 1.0	SE264905A.006	%	0 - 130%	114
	SP1-7 1.0	SE264905A.007	%	0 - 130%	118
	SP1-8 1.0	SE264905A.008	%	0 - 130%	34
	SP1-9 0.0	SE264905A.009	%	0 - 130%	125
	SP1-10 1.0	SE264905A.011	%	0 - 130%	125
	SP2-1	SE264905A.012	%	0 - 130%	20
	SP2-3	SE264905A.014	%	0 - 130%	33
	SP3-1	SE264905A.016	%	0 - 130%	25
	SP4-1 0.0	SE264905A.017	%	0 - 130%	141 ↑
	SP4- 1.0	SE264905A.018	%	0 - 130%	125
	SP6-1 1.0	SE264905A.019	%	0 - 130%	37
	SP6-2 1.0	SE264905A.020	%	0 - 130%	108
	SP6-3 0.0	SE264905A.021	%	0 - 130%	37
	SP6-4 0.0	SE264905A.022	%	0 - 130%	66
	SP6-4 1.0	SE264905A.023	%	0 - 130%	126
	SP6-5 1.0	SE264905A.024	%	0 - 130%	75
	SP6-6 0.0	SE264905A.025	%	0 - 130%	49
	SP6-7 1.0	SE264905A.026	%	0 - 130%	123
	SP6-8 0.0	SE264905A.027	%	0 - 130%	29
	SP6-9 1.0	SE264905A.028	%	0 - 130%	135 ↑
	SP6-10 0.0	SE264905A.029	%	0 - 130%	123
	SS1	SE264905A.030	%	0 - 130%	31
	SS3	SE264905A.031	%	0 - 130%	44
	TP01 0.0-0.1	SE264905A.032	%	0 - 130%	34
	TP02 0.0-0.1	SE264905A.033	%	0 - 130%	86
	TP04 0.0-0.1	SE264905A.034	%	0 - 130%	69
	TP05 0.0-0.1	SE264905A.035	%	0 - 130%	44
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	66
	SP1-2 1.0	SE264905A.002	%	0 - 150%	68
	SP1-3 0.0	SE264905A.003	%	0 - 150%	58
	SP1-4 1.0	SE264905A.004	%	0 - 150%	73
	SP1-5 0.0	SE264905A.005	%	0 - 150%	82
	SP1-6 1.0	SE264905A.006	%	0 - 150%	76
	SP1-7 1.0	SE264905A.007	%	0 - 150%	76
	SP1-8 1.0	SE264905A.008	%	0 - 150%	72
	SP1-9 0.0	SE264905A.009	%	0 - 150%	74
	SP1-10 1.0	SE264905A.011	%	0 - 150%	76
	SP2-1	SE264905A.012	%	0 - 150%	80
	SP2-3	SE264905A.014	%	0 - 150%	70
	SP3-1	SE264905A.016	%	0 - 150%	68
	SP4-1 0.0	SE264905A.017	%	0 - 150%	74
	SP4- 1.0	SE264905A.018	%	0 - 150%	96
	SP6-1 1.0	SE264905A.019	%	0 - 150%	76
	SP6-2 1.0	SE264905A.020	%	0 - 150%	91
	SP6-3 0.0	SE264905A.021	%	0 - 150%	64
	SP6-4 0.0	SE264905A.022	%	0 - 150%	71
	SP6-4 1.0	SE264905A.023	%	0 - 150%	91
	SP6-5 1.0	SE264905A.024	%	0 - 150%	62
	SP6-6 0.0	SE264905A.025	%	0 - 150%	65
	SP6-7 1.0	SE264905A.026	%	0 - 150%	93
	SP6-8 0.0	SE264905A.027	%	0 - 150%	65
	SP6-9 1.0	SE264905A.028	%	0 - 150%	94
	SP6-10 0.0	SE264905A.029	%	0 - 150%	76
	SS1	SE264905A.030	%	0 - 150%	76
	SS3	SE264905A.031	%	0 - 150%	62
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	81

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	78
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	71
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	77
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	68
	SP1-2 1.0	SE264905A.002	%	0 - 150%	77
	SP1-3 0.0	SE264905A.003	%	0 - 150%	78
	SP1-4 1.0	SE264905A.004	%	0 - 150%	71
	SP1-5 0.0	SE264905A.005	%	0 - 150%	76
	SP1-6 1.0	SE264905A.006	%	0 - 150%	94
	SP1-7 1.0	SE264905A.007	%	0 - 150%	80
	SP1-8 1.0	SE264905A.008	%	0 - 150%	70
	SP1-9 0.0	SE264905A.009	%	0 - 150%	84
	SP1-10 1.0	SE264905A.011	%	0 - 150%	81
	SP2-1	SE264905A.012	%	0 - 150%	69
	SP2-3	SE264905A.014	%	0 - 150%	70
	SP3-1	SE264905A.016	%	0 - 150%	89
	SP4-1 0.0	SE264905A.017	%	0 - 150%	79
	SP4- 1.0	SE264905A.018	%	0 - 150%	82
	SP6-1 1.0	SE264905A.019	%	0 - 150%	63
	SP6-2 1.0	SE264905A.020	%	0 - 150%	83
	SP6-3 0.0	SE264905A.021	%	0 - 150%	76
	SP6-4 0.0	SE264905A.022	%	0 - 150%	86
	SP6-4 1.0	SE264905A.023	%	0 - 150%	88
	SP6-5 1.0	SE264905A.024	%	0 - 150%	71
	SP6-6 0.0	SE264905A.025	%	0 - 150%	69
	SP6-7 1.0	SE264905A.026	%	0 - 150%	91
	SP6-8 0.0	SE264905A.027	%	0 - 150%	81
	SP6-9 1.0	SE264905A.028	%	0 - 150%	91
	SP6-10 0.0	SE264905A.029	%	0 - 150%	71
	SS1	SE264905A.030	%	0 - 150%	69
	SS3	SE264905A.031	%	0 - 150%	72
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	52
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	89
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	71
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	74
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	59
	SP1-2 1.0	SE264905A.002	%	0 - 150%	88
	SP1-3 0.0	SE264905A.003	%	0 - 150%	54
	SP1-4 1.0	SE264905A.004	%	0 - 150%	62
	SP1-5 0.0	SE264905A.005	%	0 - 150%	78
	SP1-6 1.0	SE264905A.006	%	0 - 150%	80
	SP1-7 1.0	SE264905A.007	%	0 - 150%	74
	SP1-8 1.0	SE264905A.008	%	0 - 150%	69
	SP1-9 0.0	SE264905A.009	%	0 - 150%	83
	SP1-10 1.0	SE264905A.011	%	0 - 150%	72
	SP2-1	SE264905A.012	%	0 - 150%	82
	SP2-3	SE264905A.014	%	0 - 150%	55
	SP3-1	SE264905A.016	%	0 - 150%	60
	SP4-1 0.0	SE264905A.017	%	0 - 150%	66
	SP4- 1.0	SE264905A.018	%	0 - 150%	52
	SP6-1 1.0	SE264905A.019	%	0 - 150%	69
	SP6-2 1.0	SE264905A.020	%	0 - 150%	88
	SP6-3 0.0	SE264905A.021	%	0 - 150%	75
	SP6-4 0.0	SE264905A.022	%	0 - 150%	87
	SP6-4 1.0	SE264905A.023	%	0 - 150%	71
	SP6-5 1.0	SE264905A.024	%	0 - 150%	77
	SP6-6 0.0	SE264905A.025	%	0 - 150%	80
	SP6-7 1.0	SE264905A.026	%	0 - 150%	84
	SP6-8 0.0	SE264905A.027	%	0 - 150%	69
	SP6-9 1.0	SE264905A.028	%	0 - 150%	114
	SP6-10 0.0	SE264905A.029	%	0 - 150%	78

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	SS1	SE264905A.030	%	0 - 150%	59
	SS3	SE264905A.031	%	0 - 150%	59
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	99
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	87
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	70
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	62
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	105
	SP1-2 1.0	SE264905A.002	%	0 - 150%	118
	SP1-3 0.0	SE264905A.003	%	0 - 150%	103
	SP1-4 1.0	SE264905A.004	%	0 - 150%	107
	SP1-5 0.0	SE264905A.005	%	0 - 150%	118
	SP1-6 1.0	SE264905A.006	%	0 - 150%	120
	SP1-7 1.0	SE264905A.007	%	0 - 150%	118
	SP1-8 1.0	SE264905A.008	%	0 - 150%	84
	SP1-9 0.0	SE264905A.009	%	0 - 150%	124
	SP1-10 1.0	SE264905A.011	%	0 - 150%	122
	SP2-1	SE264905A.012	%	0 - 150%	59
	SP2-3	SE264905A.014	%	0 - 150%	73
	SP3-1	SE264905A.016	%	0 - 150%	80
	SP4-1 0.0	SE264905A.017	%	0 - 150%	137
	SP4- 1.0	SE264905A.018	%	0 - 150%	117
	SP6-1 1.0	SE264905A.019	%	0 - 150%	86
	SP6-2 1.0	SE264905A.020	%	0 - 150%	96
	SP6-3 0.0	SE264905A.021	%	0 - 150%	91
	SP6-4 0.0	SE264905A.022	%	0 - 150%	116
	SP6-4 1.0	SE264905A.023	%	0 - 150%	120
	SP6-5 1.0	SE264905A.024	%	0 - 150%	133
	SP6-6 0.0	SE264905A.025	%	0 - 150%	106
	SP6-7 1.0	SE264905A.026	%	0 - 150%	120
	SP6-8 0.0	SE264905A.027	%	0 - 150%	107
	SP6-9 1.0	SE264905A.028	%	0 - 150%	127
	SP6-10 0.0	SE264905A.029	%	0 - 150%	120
	SS1	SE264905A.030	%	0 - 150%	101
	SS3	SE264905A.031	%	0 - 150%	93
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	95
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	110
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	125
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	99
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	53
	SP1-2 1.0	SE264905A.002	%	0 - 150%	142
	SP1-3 0.0	SE264905A.003	%	0 - 150%	49
	SP1-4 1.0	SE264905A.004	%	0 - 150%	12
	SP1-5 0.0	SE264905A.005	%	0 - 150%	101
	SP1-6 1.0	SE264905A.006	%	0 - 150%	140
	SP1-7 1.0	SE264905A.007	%	0 - 150%	142
	SP1-8 1.0	SE264905A.008	%	0 - 150%	12
	SP1-9 0.0	SE264905A.009	%	0 - 150%	133
	SP1-10 1.0	SE264905A.011	%	0 - 150%	128
	SP2-1	SE264905A.012	%	0 - 150%	13
	SP2-3	SE264905A.014	%	0 - 150%	13
	SP3-1	SE264905A.016	%	0 - 150%	13
	SP4-1 0.0	SE264905A.017	%	0 - 150%	140
	SP4- 1.0	SE264905A.018	%	0 - 150%	139
	SP6-1 1.0	SE264905A.019	%	0 - 150%	15
	SP6-2 1.0	SE264905A.020	%	0 - 150%	135
	SP6-3 0.0	SE264905A.021	%	0 - 150%	11
	SP6-4 0.0	SE264905A.022	%	0 - 150%	17
	SP6-4 1.0	SE264905A.023	%	0 - 150%	108
	SP6-5 1.0	SE264905A.024	%	0 - 150%	40
	SP6-6 0.0	SE264905A.025	%	0 - 150%	14
	SP6-7 1.0	SE264905A.026	%	0 - 150%	142

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	SP6-8 0.0	SE264905A.027	%	0 - 150%	11
	SP6-9 1.0	SE264905A.028	%	0 - 150%	122
	SP6-10 0.0	SE264905A.029	%	0 - 150%	150
	SS1	SE264905A.030	%	0 - 150%	13
	SS3	SE264905A.031	%	0 - 150%	34
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	13
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	138
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	19
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	21
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	78
	SP1-2 1.0	SE264905A.002	%	0 - 150%	88
	SP1-3 0.0	SE264905A.003	%	0 - 150%	86
	SP1-4 1.0	SE264905A.004	%	0 - 150%	86
	SP1-5 0.0	SE264905A.005	%	0 - 150%	91
	SP1-6 1.0	SE264905A.006	%	0 - 150%	90
	SP1-7 1.0	SE264905A.007	%	0 - 150%	94
	SP1-8 1.0	SE264905A.008	%	0 - 150%	94
	SP1-9 0.0	SE264905A.009	%	0 - 150%	92
	SP1-10 1.0	SE264905A.011	%	0 - 150%	83
	SP2-1	SE264905A.012	%	0 - 150%	92
	SP2-3	SE264905A.014	%	0 - 150%	82
	SP3-1	SE264905A.016	%	0 - 150%	84
	SP4-1 0.0	SE264905A.017	%	0 - 150%	89
	SP4- 1.0	SE264905A.018	%	0 - 150%	109
	SP6-1 1.0	SE264905A.019	%	0 - 150%	90
	SP6-2 1.0	SE264905A.020	%	0 - 150%	105
	SP6-3 0.0	SE264905A.021	%	0 - 150%	90
	SP6-4 0.0	SE264905A.022	%	0 - 150%	94
	SP6-4 1.0	SE264905A.023	%	0 - 150%	102
	SP6-5 1.0	SE264905A.024	%	0 - 150%	92
	SP6-6 0.0	SE264905A.025	%	0 - 150%	79
	SP6-7 1.0	SE264905A.026	%	0 - 150%	112
	SP6-8 0.0	SE264905A.027	%	0 - 150%	91
	SP6-9 1.0	SE264905A.028	%	0 - 150%	109
	SP6-10 0.0	SE264905A.029	%	0 - 150%	100
	SS1	SE264905A.030	%	0 - 150%	92
	SS3	SE264905A.031	%	0 - 150%	81
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	92
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	96
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	84
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	83
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	95
	SP1-2 1.0	SE264905A.002	%	0 - 150%	97
	SP1-3 0.0	SE264905A.003	%	0 - 150%	96
	SP1-4 1.0	SE264905A.004	%	0 - 150%	98
	SP1-5 0.0	SE264905A.005	%	0 - 150%	100
	SP1-6 1.0	SE264905A.006	%	0 - 150%	110
	SP1-7 1.0	SE264905A.007	%	0 - 150%	102
	SP1-8 1.0	SE264905A.008	%	0 - 150%	107
	SP1-9 0.0	SE264905A.009	%	0 - 150%	107
	SP1-10 1.0	SE264905A.011	%	0 - 150%	97
	SP2-1	SE264905A.012	%	0 - 150%	111
	SP2-3	SE264905A.014	%	0 - 150%	107
	SP3-1	SE264905A.016	%	0 - 150%	108
	SP4-1 0.0	SE264905A.017	%	0 - 150%	96
	SP4- 1.0	SE264905A.018	%	0 - 150%	119
	SP6-1 1.0	SE264905A.019	%	0 - 150%	93
	SP6-2 1.0	SE264905A.020	%	0 - 150%	123
	SP6-3 0.0	SE264905A.021	%	0 - 150%	101
	SP6-4 0.0	SE264905A.022	%	0 - 150%	110
	SP6-4 1.0	SE264905A.023	%	0 - 150%	109

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SP6-5 1.0	SE264905A.024	%	0 - 150%	121
	SP6-6 0.0	SE264905A.025	%	0 - 150%	88
	SP6-7 1.0	SE264905A.026	%	0 - 150%	106
	SP6-8 0.0	SE264905A.027	%	0 - 150%	113
	SP6-9 1.0	SE264905A.028	%	0 - 150%	103
	SP6-10 0.0	SE264905A.029	%	0 - 150%	104
	SS1	SE264905A.030	%	0 - 150%	109
	SS3	SE264905A.031	%	0 - 150%	102
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	113
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	102
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	105
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	89
(13C4-PFOA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	111
	SP1-2 1.0	SE264905A.002	%	0 - 150%	86
	SP1-3 0.0	SE264905A.003	%	0 - 150%	95
	SP1-4 1.0	SE264905A.004	%	0 - 150%	111
	SP1-5 0.0	SE264905A.005	%	0 - 150%	109
	SP1-6 1.0	SE264905A.006	%	0 - 150%	98
	SP1-7 1.0	SE264905A.007	%	0 - 150%	108
	SP1-8 1.0	SE264905A.008	%	0 - 150%	101
	SP1-9 0.0	SE264905A.009	%	0 - 150%	84
	SP1-10 1.0	SE264905A.011	%	0 - 150%	108
	SP2-1	SE264905A.012	%	0 - 150%	105
	SP2-3	SE264905A.014	%	0 - 150%	98
	SP3-1	SE264905A.016	%	0 - 150%	91
	SP4-1 0.0	SE264905A.017	%	0 - 150%	92
	SP4- 1.0	SE264905A.018	%	0 - 150%	91
	SP6-1 1.0	SE264905A.019	%	0 - 150%	88
	SP6-2 1.0	SE264905A.020	%	0 - 150%	101
	SP6-3 0.0	SE264905A.021	%	0 - 150%	93
	SP6-4 0.0	SE264905A.022	%	0 - 150%	100
	SP6-4 1.0	SE264905A.023	%	0 - 150%	92
	SP6-5 1.0	SE264905A.024	%	0 - 150%	106
	SP6-6 0.0	SE264905A.025	%	0 - 150%	98
	SP6-7 1.0	SE264905A.026	%	0 - 150%	93
	SP6-8 0.0	SE264905A.027	%	0 - 150%	98
	SP6-9 1.0	SE264905A.028	%	0 - 150%	103
	SP6-10 0.0	SE264905A.029	%	0 - 150%	98
	SS1	SE264905A.030	%	0 - 150%	95
	SS3	SE264905A.031	%	0 - 150%	96
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	109
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	109
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	92
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	87
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	99
	SP1-2 1.0	SE264905A.002	%	0 - 150%	97
	SP1-3 0.0	SE264905A.003	%	0 - 150%	98
	SP1-4 1.0	SE264905A.004	%	0 - 150%	99
	SP1-5 0.0	SE264905A.005	%	0 - 150%	99
	SP1-6 1.0	SE264905A.006	%	0 - 150%	100
	SP1-7 1.0	SE264905A.007	%	0 - 150%	99
	SP1-8 1.0	SE264905A.008	%	0 - 150%	100
	SP1-9 0.0	SE264905A.009	%	0 - 150%	98
	SP1-10 1.0	SE264905A.011	%	0 - 150%	98
	SP2-1	SE264905A.012	%	0 - 150%	101
	SP2-3	SE264905A.014	%	0 - 150%	100
	SP3-1	SE264905A.016	%	0 - 150%	97
	SP4-1 0.0	SE264905A.017	%	0 - 150%	98
	SP4- 1.0	SE264905A.018	%	0 - 150%	101
	SP6-1 1.0	SE264905A.019	%	0 - 150%	99
	SP6-2 1.0	SE264905A.020	%	0 - 150%	98

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	SP6-3 0.0	SE264905A.021	%	0 - 150%	100
	SP6-4 0.0	SE264905A.022	%	0 - 150%	101
	SP6-4 1.0	SE264905A.023	%	0 - 150%	102
	SP6-5 1.0	SE264905A.024	%	0 - 150%	98
	SP6-6 0.0	SE264905A.025	%	0 - 150%	98
	SP6-7 1.0	SE264905A.026	%	0 - 150%	100
	SP6-8 0.0	SE264905A.027	%	0 - 150%	99
	SP6-9 1.0	SE264905A.028	%	0 - 150%	100
	SP6-10 0.0	SE264905A.029	%	0 - 150%	100
	SS1	SE264905A.030	%	0 - 150%	100
	SS3	SE264905A.031	%	0 - 150%	101
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	110
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	100
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	102
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	99
(13C4-PFHxPA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	104
	SP1-2-1.0	SE264905A.002	%	0 - 150%	81
	SP1-3 0.0	SE264905A.003	%	0 - 150%	97
	SP1-4 1.0	SE264905A.004	%	0 - 150%	92
	SP1-5 0.0	SE264905A.005	%	0 - 150%	102
	SP1-6 1.0	SE264905A.006	%	0 - 150%	96
	SP1-7 1.0	SE264905A.007	%	0 - 150%	105
	SP1-8 1.0	SE264905A.008	%	0 - 150%	95
	SP1-9 0.0	SE264905A.009	%	0 - 150%	89
	SP1-10 1.0	SE264905A.011	%	0 - 150%	93
	SP2-1	SE264905A.012	%	0 - 150%	92
	SP2-3	SE264905A.014	%	0 - 150%	91
	SP3-1	SE264905A.016	%	0 - 150%	87
	SP4-1 0.0	SE264905A.017	%	0 - 150%	92
	SP4- 1.0	SE264905A.018	%	0 - 150%	89
	SP6-1 1.0	SE264905A.019	%	0 - 150%	94
	SP6-2 1.0	SE264905A.020	%	0 - 150%	109
	SP6-3 0.0	SE264905A.021	%	0 - 150%	85
	SP6-4 0.0	SE264905A.022	%	0 - 150%	87
	SP6-4 1.0	SE264905A.023	%	0 - 150%	86
	SP6-5 1.0	SE264905A.024	%	0 - 150%	87
	SP6-6 0.0	SE264905A.025	%	0 - 150%	97
	SP6-7 1.0	SE264905A.026	%	0 - 150%	96
	SP6-8 0.0	SE264905A.027	%	0 - 150%	98
	SP6-9 1.0	SE264905A.028	%	0 - 150%	104
	SP6-10 0.0	SE264905A.029	%	0 - 150%	102
	SS1	SE264905A.030	%	0 - 150%	95
	SS3	SE264905A.031	%	0 - 150%	80
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	102
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	113
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	87
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	85
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	98
	SP1-2-1.0	SE264905A.002	%	0 - 150%	84
	SP1-3 0.0	SE264905A.003	%	0 - 150%	93
	SP1-4 1.0	SE264905A.004	%	0 - 150%	86
	SP1-5 0.0	SE264905A.005	%	0 - 150%	102
	SP1-6 1.0	SE264905A.006	%	0 - 150%	93
	SP1-7 1.0	SE264905A.007	%	0 - 150%	100
	SP1-8 1.0	SE264905A.008	%	0 - 150%	98
	SP1-9 0.0	SE264905A.009	%	0 - 150%	91
	SP1-10 1.0	SE264905A.011	%	0 - 150%	94
	SP2-1	SE264905A.012	%	0 - 150%	92
	SP2-3	SE264905A.014	%	0 - 150%	86
	SP3-1	SE264905A.016	%	0 - 150%	86
	SP4-1 0.0	SE264905A.017	%	0 - 150%	94

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	SP4- 1.0	SE264905A.018	%	0 - 150%	94
	SP6-1 1.0	SE264905A.019	%	0 - 150%	93
	SP6-2 1.0	SE264905A.020	%	0 - 150%	112
	SP6-3 0.0	SE264905A.021	%	0 - 150%	91
	SP6-4 0.0	SE264905A.022	%	0 - 150%	88
	SP6-4 1.0	SE264905A.023	%	0 - 150%	90
	SP6-5 1.0	SE264905A.024	%	0 - 150%	80
	SP6-6 0.0	SE264905A.025	%	0 - 150%	90
	SP6-7 1.0	SE264905A.026	%	0 - 150%	100
	SP6-8 0.0	SE264905A.027	%	0 - 150%	100
	SP6-9 1.0	SE264905A.028	%	0 - 150%	100
	SP6-10 0.0	SE264905A.029	%	0 - 150%	103
	SS1	SE264905A.030	%	0 - 150%	88
	SS3	SE264905A.031	%	0 - 150%	71
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	100
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	106
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	84
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	79
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	91
	SP1-2-1.0	SE264905A.002	%	0 - 150%	92
	SP1-3 0.0	SE264905A.003	%	0 - 150%	91
	SP1-4 1.0	SE264905A.004	%	0 - 150%	90
	SP1-5 0.0	SE264905A.005	%	0 - 150%	92
	SP1-6 1.0	SE264905A.006	%	0 - 150%	92
	SP1-7 1.0	SE264905A.007	%	0 - 150%	90
	SP1-8 1.0	SE264905A.008	%	0 - 150%	90
	SP1-9 0.0	SE264905A.009	%	0 - 150%	91
	SP1-10 1.0	SE264905A.011	%	0 - 150%	91
	SP2-1	SE264905A.012	%	0 - 150%	94
	SP2-3	SE264905A.014	%	0 - 150%	92
	SP3-1	SE264905A.016	%	0 - 150%	95
	SP4-1 0.0	SE264905A.017	%	0 - 150%	93
	SP4- 1.0	SE264905A.018	%	0 - 150%	97
	SP6-1 1.0	SE264905A.019	%	0 - 150%	92
	SP6-2 1.0	SE264905A.020	%	0 - 150%	93
	SP6-3 0.0	SE264905A.021	%	0 - 150%	94
	SP6-4 0.0	SE264905A.022	%	0 - 150%	94
	SP6-4 1.0	SE264905A.023	%	0 - 150%	98
	SP6-5 1.0	SE264905A.024	%	0 - 150%	93
	SP6-6 0.0	SE264905A.025	%	0 - 150%	93
	SP6-7 1.0	SE264905A.026	%	0 - 150%	92
	SP6-8 0.0	SE264905A.027	%	0 - 150%	94
	SP6-9 1.0	SE264905A.028	%	0 - 150%	95
	SP6-10 0.0	SE264905A.029	%	0 - 150%	93
	SS1	SE264905A.030	%	0 - 150%	97
	SS3	SE264905A.031	%	0 - 150%	99
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	105
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	96
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	96
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	96
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	96
	SP1-2-1.0	SE264905A.002	%	0 - 150%	132
	SP1-3 0.0	SE264905A.003	%	0 - 150%	128
	SP1-4 1.0	SE264905A.004	%	0 - 150%	114
	SP1-5 0.0	SE264905A.005	%	0 - 150%	92
	SP1-6 1.0	SE264905A.006	%	0 - 150%	80
	SP1-7 1.0	SE264905A.007	%	0 - 150%	84
	SP1-8 1.0	SE264905A.008	%	0 - 150%	95
	SP1-9 0.0	SE264905A.009	%	0 - 150%	75
	SP1-10 1.0	SE264905A.011	%	0 - 150%	122
	SP2-1	SE264905A.012	%	0 - 150%	86

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	SP2-3	SE264905A.014	%	0 - 150%	100
	SP3-1	SE264905A.016	%	0 - 150%	81
	SP4-1 0.0	SE264905A.017	%	0 - 150%	92
	SP4- 1.0	SE264905A.018	%	0 - 150%	108
	SP6-1 1.0	SE264905A.019	%	0 - 150%	77
	SP6-2 1.0	SE264905A.020	%	0 - 150%	85
	SP6-3 0.0	SE264905A.021	%	0 - 150%	92
	SP6-4 0.0	SE264905A.022	%	0 - 150%	114
	SP6-4 1.0	SE264905A.023	%	0 - 150%	99
	SP6-5 1.0	SE264905A.024	%	0 - 150%	102
	SP6-6 0.0	SE264905A.025	%	0 - 150%	90
	SP6-7 1.0	SE264905A.026	%	0 - 150%	92
	SP6-8 0.0	SE264905A.027	%	0 - 150%	121
	SP6-9 1.0	SE264905A.028	%	0 - 150%	92
	SP6-10 0.0	SE264905A.029	%	0 - 150%	122
	SS1	SE264905A.030	%	0 - 150%	80
	SS3	SE264905A.031	%	0 - 150%	79
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	127
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	109
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	107
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	113
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	96
	SP1-2-1.0	SE264905A.002	%	0 - 150%	126
	SP1-3 0.0	SE264905A.003	%	0 - 150%	107
	SP1-4 1.0	SE264905A.004	%	0 - 150%	120
	SP1-5 0.0	SE264905A.005	%	0 - 150%	110
	SP1-6 1.0	SE264905A.006	%	0 - 150%	95
	SP1-7 1.0	SE264905A.007	%	0 - 150%	103
	SP1-8 1.0	SE264905A.008	%	0 - 150%	77
	SP1-9 0.0	SE264905A.009	%	0 - 150%	104
	SP1-10 1.0	SE264905A.011	%	0 - 150%	111
	SP2-1	SE264905A.012	%	0 - 150%	71
	SP2-3	SE264905A.014	%	0 - 150%	92
	SP3-1	SE264905A.016	%	0 - 150%	81
	SP4-1 0.0	SE264905A.017	%	0 - 150%	116
	SP4- 1.0	SE264905A.018	%	0 - 150%	116
	SP6-1 1.0	SE264905A.019	%	0 - 150%	95
	SP6-2 1.0	SE264905A.020	%	0 - 150%	97
	SP6-3 0.0	SE264905A.021	%	0 - 150%	93
	SP6-4 0.0	SE264905A.022	%	0 - 150%	117
	SP6-4 1.0	SE264905A.023	%	0 - 150%	115
	SP6-5 1.0	SE264905A.024	%	0 - 150%	111
	SP6-6 0.0	SE264905A.025	%	0 - 150%	89
	SP6-7 1.0	SE264905A.026	%	0 - 150%	100
	SP6-8 0.0	SE264905A.027	%	0 - 150%	100
	SP6-9 1.0	SE264905A.028	%	0 - 150%	107
	SP6-10 0.0	SE264905A.029	%	0 - 150%	103
	SS1	SE264905A.030	%	0 - 150%	96
	SS3	SE264905A.031	%	0 - 150%	85
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	105
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	113
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	115
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	101
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	93
	SP1-2-1.0	SE264905A.002	%	0 - 150%	87
	SP1-3 0.0	SE264905A.003	%	0 - 150%	94
	SP1-4 1.0	SE264905A.004	%	0 - 150%	97
	SP1-5 0.0	SE264905A.005	%	0 - 150%	112
	SP1-6 1.0	SE264905A.006	%	0 - 150%	83
	SP1-7 1.0	SE264905A.007	%	0 - 150%	99
	SP1-8 1.0	SE264905A.008	%	0 - 150%	108

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SP1-9 0.0	SE264905A.009	%	0 - 150%	67
	SP1-10 1.0	SE264905A.011	%	0 - 150%	106
	SP2-1	SE264905A.012	%	0 - 150%	116
	SP2-3	SE264905A.014	%	0 - 150%	99
	SP3-1	SE264905A.016	%	0 - 150%	86
	SP4-1 0.0	SE264905A.017	%	0 - 150%	105
	SP4- 1.0	SE264905A.018	%	0 - 150%	94
	SP6-1 1.0	SE264905A.019	%	0 - 150%	100
	SP6-2 1.0	SE264905A.020	%	0 - 150%	74
	SP6-3 0.0	SE264905A.021	%	0 - 150%	99
	SP6-4 0.0	SE264905A.022	%	0 - 150%	115
	SP6-4 1.0	SE264905A.023	%	0 - 150%	84
	SP6-5 1.0	SE264905A.024	%	0 - 150%	110
	SP6-6 0.0	SE264905A.025	%	0 - 150%	94
	SP6-7 1.0	SE264905A.026	%	0 - 150%	76
	SP6-8 0.0	SE264905A.027	%	0 - 150%	111
	SP6-9 1.0	SE264905A.028	%	0 - 150%	84
	SP6-10 0.0	SE264905A.029	%	0 - 150%	78
	SS1	SE264905A.030	%	0 - 150%	97
	SS3	SE264905A.031	%	0 - 150%	75
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	100
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	87
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	85
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	100
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	91
	SP1-2-1.0	SE264905A.002	%	0 - 150%	85
	SP1-3 0.0	SE264905A.003	%	0 - 150%	71
	SP1-4 1.0	SE264905A.004	%	0 - 150%	62
	SP1-5 0.0	SE264905A.005	%	0 - 150%	92
	SP1-6 1.0	SE264905A.006	%	0 - 150%	89
	SP1-7 1.0	SE264905A.007	%	0 - 150%	96
	SP1-8 1.0	SE264905A.008	%	0 - 150%	45
	SP1-9 0.0	SE264905A.009	%	0 - 150%	54
	SP1-10 1.0	SE264905A.011	%	0 - 150%	91
	SP2-1	SE264905A.012	%	0 - 150%	70
	SP2-3	SE264905A.014	%	0 - 150%	61
	SP3-1	SE264905A.016	%	0 - 150%	77
	SP4-1 0.0	SE264905A.017	%	0 - 150%	101
	SP4- 1.0	SE264905A.018	%	0 - 150%	69
	SP6-1 1.0	SE264905A.019	%	0 - 150%	71
	SP6-2 1.0	SE264905A.020	%	0 - 150%	74
	SP6-3 0.0	SE264905A.021	%	0 - 150%	66
	SP6-4 0.0	SE264905A.022	%	0 - 150%	86
	SP6-4 1.0	SE264905A.023	%	0 - 150%	80
	SP6-5 1.0	SE264905A.024	%	0 - 150%	75
	SP6-6 0.0	SE264905A.025	%	0 - 150%	68
	SP6-7 1.0	SE264905A.026	%	0 - 150%	62
	SP6-8 0.0	SE264905A.027	%	0 - 150%	68
	SP6-9 1.0	SE264905A.028	%	0 - 150%	75
	SP6-10 0.0	SE264905A.029	%	0 - 150%	68
	SS1	SE264905A.030	%	0 - 150%	58
	SS3	SE264905A.031	%	0 - 150%	66
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	70
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	79
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	63
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	57
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	92
	SP1-2-1.0	SE264905A.002	%	0 - 150%	102
	SP1-3 0.0	SE264905A.003	%	0 - 150%	99
	SP1-4 1.0	SE264905A.004	%	0 - 150%	97
	SP1-5 0.0	SE264905A.005	%	0 - 150%	108

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SP1-6 1.0	SE264905A.006	%	0 - 150%	85
	SP1-7 1.0	SE264905A.007	%	0 - 150%	93
	SP1-8 1.0	SE264905A.008	%	0 - 150%	108
	SP1-9 0.0	SE264905A.009	%	0 - 150%	96
	SP1-10 1.0	SE264905A.011	%	0 - 150%	91
	SP2-1	SE264905A.012	%	0 - 150%	107
	SP2-3	SE264905A.014	%	0 - 150%	94
	SP3-1	SE264905A.016	%	0 - 150%	81
	SP4-1 0.0	SE264905A.017	%	0 - 150%	107
	SP4- 1.0	SE264905A.018	%	0 - 150%	117
	SP6-1 1.0	SE264905A.019	%	0 - 150%	130
	SP6-2 1.0	SE264905A.020	%	0 - 150%	95
	SP6-3 0.0	SE264905A.021	%	0 - 150%	97
	SP6-4 0.0	SE264905A.022	%	0 - 150%	99
	SP6-4 1.0	SE264905A.023	%	0 - 150%	112
	SP6-5 1.0	SE264905A.024	%	0 - 150%	93
	SP6-6 0.0	SE264905A.025	%	0 - 150%	93
	SP6-7 1.0	SE264905A.026	%	0 - 150%	101
	SP6-8 0.0	SE264905A.027	%	0 - 150%	98
	SP6-9 1.0	SE264905A.028	%	0 - 150%	111
	SP6-10 0.0	SE264905A.029	%	0 - 150%	105
	SS1	SE264905A.030	%	0 - 150%	91
	SS3	SE264905A.031	%	0 - 150%	106
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	110
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	102
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	85
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	110
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	53
	SP1-2-1.0	SE264905A.002	%	0 - 150%	69
	SP1-3 0.0	SE264905A.003	%	0 - 150%	69
	SP1-4 1.0	SE264905A.004	%	0 - 150%	34
	SP1-5 0.0	SE264905A.005	%	0 - 150%	45
	SP1-6 1.0	SE264905A.006	%	0 - 150%	70
	SP1-7 1.0	SE264905A.007	%	0 - 150%	83
	SP1-8 1.0	SE264905A.008	%	0 - 150%	23
	SP1-9 0.0	SE264905A.009	%	0 - 150%	43
	SP1-10 1.0	SE264905A.011	%	0 - 150%	56
	SP2-1	SE264905A.012	%	0 - 150%	28
	SP2-3	SE264905A.014	%	0 - 150%	19
	SP3-1	SE264905A.016	%	0 - 150%	41
	SP4-1 0.0	SE264905A.017	%	0 - 150%	73
	SP4- 1.0	SE264905A.018	%	0 - 150%	70
	SP6-1 1.0	SE264905A.019	%	0 - 150%	60
	SP6-2 1.0	SE264905A.020	%	0 - 150%	86
	SP6-3 0.0	SE264905A.021	%	0 - 150%	39
	SP6-4 0.0	SE264905A.022	%	0 - 150%	54
	SP6-4 1.0	SE264905A.023	%	0 - 150%	65
	SP6-5 1.0	SE264905A.024	%	0 - 150%	62
	SP6-6 0.0	SE264905A.025	%	0 - 150%	32
	SP6-7 1.0	SE264905A.026	%	0 - 150%	57
	SP6-8 0.0	SE264905A.027	%	0 - 150%	34
	SP6-9 1.0	SE264905A.028	%	0 - 150%	51
	SP6-10 0.0	SE264905A.029	%	0 - 150%	52
	SS1	SE264905A.030	%	0 - 150%	25
	SS3	SE264905A.031	%	0 - 150%	29
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	43
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	65
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	52
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	31
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	75
	SP1-2-1.0	SE264905A.002	%	0 - 150%	83

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	SP1-3 0.0	SE264905A.003	%	0 - 150%	62
	SP1-4 1.0	SE264905A.004	%	0 - 150%	51
	SP1-5 0.0	SE264905A.005	%	0 - 150%	72
	SP1-6 1.0	SE264905A.006	%	0 - 150%	59
	SP1-7 1.0	SE264905A.007	%	0 - 150%	71
	SP1-8 1.0	SE264905A.008	%	0 - 150%	45
	SP1-9 0.0	SE264905A.009	%	0 - 150%	67
	SP1-10 1.0	SE264905A.011	%	0 - 150%	69
	SP2-1	SE264905A.012	%	0 - 150%	66
	SP2-3	SE264905A.014	%	0 - 150%	61
	SP3-1	SE264905A.016	%	0 - 150%	68
	SP4-1 0.0	SE264905A.017	%	0 - 150%	115
	SP4- 1.0	SE264905A.018	%	0 - 150%	78
	SP6-1 1.0	SE264905A.019	%	0 - 150%	69
	SP6-2 1.0	SE264905A.020	%	0 - 150%	84
	SP6-3 0.0	SE264905A.021	%	0 - 150%	54
	SP6-4 0.0	SE264905A.022	%	0 - 150%	89
	SP6-4 1.0	SE264905A.023	%	0 - 150%	81
	SP6-5 1.0	SE264905A.024	%	0 - 150%	91
	SP6-6 0.0	SE264905A.025	%	0 - 150%	56
	SP6-7 1.0	SE264905A.026	%	0 - 150%	71
	SP6-8 0.0	SE264905A.027	%	0 - 150%	66
	SP6-9 1.0	SE264905A.028	%	0 - 150%	66
	SP6-10 0.0	SE264905A.029	%	0 - 150%	56
	SS1	SE264905A.030	%	0 - 150%	77
	SS3	SE264905A.031	%	0 - 150%	58
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	60
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	78
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	73
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	66
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	58
	SP1-2 1.0	SE264905A.002	%	0 - 150%	76
	SP1-3 0.0	SE264905A.003	%	0 - 150%	59
	SP1-4 1.0	SE264905A.004	%	0 - 150%	30
	SP1-5 0.0	SE264905A.005	%	0 - 150%	60
	SP1-6 1.0	SE264905A.006	%	0 - 150%	64
	SP1-7 1.0	SE264905A.007	%	0 - 150%	75
	SP1-8 1.0	SE264905A.008	%	0 - 150%	15
	SP1-9 0.0	SE264905A.009	%	0 - 150%	52
	SP1-10 1.0	SE264905A.011	%	0 - 150%	83
	SP2-1	SE264905A.012	%	0 - 150%	19
	SP2-3	SE264905A.014	%	0 - 150%	20
	SP3-1	SE264905A.016	%	0 - 150%	25
	SP4-1 0.0	SE264905A.017	%	0 - 150%	77
	SP4- 1.0	SE264905A.018	%	0 - 150%	73
	SP6-1 1.0	SE264905A.019	%	0 - 150%	31
	SP6-2 1.0	SE264905A.020	%	0 - 150%	70
	SP6-3 0.0	SE264905A.021	%	0 - 150%	23
	SP6-4 0.0	SE264905A.022	%	0 - 150%	51
	SP6-4 1.0	SE264905A.023	%	0 - 150%	71
	SP6-5 1.0	SE264905A.024	%	0 - 150%	46
	SP6-6 0.0	SE264905A.025	%	0 - 150%	20
	SP6-7 1.0	SE264905A.026	%	0 - 150%	56
	SP6-8 0.0	SE264905A.027	%	0 - 150%	25
	SP6-9 1.0	SE264905A.028	%	0 - 150%	60
	SP6-10 0.0	SE264905A.029	%	0 - 150%	58
	SS1	SE264905A.030	%	0 - 150%	16
	SS3	SE264905A.031	%	0 - 150%	31
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	30
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	52
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	53

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	32
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	67
	SP1-2 1.0	SE264905A.002	%	0 - 150%	74
	SP1-3 0.0	SE264905A.003	%	0 - 150%	69
	SP1-4 1.0	SE264905A.004	%	0 - 150%	46
	SP1-5 0.0	SE264905A.005	%	0 - 150%	69
	SP1-6 1.0	SE264905A.006	%	0 - 150%	71
	SP1-7 1.0	SE264905A.007	%	0 - 150%	82
	SP1-8 1.0	SE264905A.008	%	0 - 150%	48
	SP1-9 0.0	SE264905A.009	%	0 - 150%	43
	SP1-10 1.0	SE264905A.011	%	0 - 150%	84
	SP2-1	SE264905A.012	%	0 - 150%	58
	SP2-3	SE264905A.014	%	0 - 150%	28
	SP3-1	SE264905A.016	%	0 - 150%	48
	SP4-1 0.0	SE264905A.017	%	0 - 150%	88
	SP4- 1.0	SE264905A.018	%	0 - 150%	83
	SP6-1 1.0	SE264905A.019	%	0 - 150%	43
	SP6-2 1.0	SE264905A.020	%	0 - 150%	58
	SP6-3 0.0	SE264905A.021	%	0 - 150%	53
	SP6-4 0.0	SE264905A.022	%	0 - 150%	68
	SP6-4 1.0	SE264905A.023	%	0 - 150%	69
	SP6-5 1.0	SE264905A.024	%	0 - 150%	77
	SP6-6 0.0	SE264905A.025	%	0 - 150%	55
	SP6-7 1.0	SE264905A.026	%	0 - 150%	63
	SP6-8 0.0	SE264905A.027	%	0 - 150%	58
	SP6-9 1.0	SE264905A.028	%	0 - 150%	73
	SP6-10 0.0	SE264905A.029	%	0 - 150%	65
	SS1	SE264905A.030	%	0 - 150%	48
	SS3	SE264905A.031	%	0 - 150%	57
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	60
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	66
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	53
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	54
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	84
	SP1-2 1.0	SE264905A.002	%	0 - 150%	65
	SP1-3 0.0	SE264905A.003	%	0 - 150%	69
	SP1-4 1.0	SE264905A.004	%	0 - 150%	65
	SP1-5 0.0	SE264905A.005	%	0 - 150%	73
	SP1-6 1.0	SE264905A.006	%	0 - 150%	77
	SP1-7 1.0	SE264905A.007	%	0 - 150%	82
	SP1-8 1.0	SE264905A.008	%	0 - 150%	35
	SP1-9 0.0	SE264905A.009	%	0 - 150%	63
	SP1-10 1.0	SE264905A.011	%	0 - 150%	80
	SP2-1	SE264905A.012	%	0 - 150%	68
	SP2-3	SE264905A.014	%	0 - 150%	55
	SP3-1	SE264905A.016	%	0 - 150%	57
	SP4-1 0.0	SE264905A.017	%	0 - 150%	101
	SP4- 1.0	SE264905A.018	%	0 - 150%	72
	SP6-1 1.0	SE264905A.019	%	0 - 150%	67
	SP6-2 1.0	SE264905A.020	%	0 - 150%	76
	SP6-3 0.0	SE264905A.021	%	0 - 150%	66
	SP6-4 0.0	SE264905A.022	%	0 - 150%	72
	SP6-4 1.0	SE264905A.023	%	0 - 150%	73
	SP6-5 1.0	SE264905A.024	%	0 - 150%	70
	SP6-6 0.0	SE264905A.025	%	0 - 150%	54
	SP6-7 1.0	SE264905A.026	%	0 - 150%	84
	SP6-8 0.0	SE264905A.027	%	0 - 150%	63
	SP6-9 1.0	SE264905A.028	%	0 - 150%	73
	SP6-10 0.0	SE264905A.029	%	0 - 150%	72
	SS1	SE264905A.030	%	0 - 150%	53
	SS3	SE264905A.031	%	0 - 150%	47

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	55
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	75
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	55
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	48
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	SP1-1 0.0	SE264905A.001	%	0 - 150%	80
	SP1-2 1.0	SE264905A.002	%	0 - 150%	77
	SP1-3 0.0	SE264905A.003	%	0 - 150%	78
	SP1-4 1.0	SE264905A.004	%	0 - 150%	50
	SP1-5 0.0	SE264905A.005	%	0 - 150%	82
	SP1-6 1.0	SE264905A.006	%	0 - 150%	81
	SP1-7 1.0	SE264905A.007	%	0 - 150%	91
	SP1-8 1.0	SE264905A.008	%	0 - 150%	40
	SP1-9 0.0	SE264905A.009	%	0 - 150%	66
	SP1-10 1.0	SE264905A.011	%	0 - 150%	91
	SP2-1	SE264905A.012	%	0 - 150%	54
	SP2-3	SE264905A.014	%	0 - 150%	49
	SP3-1	SE264905A.016	%	0 - 150%	55
	SP4-1 0.0	SE264905A.017	%	0 - 150%	104
	SP4- 1.0	SE264905A.018	%	0 - 150%	80
	SP6-1 1.0	SE264905A.019	%	0 - 150%	55
	SP6-2 1.0	SE264905A.020	%	0 - 150%	71
	SP6-3 0.0	SE264905A.021	%	0 - 150%	53
	SP6-4 0.0	SE264905A.022	%	0 - 150%	67
	SP6-4 1.0	SE264905A.023	%	0 - 150%	77
	SP6-5 1.0	SE264905A.024	%	0 - 150%	71
	SP6-6 0.0	SE264905A.025	%	0 - 150%	56
	SP6-7 1.0	SE264905A.026	%	0 - 150%	70
	SP6-8 0.0	SE264905A.027	%	0 - 150%	53
	SP6-9 1.0	SE264905A.028	%	0 - 150%	75
	SP6-10 0.0	SE264905A.029	%	0 - 150%	69
	SS1	SE264905A.030	%	0 - 150%	48
	SS3	SE264905A.031	%	0 - 150%	50
	TP01 0.0-0.1	SE264905A.032	%	0 - 150%	52
	TP02 0.0-0.1	SE264905A.033	%	0 - 150%	76
	TP04 0.0-0.1	SE264905A.034	%	0 - 150%	58
	TP05 0.0-0.1	SE264905A.035	%	0 - 150%	52

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No method blanks were required for this job.

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

No duplicates were required for this job.

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No laboratory control standards were required for this job.

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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Submission of samples to the laboratory will be deemed as acceptance of Eurofins' Environmental Testing Standard Terms and Conditions in full, unless stated otherwise. A copy of this is on request.

Company	Qualitest	Project No	NEW2AP-0090	Project Manager	Emma Coleman	Sampler(s)	Billy Snow
Address	2 Murray Dwyer Circuit NSW 2304	Project Name	GNAPL - ASTRA	EOB Email	Excel	Handed over by	
Contact Name	Emma Coleman	Analyses	Suite CL10 (TRH, BTEX, PAH, Metals)			Email for Invoice	accounts@qualitest.com.au
Phone No	0429 359 411		PFAS			Email for Results	1807242@qualitest.com.au emma@qualitest.com.au billysnow@qualitest.com.au lewis@qualitest.com.au
Special Directions			Asbestos (NEPM %w/w)			Container	1807242@qualitest.com.au
Purchase Order						Change order for this purchase	1807242@qualitest.com.au
Sample ID	QUAL-IE-OC723-1464084						

Sample ID	Sample Description	Matrix	Analysis	PFAS	Asbestos (NEPM %w/w)	Signature	Date	Time	Temperature
SP1-6 0.0	8/05/24	SOIL							
SP1-6 1.0	8/05/24	SOIL	X	X	X				
SP1-7 0.0	8/05/24	SOIL	X	X	X				
SP1-7 1.0	8/05/24	SOIL							
SP1-8 0.0	8/05/24	SOIL							
SP1-8 1.0	8/05/24	SOIL	X	X	X				
SP1-9 0.0	8/05/24	SOIL	X	X	X				
SP1-9 1.0	8/05/24	SOIL			X				
SP1-10 0.0	8/05/24	SOIL							
SP1-10 1.0	8/05/24	SOIL	X	X	X				

Method	Shipment	Count (#)	Hand Delivered	Postal	Name	Signature	Date	Time	Temperature
Laboratory Use Only	Received By	Received By	Signature	Signature	Date	Time	Temperature	Report No	

[illegible]

Company	Qualitest	Project No.	NEW24P-0090	Project Manager	Emma Coleman	Handed over by	Billy Snow
Address	2 Murray Dryer Circuit NSW 2304	Project Name	GNAPL - ASTRA	Signature	Excel	Signature	
Contact Name	Emma Coleman	Analysis	Suite CL10 (TRH, BTEX, PAH, Metals)	Signature		Signature	
Phone No	0423 359 411	Analysis	PFAS	Signature		Signature	
Special Directions		Analysis	Asbestos (NEPM %w/w)	Signature		Signature	
Purchase Order		Analysis		Signature		Signature	
Shipped To	QUAL-IE-OCT23-1464094	Analysis		Signature		Signature	

Sample(s)	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4984, WA Guidelines)
Handed over by								
Signature								
Date								
Time								
Report to								

Sample ID	Sample Name	Matrix	Analysis	Signature	Date	Time	Report to
SP6-7 1.0	26	8/05/24	SOIL				
SP6-8 0.0	27	8/05/24	SOIL				
SP6-8 1.0		8/05/24	SOIL				
SP6-9 0.0		8/05/24	SOIL				
SP6-9 1.0	28	8/05/24	SOIL				
SP6-10 0.0	29	8/05/24	SOIL				
SP6-10 1.0		8/05/24	SOIL				
SS1	30	8/05/24	SOIL				
SS3	31	8/05/24	SOIL				

Method	□ Courier (if)	□ Hand Delivered	□ Postal	Name	Signature	Date	Time	Report to
Laboratory Use Only	Received By	Received By	Signature	Signature	Signature	Signature	Signature	Signature



SAMPLE RECEIPT ADVICE

SE264905A

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
Address 2 MURRAY DWYER CIRCUIT
MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au

Project NEW24P-0090 GNAPL - ASTRA-PFAS
Order Number NEW24P-0090
Samples 37

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Thu 9/5/2024
Report Due Mon 13/5/2024
SGS Reference SE264905A

SUBMISSION DETAILS

This is to confirm that 37 samples were received on Thursday 9/5/2024. Results are expected to be ready by COB Monday 13/5/2024. Please quote SGS reference SE264905A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	32 Soil	Type of documentation received	COC
Date documentation received	9/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.8°C
Sample container provider	SGS	Turnaround time requested	Two Days
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS subcontracted to SGS Melbourne, Unit 10/585 Blackburn Road Notting Hill VIC 3168, NATA Accreditation Number 2562, Site number 14420.

A separate portion was not supplied for Asbestos analysis. A sub-sample will be used from the jar provided.

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SAMPLE RECEIPT ADVICE

SE264905A

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 GNAPL - ASTRA-PFAS**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
001	SP1-1 0.0	59
002	SP1-2-1.0	59
003	SP1-3 0.0	59
004	SP1-4 1.0	59
005	SP1-5 0.0	59
006	SP1-6 1.0	59
007	SP1-7 1.0	59
008	SP1-8 1.0	59
009	SP1-9 0.0	59
011	SP1-10 1.0	59
012	SP2-1	59
014	SP2-3	59
016	SP3-1	59
017	SP4-1 0.0	59
018	SP4- 1.0	59
019	SP6-1 1.0	59
020	SP6-2 1.0	59
021	SP6-3 0.0	59
022	SP6-4 0.0	59
023	SP6-4 1.0	59
024	SP6-5 1.0	59

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE264905A

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 GNAPL - ASTRA-PFAS**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
025	SP6-6 0.0	59
026	SP6-7 1.0	59
027	SP6-8 0.0	59
028	SP6-9 1.0	59
029	SP6-10 0.0	59
030	SS1	59
031	SS3	59
032	TP01 0.0-0.1	59
033	TP02 0.0-0.1	59
034	TP04 0.0-0.1	59
035	TP05 0.0-0.1	59

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
Address 2 MURRAY DWYER CIRCUIT
MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au
Project **NEW24P-0090 - GNAPL - ASTRA**
Order Number **NEW24P-0090**
Samples 58

LABORATORY DETAILS

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Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

SGS Reference **SE265014 R0**
Date Received 10/5/2024
Date Reported 13/5/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
Sample #6: Asbestos found in approx 10x4x2mm cement sheet fragment.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES



Dong LIANG
Metals/Inorganics Team Leader



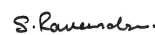
Huong CRAWFORD
Production Manager



Kamrul AHSAN
Senior Chemist



Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader



Shane MCDERMOTT
Inorganic/Metals Chemist



Ying Ying ZHANG
Laboratory Technician

VOC's in Soil [AN433] Tested: 10/5/2024

PARAMETER	UOM	LOR	SS11	SS13	SS14	TP08 0.0-0.1	SS18
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.028	9/5/2024 SE265014.030	9/5/2024 SE265014.031	9/5/2024 SE265014.032	9/5/2024 SE265014.034
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP12 0.0-0.1	D.9.5.24	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.035	9/5/2024 SE265014.036	9/5/2024 SE265014.037	9/5/2024 SE265014.038	9/5/2024 SE265014.039
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24	SS17
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.041	9/5/2024 SE265014.042	9/5/2024 SE265014.043	9/5/2024 SE265014.044	9/5/2024 SE265014.045
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1	TP19 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.046	9/5/2024 SE265014.047	9/5/2024 SE265014.048	9/5/2024 SE265014.049	9/5/2024 SE265014.050
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE265014 R0

VOC's in Soil [AN433] Tested: 10/5/2024 (continued)

PARAMETER	UOM	LOR	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.051	9/5/2024 SE265014.052	9/5/2024 SE265014.053	9/5/2024 SE265014.054	9/5/2024 SE265014.055
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.3↓	<0.3↓	<0.3↓	<0.3↓	<0.3↓
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL
			-	-	-
			9/5/2024 SE265014.056	9/5/2024 SE265014.057	9/5/2024 SE265014.058
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.3↓	<0.3↓	<0.3↓
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 10/5/2024

PARAMETER	UOM	LOR	SS11	SS13	SS14	TP08 0.0-0.1	SS18
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.028	9/5/2024 SE265014.030	9/5/2024 SE265014.031	9/5/2024 SE265014.032	9/5/2024 SE265014.034
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP12 0.0-0.1	D.9.5.24	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.035	9/5/2024 SE265014.036	9/5/2024 SE265014.037	9/5/2024 SE265014.038	9/5/2024 SE265014.039
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24	SS17
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.041	9/5/2024 SE265014.042	9/5/2024 SE265014.043	9/5/2024 SE265014.044	9/5/2024 SE265014.045
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1	TP19 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.046	9/5/2024 SE265014.047	9/5/2024 SE265014.048	9/5/2024 SE265014.049	9/5/2024 SE265014.050
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.051	9/5/2024 SE265014.052	9/5/2024 SE265014.053	9/5/2024 SE265014.054	9/5/2024 SE265014.055
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL
			-	-	-
			9/5/2024 SE265014.056	9/5/2024 SE265014.057	9/5/2024 SE265014.058
TRH C6-C9	mg/kg	20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 10/5/2024

PARAMETER	UOM	LOR	SS11	SS13	SS14	TP08 0.0-0.1	SS18
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.028	9/5/2024 SE265014.030	9/5/2024 SE265014.031	9/5/2024 SE265014.032	9/5/2024 SE265014.034
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	61	53	<45
TRH C29-C36	mg/kg	45	<45	<45	72	<45	58
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	32	39	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	32	39	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	110	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	130	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP12 0.0-0.1	D.9.5.24	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.035	9/5/2024 SE265014.036	9/5/2024 SE265014.037	9/5/2024 SE265014.038	9/5/2024 SE265014.039
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	46	<45	<45
TRH C29-C36	mg/kg	45	98	65	69	<45	83
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	130	<90	94	<90	92
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	120	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24	SS17
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.041	9/5/2024 SE265014.042	9/5/2024 SE265014.043	9/5/2024 SE265014.044	9/5/2024 SE265014.045
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	67	<45	100	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	120	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 10/5/2024 (continued)

PARAMETER	UOM	LOR	SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1	TP19 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.046	9/5/2024 SE265014.047	9/5/2024 SE265014.048	9/5/2024 SE265014.049	9/5/2024 SE265014.050
TRH C10-C14	mg/kg	20	26	23	<20	<20	<20
TRH C15-C28	mg/kg	45	66	84	<45	<45	<45
TRH C29-C36	mg/kg	45	140	100	54	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	32	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	32	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	170	160	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	230	210	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.051	9/5/2024 SE265014.052	9/5/2024 SE265014.053	9/5/2024 SE265014.054	9/5/2024 SE265014.055
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	51	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	79	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	110	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	130	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL
			9/5/2024 SE265014.056	9/5/2024 SE265014.057	9/5/2024 SE265014.058
TRH C10-C14	mg/kg	20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	46	<45
TRH C29-C36	mg/kg	45	<45	58	130
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	130
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	130
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 10/5/2024

PARAMETER	UOM	LOR	SS11	SS13	SS14	TP08 0.0-0.1	SS18
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.028	9/5/2024 SE265014.030	9/5/2024 SE265014.031	9/5/2024 SE265014.032	9/5/2024 SE265014.034
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	TP12 0.0-0.1	D.9.5.24	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.035	9/5/2024 SE265014.036	9/5/2024 SE265014.037	9/5/2024 SE265014.038	9/5/2024 SE265014.039
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 10/5/2024 (continued)

			SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24	SS17
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
PARAMETER	UOM	LOR	SE265014.041	SE265014.042	SE265014.043	SE265014.044	SE265014.045
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

			SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1	TP19 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
PARAMETER	UOM	LOR	SE265014.046	SE265014.047	SE265014.048	SE265014.049	SE265014.050
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 10/5/2024 (continued)

PARAMETER	UOM	LOR	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.051	9/5/2024 SE265014.052	9/5/2024 SE265014.053	9/5/2024 SE265014.054	9/5/2024 SE265014.055
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL
			9/5/2024 SE265014.056	9/5/2024 SE265014.057	9/5/2024 SE265014.058
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8



ANALYTICAL RESULTS

SE265014 R0

pH in soil (1:5) [AN101] Tested: 13/5/2024

			TP12 0.0-0.1	TP27 0.0-0.1
			SOIL	SOIL
			-	-
			9/5/2024	9/5/2024
			SE265014.035	SE265014.057
PARAMETER	UOM	LOR		
pH	pH Units	0.1	4.5	4.5

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 13/5/2024

PARAMETER	UOM	LOR	TP12 0.0-0.1	TP27 0.0-0.1
			SOIL - 9/5/2024 SE265014.035	SOIL - 9/5/2024 SE265014.057
Exchangeable Calcium, Ca	mg/kg	2	11	7
Exchangeable Calcium, Ca	meq/100g	0.01	0.06	0.04
Exchangeable Calcium Percentage*	%	0.1	12.3	19.8
Exchangeable Potassium, K	mg/kg	2	24	9
Exchangeable Potassium, K	meq/100g	0.01	0.06	0.02
Exchangeable Potassium Percentage*	%	0.1	13.3	11.8
Exchangeable Magnesium, Mg	mg/kg	2	34	11
Exchangeable Magnesium, Mg	meq/100g	0.02	0.27	0.09
Exchangeable Magnesium Percentage*	%	0.1	60.3	49.8
Exchangeable Sodium, Na	mg/kg	2	15	8
Exchangeable Sodium, Na	meq/100g	0.01	0.06	0.03
Exchangeable Sodium Percentage*	%	0.1	14.1	18.7
Cation Exchange Capacity	meq/100g	0.02	0.46	0.19

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 10/5/2024

PARAMETER	UOM	LOR	SS11	SS13	SS14	TP08 0.0-0.1	SS18
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.028	9/5/2024 SE265014.030	9/5/2024 SE265014.031	9/5/2024 SE265014.032	9/5/2024 SE265014.034
Arsenic, As	mg/kg	1	1	<1	<1	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	0.5	<0.5	0.6	<0.5	0.5
Copper, Cu	mg/kg	0.5	2.9	2.9	3.2	1.1	3.3
Lead, Pb	mg/kg	1	5	5	7	4	5
Nickel, Ni	mg/kg	0.5	0.9	0.5	<0.5	<0.5	<0.5
Zinc, Zn	mg/kg	2	8.1	11	8.8	4.6	9.0

PARAMETER	UOM	LOR	TP12 0.0-0.1	D.9.5.24	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.035	9/5/2024 SE265014.036	9/5/2024 SE265014.037	9/5/2024 SE265014.038	9/5/2024 SE265014.039
Arsenic, As	mg/kg	1	<1	<1	<1	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Copper, Cu	mg/kg	0.5	2.7	0.9	2.0	1.3	1.5
Lead, Pb	mg/kg	1	6	4	3	1	4
Nickel, Ni	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Zinc, Zn	mg/kg	2	9.2	5.1	6.7	3.6	6.0

PARAMETER	UOM	LOR	SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24	SS17
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.041	9/5/2024 SE265014.042	9/5/2024 SE265014.043	9/5/2024 SE265014.044	9/5/2024 SE265014.045
Arsenic, As	mg/kg	1	<1	<1	<1	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	0.5	<0.5	<0.5	<0.5	<0.5
Copper, Cu	mg/kg	0.5	1.3	1.6	1.2	0.6	1.5
Lead, Pb	mg/kg	1	4	3	7	1	3
Nickel, Ni	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Zinc, Zn	mg/kg	2	8.1	3.1	2.6	2.7	5.4

PARAMETER	UOM	LOR	SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1	TP19 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.046	9/5/2024 SE265014.047	9/5/2024 SE265014.048	9/5/2024 SE265014.049	9/5/2024 SE265014.050
Arsenic, As	mg/kg	1	<1	<1	<1	<1	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Copper, Cu	mg/kg	0.5	1.0	0.6	1.1	2.5	2.3
Lead, Pb	mg/kg	1	5	2	2	4	6
Nickel, Ni	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Zinc, Zn	mg/kg	2	4.7	3.8	3.0	5.5	8.6

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 10/5/2024

PARAMETER	UOM	LOR	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.051	9/5/2024 SE265014.052	9/5/2024 SE265014.053	9/5/2024 SE265014.054	9/5/2024 SE265014.055
Arsenic, As	mg/kg	1	<1	<1	<1	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	0.7	<0.5	0.7	<0.5	<0.5
Copper, Cu	mg/kg	0.5	4.4	1.2	3.8	<0.5	3.7
Lead, Pb	mg/kg	1	10	2	7	<1	5
Nickel, Ni	mg/kg	0.5	0.5	<0.5	<0.5	<0.5	<0.5
Zinc, Zn	mg/kg	2	21	4.4	11	<2.0	6.4

PARAMETER	UOM	LOR	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL
			-	-	-
			9/5/2024 SE265014.056	9/5/2024 SE265014.057	9/5/2024 SE265014.058
Arsenic, As	mg/kg	1	<1	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	<0.5	0.6	1.6
Copper, Cu	mg/kg	0.5	0.9	2.2	1.6
Lead, Pb	mg/kg	1	1	7	<1
Nickel, Ni	mg/kg	0.5	<0.5	<0.5	<0.5
Zinc, Zn	mg/kg	2	2.1	8.6	6.2

Mercury in Soil [AN312] Tested: 10/5/2024

PARAMETER	UOM	LOR	SS11	SS13	SS14	TP08 0.0-0.1	SS18
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.028	9/5/2024 SE265014.030	9/5/2024 SE265014.031	9/5/2024 SE265014.032	9/5/2024 SE265014.034
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP12 0.0-0.1	D.9.5.24	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.035	9/5/2024 SE265014.036	9/5/2024 SE265014.037	9/5/2024 SE265014.038	9/5/2024 SE265014.039
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24	SS17
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.041	9/5/2024 SE265014.042	9/5/2024 SE265014.043	9/5/2024 SE265014.044	9/5/2024 SE265014.045
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1	TP19 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.046	9/5/2024 SE265014.047	9/5/2024 SE265014.048	9/5/2024 SE265014.049	9/5/2024 SE265014.050
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.051	9/5/2024 SE265014.052	9/5/2024 SE265014.053	9/5/2024 SE265014.054	9/5/2024 SE265014.055
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL
			-	-	-
			9/5/2024 SE265014.056	9/5/2024 SE265014.057	9/5/2024 SE265014.058
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 10/5/2024

PARAMETER	UOM	LOR	SS11	SS13	SS14	TP08 0.0-0.1	SS18
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.028	9/5/2024 SE265014.030	9/5/2024 SE265014.031	9/5/2024 SE265014.032	9/5/2024 SE265014.034
% Moisture	%w/w	1	27.6	21.7	17.5	34.3	27.5

PARAMETER	UOM	LOR	TP12 0.0-0.1	D.9.5.24	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.035	9/5/2024 SE265014.036	9/5/2024 SE265014.037	9/5/2024 SE265014.038	9/5/2024 SE265014.039
% Moisture	%w/w	1	34.6	27.9	29.2	18.0	30.4

PARAMETER	UOM	LOR	SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24	SS17
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.041	9/5/2024 SE265014.042	9/5/2024 SE265014.043	9/5/2024 SE265014.044	9/5/2024 SE265014.045
% Moisture	%w/w	1	31.3	22.7	34.0	20.1	27.2

PARAMETER	UOM	LOR	SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1	TP19 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.046	9/5/2024 SE265014.047	9/5/2024 SE265014.048	9/5/2024 SE265014.049	9/5/2024 SE265014.050
% Moisture	%w/w	1	23.3	29.6	11.8	25.3	11.7

PARAMETER	UOM	LOR	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1	TP25 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.051	9/5/2024 SE265014.052	9/5/2024 SE265014.053	9/5/2024 SE265014.054	9/5/2024 SE265014.055
% Moisture	%w/w	1	24.3	21.4	29.2	18.1	19.9

PARAMETER	UOM	LOR	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL
			-	-	-
			9/5/2024 SE265014.056	9/5/2024 SE265014.057	9/5/2024 SE265014.058
% Moisture	%w/w	1	18.4	21.1	17.5

Fibre Identification in soil [AS4964/AN602] Tested: 10/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.002	9/5/2024 SE265014.003	9/5/2024 SE265014.004	9/5/2024 SE265014.005	9/5/2024 SE265014.006
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.007	9/5/2024 SE265014.008	9/5/2024 SE265014.009	9/5/2024 SE265014.010	9/5/2024 SE265014.011
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.012	9/5/2024 SE265014.013	9/5/2024 SE265014.014	9/5/2024 SE265014.015	9/5/2024 SE265014.016
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS7
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.017	9/5/2024 SE265014.018	9/5/2024 SE265014.019	9/5/2024 SE265014.020	9/5/2024 SE265014.024
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SS9
			SOIL
			-
			9/5/2024 SE265014.026
Date Analysed*	No unit	-	13/05/2024 00:00
Asbestos Detected	No unit	-	No
Estimated Fibres*	%w/w	0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.002	9/5/2024 SE265014.003	9/5/2024 SE265014.004	9/5/2024 SE265014.005	9/5/2024 SE265014.006
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	660	540	565	617	771
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.0594
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	0.008
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	0.008
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	Chrysotile

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.007	9/5/2024 SE265014.008	9/5/2024 SE265014.009	9/5/2024 SE265014.010	9/5/2024 SE265014.011
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	597	578	550	622	500
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.012	9/5/2024 SE265014.013	9/5/2024 SE265014.014	9/5/2024 SE265014.015	9/5/2024 SE265014.016
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	453	488	396	281	345
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS7
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.017	9/5/2024 SE265014.018	9/5/2024 SE265014.019	9/5/2024 SE265014.020	9/5/2024 SE265014.024
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	435	531	483	538	657
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SS9
			SOIL
			9/5/2024 SE265014.026
Date Analysed*	No unit	-	13/05/2024 00:00
Total Sample Weight*	g	1	488
Bonded ACM in >7mm Sample*	g	0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001
Fibre Type*	No unit	-	NAD

METHOD

METHODOLOGY SUMMARY

- AN002** The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
- AN040/AN320** A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
- AN040** A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
- AN101** pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl₂) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
- AN122** Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
- AN122** The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100.
ESP can be used to categorise the sodicity of the soil as below :
- | | |
|-----------|----------------|
| ESP < 6% | non-sodic |
| ESP 6-15% | sodic |
| ESP >15% | strongly sodic |
- Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
- AN312** Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
- AN403** Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
- AN403** Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
- AN403** The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
- AN420** (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
Total PAH calculated from individual analyte detections at or above the limit of reporting .
- AN420** Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all < LOR results are half the LOR and the third assuming all <LOR results are the LOR.
- AN433** VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

AN602/AS4964

Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.

AN602/AS4964

Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.

AN602/AS4964

AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602/AS4964

The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if-

- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres);
- (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and
- (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

AN605

This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.

AN605

This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.

AN605

Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition.
Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material.
Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.

AN-605

Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE265014 R0

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Order Number **NEW24P-0090**
Samples 58

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Date Reported 13 May 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Surrogate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	21 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	1 item

SAMPLE SUMMARY

Sample counts by matrix	49 Soil	Type of documentation received	COC
Date documentation received	10/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice	Samples clearly labelled	No
Complete documentation received	Yes		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)**Method: ME-(AU)-ENVJAN122**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP12 0.0-0.1	SE265014.035	LB312076	09 May 2024	10 May 2024	06 Jun 2024	13 May 2024	06 Jun 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312076	09 May 2024	10 May 2024	06 Jun 2024	13 May 2024	06 Jun 2024	13 May 2024

Fibre Identification in soil**Method: ME-(AU)-ENVJAS4964/AN602**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-1	SE265014.001	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-2	SE265014.002	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-3	SE265014.003	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-4	SE265014.004	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-5	SE265014.005	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-6	SE265014.006	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-7	SE265014.007	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-8	SE265014.008	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-9	SE265014.009	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP4-10	SE265014.010	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-1	SE265014.011	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-2	SE265014.012	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-3	SE265014.013	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-4	SE265014.014	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-5	SE265014.015	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-6	SE265014.016	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-7	SE265014.017	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-8	SE265014.018	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-9	SE265014.019	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SP6-10	SE265014.020	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SS7	SE265014.024	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024
SS9	SE265014.026	LB312029	09 May 2024	10 May 2024	09 May 2025	10 May 2024	09 May 2025	13 May 2024

Gravimetric Determination of Asbestos in Soil**Method: ME-(AU)-ENVJAN605**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-1	SE265014.001	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-2	SE265014.002	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-3	SE265014.003	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-4	SE265014.004	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-5	SE265014.005	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-6	SE265014.006	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-7	SE265014.007	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-8	SE265014.008	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-9	SE265014.009	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP4-10	SE265014.010	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-1	SE265014.011	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-2	SE265014.012	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-3	SE265014.013	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-4	SE265014.014	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-5	SE265014.015	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-6	SE265014.016	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-7	SE265014.017	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-8	SE265014.018	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-9	SE265014.019	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SP6-10	SE265014.020	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS7	SE265014.024	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS9	SE265014.026	LB312029	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024

Mercury in Soil**Method: ME-(AU)-ENVJAN312**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS11	SE265014.028	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
SS13	SE265014.030	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
SS14	SE265014.031	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP08 0.0-0.1	SE265014.032	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
SS18	SE265014.034	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP12 0.0-0.1	SE265014.035	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024



HOLDING TIME SUMMARY

SE265014 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Mercury in Soil (continued)

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
D.9.5.24	SE265014.036	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
D1.9.5.24	SE265014.037	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP14 0.0-0.1	SE265014.038	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP06 0.0-0.1	SE265014.039	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
SS16	SE265014.041	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP11 0.0-0.1	SE265014.042	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP13 0.0-0.1	SE265014.043	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
D2.9.5.24	SE265014.044	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
SS17	SE265014.045	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
SS19	SE265014.046	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP16 0.0-0.1	SE265014.047	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP17 0.0-0.1	SE265014.048	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP18 0.0-0.1	SE265014.049	LB312043	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP19 0.0-0.1	SE265014.050	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP20 0.0-0.1	SE265014.051	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP21 0.0-0.1	SE265014.052	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP22 0.0-0.1	SE265014.053	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP24 0.0-0.1	SE265014.054	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP25 0.0-0.1	SE265014.055	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP26 0.0-0.1	SE265014.056	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024
TP28 0.0-0.1	SE265014.058	LB312044	09 May 2024	10 May 2024	06 Jun 2024	10 May 2024	06 Jun 2024	13 May 2024

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS11	SE265014.028	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
SS13	SE265014.030	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
SS14	SE265014.031	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP08 0.0-0.1	SE265014.032	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
SS18	SE265014.034	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP12 0.0-0.1	SE265014.035	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
D.9.5.24	SE265014.036	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
D1.9.5.24	SE265014.037	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP14 0.0-0.1	SE265014.038	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP06 0.0-0.1	SE265014.039	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
SS16	SE265014.041	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP11 0.0-0.1	SE265014.042	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP13 0.0-0.1	SE265014.043	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
D2.9.5.24	SE265014.044	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
SS17	SE265014.045	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
SS19	SE265014.046	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP16 0.0-0.1	SE265014.047	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP17 0.0-0.1	SE265014.048	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP18 0.0-0.1	SE265014.049	LB312019	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP19 0.0-0.1	SE265014.050	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP20 0.0-0.1	SE265014.051	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP21 0.0-0.1	SE265014.052	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP22 0.0-0.1	SE265014.053	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP24 0.0-0.1	SE265014.054	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP25 0.0-0.1	SE265014.055	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP26 0.0-0.1	SE265014.056	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024
TP28 0.0-0.1	SE265014.058	LB312031	09 May 2024	10 May 2024	23 May 2024	10 May 2024	15 May 2024	13 May 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS11	SE265014.028	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS13	SE265014.030	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS14	SE265014.031	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP08 0.0-0.1	SE265014.032	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS18	SE265014.034	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP12 0.0-0.1	SE265014.035	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
D.9.5.24	SE265014.036	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
D1.9.5.24	SE265014.037	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP14 0.0-0.1	SE265014.038	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP06 0.0-0.1	SE265014.039	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS16	SE265014.041	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP11 0.0-0.1	SE265014.042	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP13 0.0-0.1	SE265014.043	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
D2.9.5.24	SE265014.044	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS17	SE265014.045	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS19	SE265014.046	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP16 0.0-0.1	SE265014.047	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP17 0.0-0.1	SE265014.048	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP18 0.0-0.1	SE265014.049	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP19 0.0-0.1	SE265014.050	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP20 0.0-0.1	SE265014.051	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP21 0.0-0.1	SE265014.052	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP22 0.0-0.1	SE265014.053	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP24 0.0-0.1	SE265014.054	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP25 0.0-0.1	SE265014.055	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP26 0.0-0.1	SE265014.056	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP28 0.0-0.1	SE265014.058	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024

pH in soil (1:5)

Method: ME-(AU)-ENVJAN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP12 0.0-0.1	SE265014.035	LB312127	09 May 2024	10 May 2024	16 May 2024	13 May 2024	14 May 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312127	09 May 2024	10 May 2024	16 May 2024	13 May 2024	14 May 2024	13 May 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-ENVJAN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS11	SE265014.028	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS13	SE265014.030	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS14	SE265014.031	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP08 0.0-0.1	SE265014.032	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS18	SE265014.034	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP12 0.0-0.1	SE265014.035	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
D.9.5.24	SE265014.036	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
D1.9.5.24	SE265014.037	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP14 0.0-0.1	SE265014.038	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP06 0.0-0.1	SE265014.039	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS16	SE265014.041	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP11 0.0-0.1	SE265014.042	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP13 0.0-0.1	SE265014.043	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
D2.9.5.24	SE265014.044	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS17	SE265014.045	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
SS19	SE265014.046	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP16 0.0-0.1	SE265014.047	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP17 0.0-0.1	SE265014.048	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP18 0.0-0.1	SE265014.049	LB312039	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP19 0.0-0.1	SE265014.050	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP20 0.0-0.1	SE265014.051	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP21 0.0-0.1	SE265014.052	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP22 0.0-0.1	SE265014.053	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP24 0.0-0.1	SE265014.054	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP25 0.0-0.1	SE265014.055	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP26 0.0-0.1	SE265014.056	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024
TP28 0.0-0.1	SE265014.058	LB312040	09 May 2024	10 May 2024	05 Nov 2024	10 May 2024	05 Nov 2024	13 May 2024



HOLDING TIME SUMMARY

SE265014 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS11	SE265014.028	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS13	SE265014.030	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS14	SE265014.031	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP08 0.0-0.1	SE265014.032	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS18	SE265014.034	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP12 0.0-0.1	SE265014.035	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
D.9.5.24	SE265014.036	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
D1.9.5.24	SE265014.037	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP14 0.0-0.1	SE265014.038	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP06 0.0-0.1	SE265014.039	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS16	SE265014.041	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP11 0.0-0.1	SE265014.042	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP13 0.0-0.1	SE265014.043	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
D2.9.5.24	SE265014.044	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS17	SE265014.045	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
SS19	SE265014.046	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP16 0.0-0.1	SE265014.047	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP17 0.0-0.1	SE265014.048	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP18 0.0-0.1	SE265014.049	LB312016	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP19 0.0-0.1	SE265014.050	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP20 0.0-0.1	SE265014.051	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP21 0.0-0.1	SE265014.052	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP22 0.0-0.1	SE265014.053	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP24 0.0-0.1	SE265014.054	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP25 0.0-0.1	SE265014.055	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP26 0.0-0.1	SE265014.056	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024
TP28 0.0-0.1	SE265014.058	LB312028	09 May 2024	10 May 2024	23 May 2024	10 May 2024	19 Jun 2024	13 May 2024

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS11	SE265014.028	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS13	SE265014.030	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS14	SE265014.031	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP08 0.0-0.1	SE265014.032	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS18	SE265014.034	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP12 0.0-0.1	SE265014.035	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
D.9.5.24	SE265014.036	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
D1.9.5.24	SE265014.037	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP14 0.0-0.1	SE265014.038	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP06 0.0-0.1	SE265014.039	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS16	SE265014.041	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP11 0.0-0.1	SE265014.042	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP13 0.0-0.1	SE265014.043	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
D2.9.5.24	SE265014.044	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS17	SE265014.045	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS19	SE265014.046	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP16 0.0-0.1	SE265014.047	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP17 0.0-0.1	SE265014.048	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP18 0.0-0.1	SE265014.049	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP19 0.0-0.1	SE265014.050	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP20 0.0-0.1	SE265014.051	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP21 0.0-0.1	SE265014.052	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP22 0.0-0.1	SE265014.053	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP24 0.0-0.1	SE265014.054	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP25 0.0-0.1	SE265014.055	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP26 0.0-0.1	SE265014.056	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP28 0.0-0.1	SE265014.058	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024



HOLDING TIME SUMMARY

SE265014 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENV/JAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS11	SE265014.028	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS13	SE265014.030	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS14	SE265014.031	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP08 0.0-0.1	SE265014.032	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS18	SE265014.034	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP12 0.0-0.1	SE265014.035	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
D 9.5.24	SE265014.036	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
D1 9.5.24	SE265014.037	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP14 0.0-0.1	SE265014.038	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP06 0.0-0.1	SE265014.039	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS16	SE265014.041	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP11 0.0-0.1	SE265014.042	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP13 0.0-0.1	SE265014.043	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
D2 9.5.24	SE265014.044	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS17	SE265014.045	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
SS19	SE265014.046	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP16 0.0-0.1	SE265014.047	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP17 0.0-0.1	SE265014.048	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP18 0.0-0.1	SE265014.049	LB312017	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP19 0.0-0.1	SE265014.050	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP20 0.0-0.1	SE265014.051	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP21 0.0-0.1	SE265014.052	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP22 0.0-0.1	SE265014.053	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP24 0.0-0.1	SE265014.054	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP25 0.0-0.1	SE265014.055	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP26 0.0-0.1	SE265014.056	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP27 0.0-0.1	SE265014.057	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024
TP28 0.0-0.1	SE265014.058	LB312030	09 May 2024	10 May 2024	23 May 2024	10 May 2024	23 May 2024	13 May 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil**Method: ME-(AU)-[ENV]AN420**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SS11	SE265014.028	%	70 - 130%	109
	SS13	SE265014.030	%	70 - 130%	103
	SS14	SE265014.031	%	70 - 130%	108
	TP08 0.0-0.1	SE265014.032	%	70 - 130%	110
	SS18	SE265014.034	%	70 - 130%	108
	TP12 0.0-0.1	SE265014.035	%	70 - 130%	108
	D.9.5.24	SE265014.036	%	70 - 130%	124
	D1.9.5.24	SE265014.037	%	70 - 130%	112
	TP14 0.0-0.1	SE265014.038	%	70 - 130%	105
	TP06 0.0-0.1	SE265014.039	%	70 - 130%	104
	SS16	SE265014.041	%	70 - 130%	106
	TP11 0.0-0.1	SE265014.042	%	70 - 130%	110
	TP13 0.0-0.1	SE265014.043	%	70 - 130%	114
	D2.9.5.24	SE265014.044	%	70 - 130%	106
	SS17	SE265014.045	%	70 - 130%	101
	SS19	SE265014.046	%	70 - 130%	101
	TP16 0.0-0.1	SE265014.047	%	70 - 130%	109
	TP17 0.0-0.1	SE265014.048	%	70 - 130%	107
	TP18 0.0-0.1	SE265014.049	%	70 - 130%	105
	TP19 0.0-0.1	SE265014.050	%	70 - 130%	105
	TP20 0.0-0.1	SE265014.051	%	70 - 130%	113
	TP21 0.0-0.1	SE265014.052	%	70 - 130%	116
	TP22 0.0-0.1	SE265014.053	%	70 - 130%	112
	TP24 0.0-0.1	SE265014.054	%	70 - 130%	111
	TP25 0.0-0.1	SE265014.055	%	70 - 130%	115
	TP26 0.0-0.1	SE265014.056	%	70 - 130%	116
	TP27 0.0-0.1	SE265014.057	%	70 - 130%	113
	TP28 0.0-0.1	SE265014.058	%	70 - 130%	121
d14-p-terphenyl (Surrogate)	SS11	SE265014.028	%	70 - 130%	111
	SS13	SE265014.030	%	70 - 130%	114
	SS14	SE265014.031	%	70 - 130%	110
	TP08 0.0-0.1	SE265014.032	%	70 - 130%	111
	SS18	SE265014.034	%	70 - 130%	115
	TP12 0.0-0.1	SE265014.035	%	70 - 130%	110
	D.9.5.24	SE265014.036	%	70 - 130%	128
	D1.9.5.24	SE265014.037	%	70 - 130%	116
	TP14 0.0-0.1	SE265014.038	%	70 - 130%	115
	TP06 0.0-0.1	SE265014.039	%	70 - 130%	111
	SS16	SE265014.041	%	70 - 130%	113
	TP11 0.0-0.1	SE265014.042	%	70 - 130%	115
	TP13 0.0-0.1	SE265014.043	%	70 - 130%	118
	D2.9.5.24	SE265014.044	%	70 - 130%	115
	SS17	SE265014.045	%	70 - 130%	111
	SS19	SE265014.046	%	70 - 130%	109
	TP16 0.0-0.1	SE265014.047	%	70 - 130%	114
	TP17 0.0-0.1	SE265014.048	%	70 - 130%	112
	TP18 0.0-0.1	SE265014.049	%	70 - 130%	112
	TP19 0.0-0.1	SE265014.050	%	70 - 130%	107
	TP20 0.0-0.1	SE265014.051	%	70 - 130%	114
	TP21 0.0-0.1	SE265014.052	%	70 - 130%	119
	TP22 0.0-0.1	SE265014.053	%	70 - 130%	113
	TP24 0.0-0.1	SE265014.054	%	70 - 130%	111
	TP25 0.0-0.1	SE265014.055	%	70 - 130%	113
	TP26 0.0-0.1	SE265014.056	%	70 - 130%	121
	TP27 0.0-0.1	SE265014.057	%	70 - 130%	115
	TP28 0.0-0.1	SE265014.058	%	70 - 130%	120
d5-nitrobenzene (Surrogate)	SS11	SE265014.028	%	70 - 130%	113
	SS13	SE265014.030	%	70 - 130%	116
	SS14	SE265014.031	%	70 - 130%	114
	TP08 0.0-0.1	SE265014.032	%	70 - 130%	120
	SS18	SE265014.034	%	70 - 130%	120

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	TP12 0.0-0.1	SE265014.035	%	70 - 130%	113
	D.9.5.24	SE265014.036	%	70 - 130%	136 ①
	D1.9.5.24	SE265014.037	%	70 - 130%	122
	TP14 0.0-0.1	SE265014.038	%	70 - 130%	117
	TP06 0.0-0.1	SE265014.039	%	70 - 130%	116
	SS16	SE265014.041	%	70 - 130%	115
	TP11 0.0-0.1	SE265014.042	%	70 - 130%	117
	TP13 0.0-0.1	SE265014.043	%	70 - 130%	121
	D2.9.5.24	SE265014.044	%	70 - 130%	118
	SS17	SE265014.045	%	70 - 130%	114
	SS19	SE265014.046	%	70 - 130%	109
	TP16 0.0-0.1	SE265014.047	%	70 - 130%	118
	TP17 0.0-0.1	SE265014.048	%	70 - 130%	112
	TP18 0.0-0.1	SE265014.049	%	70 - 130%	115
	TP19 0.0-0.1	SE265014.050	%	70 - 130%	115
	TP20 0.0-0.1	SE265014.051	%	70 - 130%	128
	TP21 0.0-0.1	SE265014.052	%	70 - 130%	127
	TP22 0.0-0.1	SE265014.053	%	70 - 130%	116
	TP24 0.0-0.1	SE265014.054	%	70 - 130%	117
	TP25 0.0-0.1	SE265014.055	%	70 - 130%	117
	TP26 0.0-0.1	SE265014.056	%	70 - 130%	122
	TP27 0.0-0.1	SE265014.057	%	70 - 130%	121
	TP28 0.0-0.1	SE265014.058	%	70 - 130%	125

VOC's In Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SS11	SE265014.028	%	60 - 130%	93
	SS13	SE265014.030	%	60 - 130%	83
	SS14	SE265014.031	%	60 - 130%	85
	TP08 0.0-0.1	SE265014.032	%	60 - 130%	82
	SS18	SE265014.034	%	60 - 130%	78
	TP12 0.0-0.1	SE265014.035	%	60 - 130%	84
	D.9.5.24	SE265014.036	%	60 - 130%	82
	D1.9.5.24	SE265014.037	%	60 - 130%	80
	TP14 0.0-0.1	SE265014.038	%	60 - 130%	86
	TP06 0.0-0.1	SE265014.039	%	60 - 130%	80
	SS16	SE265014.041	%	60 - 130%	76
	TP11 0.0-0.1	SE265014.042	%	60 - 130%	86
	TP13 0.0-0.1	SE265014.043	%	60 - 130%	78
	D2.9.5.24	SE265014.044	%	60 - 130%	89
	SS17	SE265014.045	%	60 - 130%	88
	SS19	SE265014.046	%	60 - 130%	92
	TP16 0.0-0.1	SE265014.047	%	60 - 130%	79
	TP17 0.0-0.1	SE265014.048	%	60 - 130%	66
	TP18 0.0-0.1	SE265014.049	%	60 - 130%	103
	TP19 0.0-0.1	SE265014.050	%	60 - 130%	96
	TP20 0.0-0.1	SE265014.051	%	60 - 130%	90
	TP21 0.0-0.1	SE265014.052	%	60 - 130%	89
	TP22 0.0-0.1	SE265014.053	%	60 - 130%	72
	TP24 0.0-0.1	SE265014.054	%	60 - 130%	89
	TP25 0.0-0.1	SE265014.055	%	60 - 130%	91
	TP26 0.0-0.1	SE265014.056	%	60 - 130%	88
	TP27 0.0-0.1	SE265014.057	%	60 - 130%	84
	TP28 0.0-0.1	SE265014.058	%	60 - 130%	88
d4-1,2-dichloroethane (Surrogate)	SS11	SE265014.028	%	60 - 130%	96
	SS13	SE265014.030	%	60 - 130%	98
	SS14	SE265014.031	%	60 - 130%	101
	TP08 0.0-0.1	SE265014.032	%	60 - 130%	99
	SS18	SE265014.034	%	60 - 130%	94
	TP12 0.0-0.1	SE265014.035	%	60 - 130%	103
	D.9.5.24	SE265014.036	%	60 - 130%	91

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	D1.9.5.24	SE265014.037	%	60 - 130%	90
	TP14 0.0-0.1	SE265014.038	%	60 - 130%	107
	TP06 0.0-0.1	SE265014.039	%	60 - 130%	101
	SS16	SE265014.041	%	60 - 130%	96
	TP11 0.0-0.1	SE265014.042	%	60 - 130%	86
	TP13 0.0-0.1	SE265014.043	%	60 - 130%	80
	D2.9.5.24	SE265014.044	%	60 - 130%	111
	SS17	SE265014.045	%	60 - 130%	89
	SS19	SE265014.046	%	60 - 130%	115
	TP16 0.0-0.1	SE265014.047	%	60 - 130%	96
	TP17 0.0-0.1	SE265014.048	%	60 - 130%	75
	TP18 0.0-0.1	SE265014.049	%	60 - 130%	130
	TP19 0.0-0.1	SE265014.050	%	60 - 130%	104
	TP20 0.0-0.1	SE265014.051	%	60 - 130%	102
	TP21 0.0-0.1	SE265014.052	%	60 - 130%	99
	TP22 0.0-0.1	SE265014.053	%	60 - 130%	82
	TP24 0.0-0.1	SE265014.054	%	60 - 130%	101
	TP25 0.0-0.1	SE265014.055	%	60 - 130%	102
	TP26 0.0-0.1	SE265014.056	%	60 - 130%	99
	TP27 0.0-0.1	SE265014.057	%	60 - 130%	94
	TP28 0.0-0.1	SE265014.058	%	60 - 130%	98
d8-toluene (Surrogate)	SS11	SE265014.028	%	60 - 130%	100
	SS13	SE265014.030	%	60 - 130%	87
	SS14	SE265014.031	%	60 - 130%	91
	TP08 0.0-0.1	SE265014.032	%	60 - 130%	86
	SS18	SE265014.034	%	60 - 130%	82
	TP12 0.0-0.1	SE265014.035	%	60 - 130%	91
	D.9.5.24	SE265014.036	%	60 - 130%	91
	D1.9.5.24	SE265014.037	%	60 - 130%	87
	TP14 0.0-0.1	SE265014.038	%	60 - 130%	91
	TP06 0.0-0.1	SE265014.039	%	60 - 130%	85
	SS16	SE265014.041	%	60 - 130%	81
	TP11 0.0-0.1	SE265014.042	%	60 - 130%	83
	TP13 0.0-0.1	SE265014.043	%	60 - 130%	75
	D2.9.5.24	SE265014.044	%	60 - 130%	94
	SS17	SE265014.045	%	60 - 130%	84
	SS19	SE265014.046	%	60 - 130%	97
	TP16 0.0-0.1	SE265014.047	%	60 - 130%	79
	TP17 0.0-0.1	SE265014.048	%	60 - 130%	73
	TP18 0.0-0.1	SE265014.049	%	60 - 130%	108
	TP19 0.0-0.1	SE265014.050	%	60 - 130%	99
	TP20 0.0-0.1	SE265014.051	%	60 - 130%	94
	TP21 0.0-0.1	SE265014.052	%	60 - 130%	96
	TP22 0.0-0.1	SE265014.053	%	60 - 130%	74
	TP24 0.0-0.1	SE265014.054	%	60 - 130%	93
	TP25 0.0-0.1	SE265014.055	%	60 - 130%	92
	TP26 0.0-0.1	SE265014.056	%	60 - 130%	89
	TP27 0.0-0.1	SE265014.057	%	60 - 130%	85
	TP28 0.0-0.1	SE265014.058	%	60 - 130%	92

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SS11	SE265014.028	%	60 - 130%	93
	SS13	SE265014.030	%	60 - 130%	83
	SS14	SE265014.031	%	60 - 130%	85
	TP08 0.0-0.1	SE265014.032	%	60 - 130%	82
	SS18	SE265014.034	%	60 - 130%	78
	TP12 0.0-0.1	SE265014.035	%	60 - 130%	84
	D.9.5.24	SE265014.036	%	60 - 130%	82
	D1.9.5.24	SE265014.037	%	60 - 130%	80
	TP14 0.0-0.1	SE265014.038	%	60 - 130%	86

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP06 0.0-0.1	SE265014.039	%	60 - 130%	80
	SS16	SE265014.041	%	60 - 130%	76
	TP11 0.0-0.1	SE265014.042	%	60 - 130%	86
	TP13 0.0-0.1	SE265014.043	%	60 - 130%	78
	D2.9.5.24	SE265014.044	%	60 - 130%	89
	SS17	SE265014.045	%	60 - 130%	88
	SS19	SE265014.046	%	60 - 130%	92
	TP16 0.0-0.1	SE265014.047	%	60 - 130%	79
	TP17 0.0-0.1	SE265014.048	%	60 - 130%	66
	TP18 0.0-0.1	SE265014.049	%	60 - 130%	103
	TP19 0.0-0.1	SE265014.050	%	60 - 130%	96
	TP20 0.0-0.1	SE265014.051	%	60 - 130%	90
	TP21 0.0-0.1	SE265014.052	%	60 - 130%	89
	TP22 0.0-0.1	SE265014.053	%	60 - 130%	72
	TP24 0.0-0.1	SE265014.054	%	60 - 130%	89
	TP25 0.0-0.1	SE265014.055	%	60 - 130%	91
	TP26 0.0-0.1	SE265014.056	%	60 - 130%	88
	TP27 0.0-0.1	SE265014.057	%	60 - 130%	84
	TP28 0.0-0.1	SE265014.058	%	60 - 130%	88
d4-1,2-dichloroethane (Surrogate)	SS11	SE265014.028	%	60 - 130%	96
	SS13	SE265014.030	%	60 - 130%	98
	SS14	SE265014.031	%	60 - 130%	101
	TP08 0.0-0.1	SE265014.032	%	60 - 130%	99
	SS18	SE265014.034	%	60 - 130%	94
	TP12 0.0-0.1	SE265014.035	%	60 - 130%	103
	D.9.5.24	SE265014.036	%	60 - 130%	91
	D1.9.5.24	SE265014.037	%	60 - 130%	90
	TP14 0.0-0.1	SE265014.038	%	60 - 130%	107
	TP06 0.0-0.1	SE265014.039	%	60 - 130%	101
	SS16	SE265014.041	%	60 - 130%	96
	TP11 0.0-0.1	SE265014.042	%	60 - 130%	86
	TP13 0.0-0.1	SE265014.043	%	60 - 130%	80
	D2.9.5.24	SE265014.044	%	60 - 130%	111
	SS17	SE265014.045	%	60 - 130%	89
	SS19	SE265014.046	%	60 - 130%	115
	TP16 0.0-0.1	SE265014.047	%	60 - 130%	96
	TP17 0.0-0.1	SE265014.048	%	60 - 130%	75
	TP18 0.0-0.1	SE265014.049	%	60 - 130%	130
	TP19 0.0-0.1	SE265014.050	%	60 - 130%	104
	TP20 0.0-0.1	SE265014.051	%	60 - 130%	102
	TP21 0.0-0.1	SE265014.052	%	60 - 130%	99
	TP22 0.0-0.1	SE265014.053	%	60 - 130%	82
	TP24 0.0-0.1	SE265014.054	%	60 - 130%	101
	TP25 0.0-0.1	SE265014.055	%	60 - 130%	102
	TP26 0.0-0.1	SE265014.056	%	60 - 130%	99
	TP27 0.0-0.1	SE265014.057	%	60 - 130%	94
	TP28 0.0-0.1	SE265014.058	%	60 - 130%	98
d8-toluene (Surrogate)	SS11	SE265014.028	%	60 - 130%	100
	SS13	SE265014.030	%	60 - 130%	87
	SS14	SE265014.031	%	60 - 130%	91
	TP08 0.0-0.1	SE265014.032	%	60 - 130%	86
	SS18	SE265014.034	%	60 - 130%	82
	TP12 0.0-0.1	SE265014.035	%	60 - 130%	91
	D.9.5.24	SE265014.036	%	60 - 130%	91
	D1.9.5.24	SE265014.037	%	60 - 130%	87
	TP14 0.0-0.1	SE265014.038	%	60 - 130%	91
	TP06 0.0-0.1	SE265014.039	%	60 - 130%	85
	SS16	SE265014.041	%	60 - 130%	81
	TP11 0.0-0.1	SE265014.042	%	60 - 130%	83
	TP13 0.0-0.1	SE265014.043	%	60 - 130%	75
	D2.9.5.24	SE265014.044	%	60 - 130%	94

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)**Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	SS17	SE265014.045	%	60 - 130%	84
	SS19	SE265014.046	%	60 - 130%	97
	TP16 0.0-0.1	SE265014.047	%	60 - 130%	79
	TP17 0.0-0.1	SE265014.048	%	60 - 130%	73
	TP18 0.0-0.1	SE265014.049	%	60 - 130%	108
	TP19 0.0-0.1	SE265014.050	%	60 - 130%	99
	TP20 0.0-0.1	SE265014.051	%	60 - 130%	94
	TP21 0.0-0.1	SE265014.052	%	60 - 130%	96
	TP22 0.0-0.1	SE265014.053	%	60 - 130%	74
	TP24 0.0-0.1	SE265014.054	%	60 - 130%	93
	TP25 0.0-0.1	SE265014.055	%	60 - 130%	92
	TP26 0.0-0.1	SE265014.056	%	60 - 130%	89
	TP27 0.0-0.1	SE265014.057	%	60 - 130%	85
	TP28 0.0-0.1	SE265014.058	%	60 - 130%	92

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB312076.001	Exchangeable Sodium, Na	mg/kg	2	-0.266
	Exchangeable Potassium, K	mg/kg	2	0.0594
	Exchangeable Calcium, Ca	mg/kg	2	-0.3614
	Exchangeable Magnesium, Mg	mg/kg	2	-0.0287

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB312043.001	Mercury	mg/kg	0.05	<0.05
LB312044.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB312016.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	114
		2-fluorobiphenyl (Surrogate)	%	105
		d14-p-terphenyl (Surrogate)	%	112
LB312028.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	125
		2-fluorobiphenyl (Surrogate)	%	118
		d14-p-terphenyl (Surrogate)	%	117

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB312039.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB312039.001	Zinc, Zn	mg/kg	2	<2.0
LB312040.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB312016.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
LB312028.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB312017.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	74
		d8-toluene (Surrogate)	%	-	85
		Bromofluorobenzene (Surrogate)	%	-	87
	Totals	Total BTEX*	mg/kg	0.6	<0.3
LB312030.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	92
		d8-toluene (Surrogate)	%	-	92
		Bromofluorobenzene (Surrogate)	%	-	94
	Totals	Total BTEX*	mg/kg	0.6	<0.3

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB312017.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	74
LB312030.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	92

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury in Soil

Method: ME-(AU)-[ENV]JAN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014.039	LB312043.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE265014.049	LB312043.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE265018.001	LB312044.014	Mercury	mg/kg	0.05	0.19	0.14	61	32
SE265018.012	LB312044.021	Mercury	mg/kg	0.05	0.13	0.08	76	46

Moisture Content

Method: ME-(AU)-[ENV]JAN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014.039	LB312019.011	% Moisture	%w/w	1	30.4	29.8	33	2
SE265014.049	LB312019.021	% Moisture	%w/w	1	25.3	27.4	34	8
SE265014.058	LB312031.017	% Moisture	%w/w	1	17.5	16.0	36	9
SE265018.012	LB312031.025	% Moisture	%w/w	1	11.4	13.3	38	15

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE265011.025	LB312028.036	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0	
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0	
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0	
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0	
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0	
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0	
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0	
		Surrogates	Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
d5-nitrobenzene (Surrogate)	mg/kg		-	0.6	0.6	30	0		
2-fluorobiphenyl (Surrogate)	mg/kg		-	0.6	0.5	30	3		
d14-p-terphenyl (Surrogate)	mg/kg		-	0.6	0.6	30	1		
SE265014.039	LB312016.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0	
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0	
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0	
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0	
		Surrogates	Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
d5-nitrobenzene (Surrogate)	mg/kg		-	0.6	0.6	30	1		

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014.039	LB312016.014	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	1
SE265014.049	LB312016.024	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	30	1
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	1
SE265014.058	LB312028.037	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	30	13
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	16
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	11
SE265018.006	LB312028.034	Naphthalene	mg/kg	0.1	0.3	0.2	74	47
		2-methylnaphthalene	mg/kg	0.1	0.1	<0.1	145	21
		1-methylnaphthalene	mg/kg	0.1	0.1	<0.1	161	19
		Acenaphthylene	mg/kg	0.1	1.7	0.7	39	85 @
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	184	0
		Fluorene	mg/kg	0.1	0.6	0.1	55	127 @
		Phenanthrene	mg/kg	0.1	13	2.8	31	128 @
		Anthracene	mg/kg	0.1	3.1	1.0	35	104 @
		Fluoranthene	mg/kg	0.1	18	7.7	31	82 @

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265018.006	LB312028.034	Pyrene	mg/kg	0.1	21	8.8	31	82 @
		Benzo(a)anthracene	mg/kg	0.1	10	4.6	31	73 @
		Chrysene	mg/kg	0.1	11	4.9	31	72 @
		Benzo(b&j)fluoranthene	mg/kg	0.1	10	5.8	31	57 @
		Benzo(k)fluoranthene	mg/kg	0.1	3.9	2.0	33	66 @
		Benzo(a)pyrene	mg/kg	0.1	10	5.5	31	60 @
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	6.0	3.3	32	58 @
		Dibenzo(ah)anthracene	mg/kg	0.1	1.3	0.7	40	62 @
		Benzo(ghi)perylene	mg/kg	0.1	5.6	3.1	32	59 @
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	15	7.8	12	61 @
			TEQ (mg/kg)	0.2	15	7.8	12	61 @
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	15	7.8	12	61 @
			TEQ (mg/kg)	0.2	15	7.8	12	61 @
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	15	7.8	13	61 @
			TEQ (mg/kg)	0.3	15	7.8	13	61 @
		Total PAH (18)	mg/kg	0.8	120	51	30	78 @
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	30	1
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.6	30	3

pH in soil (1:5)

Method: ME-(AU)-[ENV]JAN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014.057	LB312127.006	pH	pH Units	0.1	4.5	4.5	32	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014.039	LB312039.014	Arsenic, As	mg/kg	1	<1	<1	200	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	<0.5	<0.5	151	0
		Copper, Cu	mg/kg	0.5	1.5	1.9	60	25
		Nickel, Ni	mg/kg	0.5	<0.5	<0.5	200	0
		Lead, Pb	mg/kg	1	4	5	52	24
		Zinc, Zn	mg/kg	2	6.0	8.5	58	34
SE265014.049	LB312039.024	Arsenic, As	mg/kg	1	<1	<1	200	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	<0.5	<0.5	200	0
		Copper, Cu	mg/kg	0.5	2.5	2.0	52	21
		Nickel, Ni	mg/kg	0.5	<0.5	<0.5	200	0
		Lead, Pb	mg/kg	1	4	4	56	7
		Zinc, Zn	mg/kg	2	5.5	5.4	67	2
SE265018.012	LB312040.023	Arsenic, As	mg/kg	1	3	3	63	7
		Cadmium, Cd	mg/kg	0.3	0.3	0.3	118	4
		Chromium, Cr	mg/kg	0.5	5.3	4.9	40	9
		Copper, Cu	mg/kg	0.5	20	20	32	3
		Nickel, Ni	mg/kg	0.5	2.2	2.0	53	10
		Lead, Pb	mg/kg	1	160	190	31	17
		Zinc, Zn	mg/kg	2	400	260	31	42 @

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265011.025	LB312028.034	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
		TRH F Bands						

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE265014.039	LB312016.014	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	170	0	
		TRH C29-C36	mg/kg	45	83	83	84	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	163	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	92	100	124	8	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	
SE265014.049	LB312016.024	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	
SE265014.058	LB312028.035	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	160	0	
		TRH C29-C36	mg/kg	45	130	110	68	19	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	130	<110	123	16	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	194	0	
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0	
		TRH >C16-C34 (F3)	mg/kg	90	130	120	100	7	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	
SE265018.006	LB312028.036	TRH C10-C14	mg/kg	20	21	<20	152	3	
		TRH C15-C28	mg/kg	45	440	290	42	42	
		TRH C29-C36	mg/kg	45	230	190	51	23	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	690	470	49	38	
		TRH >C10-C40 Total (F bands)	mg/kg	210	630	420	70	40	
		TRH F Bands	TRH >C10-C16	mg/kg	25	31	<25	135	22
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	31	<25	190	22	
		TRH >C16-C34 (F3)	mg/kg	90	600	420	48	36	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	144	0	

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265011.025	LB312030.010	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	8.5	50	3
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.5	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	9.0	50	0
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.3	200	0
	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0		
SE265014.039	LB312017.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	8.3	50	20

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014.039	LB312017.014	Surrogates	d8-toluene (Surrogate)	mg/kg	-	8.5	7.8	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	8.2	50
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.3	200
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200
SE265014.049	LB312017.024	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200
			Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200
			o-xylene	mg/kg	0.1	<0.1	<0.1	200
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	13.0	9.6	50
			d8-toluene (Surrogate)	mg/kg	-	10.8	9.0	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	9.5	50
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.3	200
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200
SE265014.058	LB312030.022	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200
			Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200
			o-xylene	mg/kg	0.1	<0.1	<0.1	200
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.8	9.9	50
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.0	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.6	50
		Totals	Total BTEX*	mg/kg	0.6	<0.3	<0.3	200
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200
SE265018.012	LB312030.030	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200
			Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200
			o-xylene	mg/kg	0.1	<0.1	<0.1	200
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	8.6	50
			d8-toluene (Surrogate)	mg/kg	-	9.0	8.4	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	8.9	50
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.3	200
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265011.025	LB312030.010		TRH C6-C10	mg/kg	25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	8.5	50
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.5	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	9.0	50
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	200	0
SE265014.039	LB312017.014		TRH C6-C10	mg/kg	25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	8.3	50
			d8-toluene (Surrogate)	mg/kg	-	8.5	7.8	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	8.2	50
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	200	0
SE265014.049	LB312017.024		TRH C6-C10	mg/kg	25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	13.0	9.6	50
			d8-toluene (Surrogate)	mg/kg	-	10.8	9.0	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	9.5	50
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014.058	LB312030.022	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.8	9.9	50	0
		d8-toluene (Surrogate)	mg/kg	-	9.2	9.0	50	3
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.6	50	2
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
SE265018.012	LB312030.030	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
		TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	8.6	50	5
		d8-toluene (Surrogate)	mg/kg	-	9.0	8.4	50	7
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	8.9	50	6
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]JAN122

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312076.002	Exchangeable Sodium, Na	meq/100g	0.01	0.16	0.194	80 - 120	82
	Exchangeable Potassium, K	meq/100g	0.01	0.57	0.63	80 - 120	91
	Exchangeable Calcium, Ca	meq/100g	0.01	5.6	6.3	80 - 120	88
	Exchangeable Magnesium, Mg	meq/100g	0.02	0.91	1.11	80 - 120	82

Mercury in Soil

Method: ME-(AU)-[ENV]JAN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312043.002	Mercury	mg/kg	0.05	0.19	0.2	80 - 120	96
LB312044.002	Mercury	mg/kg	0.05	0.20	0.2	80 - 120	102

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312016.002	Naphthalene	mg/kg	0.1	4.6	4	60 - 140	116
	Acenaphthylene	mg/kg	0.1	4.6	4	60 - 140	115
	Acenaphthene	mg/kg	0.1	4.8	4	60 - 140	119
	Phenanthrene	mg/kg	0.1	4.5	4	60 - 140	113
	Anthracene	mg/kg	0.1	4.9	4	60 - 140	122
	Fluoranthene	mg/kg	0.1	4.8	4	60 - 140	119
	Pyrene	mg/kg	0.1	4.4	4	60 - 140	110
	Benzo(a)pyrene	mg/kg	0.1	5.1	4	60 - 140	127
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	112
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	108
LB312028.002	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99
	Naphthalene	mg/kg	0.1	5.0	4	60 - 140	125
	Acenaphthylene	mg/kg	0.1	4.9	4	60 - 140	123
	Acenaphthene	mg/kg	0.1	5.1	4	60 - 140	128
	Phenanthrene	mg/kg	0.1	4.9	4	60 - 140	123
	Anthracene	mg/kg	0.1	5.3	4	60 - 140	133
	Fluoranthene	mg/kg	0.1	5.1	4	60 - 140	126
	Pyrene	mg/kg	0.1	5.5	4	60 - 140	138
	Benzo(a)pyrene	mg/kg	0.1	5.3	4	60 - 140	133
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	109
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	111
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	113

pH in soil (1:5)

Method: ME-(AU)-[ENV]JAN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312127.003	pH	pH Units	0.1	7.4	7.415	98 - 102	99

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312039.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	3.8	4.81	70 - 130	80
	Chromium, Cr	mg/kg	0.5	33	38.31	80 - 120	86
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	98
	Nickel, Ni	mg/kg	0.5	160	187	80 - 120	87
	Lead, Pb	mg/kg	1	88	89.9	80 - 120	98
	Zinc, Zn	mg/kg	2	260	273	80 - 120	94
LB312040.002	Arsenic, As	mg/kg	1	360	318.22	80 - 120	112
	Cadmium, Cd	mg/kg	0.3	4.6	4.81	70 - 130	95
	Chromium, Cr	mg/kg	0.5	40	38.31	80 - 120	104
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	110
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	100
	Lead, Pb	mg/kg	1	96	89.9	80 - 120	107
	Zinc, Zn	mg/kg	2	290	273	80 - 120	106

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN403

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312016.002	TRH C10-C14	mg/kg	20	41	40	60 - 140	102
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	104
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	80
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	42	40	60 - 140	105
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	95
LB312028.002	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	78
	TRH C10-C14	mg/kg	20	40	40	60 - 140	100
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	88
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	75
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	39	40	60 - 140	98
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	80
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312017.002	Monocyclic	Benzene	mg/kg	0.1	4.3	5	60 - 140	86
	Aromatic	Toluene	mg/kg	0.1	4.6	5	60 - 140	92
		Ethylbenzene	mg/kg	0.1	4.7	5	60 - 140	93
		m/p-xylene	mg/kg	0.2	9.4	10	60 - 140	94
		o-xylene	mg/kg	0.1	4.7	5	60 - 140	94
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	10	70 - 130
	d8-toluene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104	
	Bromofluorobenzene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104	
	LB312030.002	Monocyclic	Benzene	mg/kg	0.1	4.1	5	60 - 140
Aromatic		Toluene	mg/kg	0.1	4.4	5	60 - 140	88
		Ethylbenzene	mg/kg	0.1	4.5	5	60 - 140	89
		m/p-xylene	mg/kg	0.2	9.1	10	60 - 140	91
		o-xylene	mg/kg	0.1	4.6	5	60 - 140	93
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	10	70 - 130
d8-toluene (Surrogate)		mg/kg	-	9.5	10	70 - 130	95	
Bromofluorobenzene (Surrogate)		mg/kg	-	9.1	10	70 - 130	91	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB312017.002	TRH C6-C10	mg/kg	25	82	92.5	60 - 140	88	
	TRH C6-C9	mg/kg	20	71	80	60 - 140	89	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	10	70 - 130	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	54	62.5	60 - 140	87
LB312030.002	TRH C6-C10	mg/kg	25	70	92.5	60 - 140	76	
	TRH C6-C9	mg/kg	20	61	80	60 - 140	76	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	10	70 - 130	94
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.1	10	70 - 130	91
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	62.5	60 - 140	70

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014.028	LB312043.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	99
SE265014.050	LB312044.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	107

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265011.020	LB312028.004	Naphthalene	mg/kg	0.1	4.8	<0.1	4	120
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.8	<0.1	4	118
		Acenaphthene	mg/kg	0.1	4.9	<0.1	4	123
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.8	<0.1	4	120
		Anthracene	mg/kg	0.1	5.1	<0.1	4	126
		Fluoranthene	mg/kg	0.1	4.9	<0.1	4	122
		Pyrene	mg/kg	0.1	5.2	<0.1	4	129
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	5.2	<0.1	4	130
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	5.2	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	5.3	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	5.4	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	40	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	-	111
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.6	-	107
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	106
SE265014.028	LB312016.004	Naphthalene	mg/kg	0.1	4.6	<0.1	4	113
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.6	<0.1	4	115
		Acenaphthene	mg/kg	0.1	4.6	<0.1	4	116
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.5	<0.1	4	112
		Anthracene	mg/kg	0.1	4.6	<0.1	4	115
		Fluoranthene	mg/kg	0.1	4.6	<0.1	4	115
		Pyrene	mg/kg	0.1	4.2	<0.1	4	105
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.8	<0.1	4	121
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.8	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.9	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	5.0	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	37	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	-	112
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	-	111
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.6	-	99

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)
Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014.028	LB312039.004	Arsenic, As	mg/kg	1	46	1	50	89
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	81
		Chromium, Cr	mg/kg	0.5	45	0.5	50	89
		Copper, Cu	mg/kg	0.5	49	2.9	50	91
		Nickel, Ni	mg/kg	0.5	44	0.9	50	87
		Lead, Pb	mg/kg	1	48	5	50	88
SE265014.050	LB312040.004	Zinc, Zn	mg/kg	2	51	8.1	50	85
		Arsenic, As	mg/kg	1	52	1	50	102
		Cadmium, Cd	mg/kg	0.3	46	<0.3	50	92
		Chromium, Cr	mg/kg	0.5	51	<0.5	50	101
		Copper, Cu	mg/kg	0.5	55	2.3	50	105
		Nickel, Ni	mg/kg	0.5	50	<0.5	50	100
		Lead, Pb	mg/kg	1	56	6	50	101
		Zinc, Zn	mg/kg	2	58	8.6	50	100

TRH (Total Recoverable Hydrocarbons) in Soil
Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265011.020	LB312028.004	TRH C10-C14	mg/kg	20	45	<20	40	110
		TRH C15-C28	mg/kg	45	<45	<45	40	96
		TRH C29-C36	mg/kg	45	<45	<45	40	76
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F	mg/kg	25	44	<25	40	107
		Bands	mg/kg	25	44	<25	-	-
SE265014.028	LB312016.004	TRH >C10-C16	mg/kg	90	<90	<90	40	83
		TRH >C16-C34 (F3)	mg/kg	120	<120	<120	-	-
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
		TRH C10-C14	mg/kg	20	60	<20	40	133
		TRH C15-C28	mg/kg	45	70	<45	40	137
		TRH C29-C36	mg/kg	45	74	<45	40	122
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	200	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F	mg/kg	25	62	<25	40	138
		Bands	mg/kg	25	62	<25	-	-
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	90	96	<90	40	147
		TRH >C16-C34 (F3)	mg/kg	120	<120	<120	-	-
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil
Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265011.020	LB312030.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.3	<0.1	5	85
			Toluene	mg/kg	0.1	4.7	<0.1	5	94
			Ethylbenzene	mg/kg	0.1	4.8	<0.1	5	96
			m/p-xylene	mg/kg	0.2	9.8	<0.2	10	98
			o-xylene	mg/kg	0.1	5.1	<0.1	5	101
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	7.9	10	80
			d8-toluene (Surrogate)	mg/kg	-	7.8	7.9	10	78
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	8.2	10	82
		Totals	Total BTEX*	mg/kg	0.6	29	<0.6	-	-
	Total Xylenes*	mg/kg	0.3	15	<0.3	-	-		
SE265014.028	LB312017.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	5.6	<0.1	5	113
			Toluene	mg/kg	0.1	5.2	<0.1	5	104
			Ethylbenzene	mg/kg	0.1	6.0	<0.1	5	121
			m/p-xylene	mg/kg	0.2	14	<0.2	10	136
			o-xylene	mg/kg	0.1	6.3	<0.1	5	127
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.6	9.6	10	96
			d8-toluene (Surrogate)	mg/kg	-	8.5	10.0	10	85
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.3	10	93
		Totals	Total BTEX*	mg/kg	0.6	37	<0.6	-	-
	Total Xylenes*	mg/kg	0.3	20	<0.3	-	-		

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265011.020	LB312030.004	TRH C6-C10	mg/kg	25	76	<25	92.5	81
		TRH C6-C9	mg/kg	20	66	<20	80	81
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	7.9	10	80
		d8-toluene (Surrogate)	mg/kg	-	7.8	7.9	10	78
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	8.2	-	82
		VPH F						
		Benzene (F0)	mg/kg	0.1	4.3	<0.1	-	-
		Bands						
SE265014.028	LB312017.004	TRH C6-C10 minus BTEX (F1)	mg/kg	25	48	<25	62.5	74
		TRH C6-C10	mg/kg	25	81	<25	92.5	87
		TRH C6-C9	mg/kg	20	73	<20	80	92
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.6	9.6	10	96
		d8-toluene (Surrogate)	mg/kg	-	8.5	10.0	10	85
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.3	-	93
		VPH F						
		Benzene (F0)	mg/kg	0.1	5.6	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	<25	62.5	70

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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Company		Qualitest		Project No		NEW24P-0090		Project Manager		Emma Coleman		Sample(s)		Billy Snow	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		GNAPL - ASTRA		EDD Format ES&H, EOLIS etc		Excel		Handed over by			
Contact Name		Emma Coleman		Analyses		Suite CL10 (TRH, BTEX, PAH, Metals)						Email for Invoice		accounts@qualitest.com.au	
Phone No		0429 359 411		Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.		PFAS						Email for Results		libbyr@qualitest.com.au billysnow@qualitest.com.au lewis@qualitest.com.au tomh@qualitest.com.au	
Special Directions						Asbestos (NEPM %w/w)						Containers		Required Turnaround Time (TAT) Default will be 5 days if not listed.	
Purchase Order						pH & Cation Exchange Capacity						500mL Plastic		250mL Plastic	
Quote ID No		QUAL-IE-OCT23-1464084										125mL Plastic		200mL Amber Glass	
No		Client Sample ID		Sampled Date/Time advisory therm		Matrix Soil (S) Water (W)						40mL VOA vial		500mL PFAS Bottle	
1		SP4-1		9/05/24		SOIL		X		X		Jar (Glass or HDPE)		Other (Asbestos AS4964, WA Guidelines)	
2		SP4-2		9/05/24		SOIL		X		X					
3		SP4-3		9/05/24		SOIL		X		X					
4		SP4-4		9/05/24		SOIL		X		X					
5		SP4-5		9/05/24		SOIL		X		X					
6		SP4-6		9/05/24		SOIL		X		X					
7		SP4-7		9/05/24		SOIL		X		X					
8		SP4-8		9/05/24		SOIL		X		X					
9		SP4-9		9/05/24		SOIL		X		X					
10		SP4-10		9/05/24		SOIL		X		X					
		Total Counts						10		10		10		10	
Method of Shipment		☐ Courier (#) ☐ Hand Delivered		☐ Postal		Name		Signature		Date		Time		Temperature	
Laboratory Use Only		Received By		Received By		Signature		Date		Time		Report No		F.L	
Eurofins Environment Testing Australia Pty Ltd		Murray													
Subsection of samples to the laboratory will be obtained as accordance of Eurofins Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.															

Company	Questest	Project No	NEW24P-0090	Project Manager	Emma Coleman	Sampler(s)	Billy Snow					
Address	2 Murray Dwyer Circuit NSW 2304	Project Name	GNAPL - ASTRA	EDD Format	Excel	Handed over by						
Contact Name	Emma Coleman					Email for Invoice	accounts@questest.com.au					
Phone No	0429 359 411					Email for Results	lbb@bete@questest.com.au billysnow@questest.com.au lmc@questest.com.au					
Special Directions		Analyses	Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.									
Purchase Order		Suite CL10 (TRH, BTEX, PAH, Metals)										
Quote ID No	QUAL-IE-OCT23-1464084	PFAS										
		Asbestos (NEPM %w/w)										

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

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

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

Company	Qualtest	Project No	NEW24P-0090	Project Manager	Emma Coleman	Sampler(s)	Billy Snow
Address	2 Murray Dwyer Circuit NSW 2304	Project Name	GNAPL - ASTRA	EDD Format	Excel	Handed over by	
Contact Name	Emma Coleman			Essid, EOU sub		Email for Invoice	accounts@qualtest.com.au
Phone No	0423 359 411					Email for Results	libbybet@qualtest.com.au billysnow@qualtest.com.au tomhall@qualtest.com.au
Special Directions		Analyses	Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.				
Purchase Order			Suite CL10 (TRH, BTEX, PAH, Metals)				
Quote ID No	QUAL-IE-OCT23-1464084		PFAS				
			Asbestos (NEPM %w/w)				
			Eurofins Suite B7 (TRH, BTEX, PAH, Metals) - Quote 180622QUAN-3				
No	Client Sample ID	Sampled Date/Time differently than	Matrix Solid (S) Water (W)				
1	46 SS19	9/05/24	SOIL	X	X		
2	47 TP16 0.0-0.1	9/05/24	SOIL	X	X		
3	TP16 0.2-0.3	9/05/24	SOIL				
4	48 TP17 0.0-0.1	9/05/24	SOIL	X	X		
5	TP17 0.2-0.3	9/05/24	SOIL				
6	49 TP18 0.0-0.1	9/05/24	SOIL	X	X		
7	TP18 0.2-0.3	9/05/24	SOIL				
8	50 TP19 0.0-0.1	9/05/24	SOIL	X	X		
9	TP19 0.2-0.3	9/05/24	SOIL				
10	51 TP20 0.0-0.1	9/05/24	SOIL	X	X		
Total Counts				6	6		
Method of Shipment	☐ Courier #	☐ Hand Delivered	☐ Postal	Name	Signature	Date	Time
Laboratory Use Only	Received By	Received By	Signature	Signature	Date	Time	Temperature
	Received By	Received By	Signature	Signature	Date	Time	Report No

500mL Plastic
250mL Plastic
125mL Plastic
200mL Amber Glass
40mL VOA vial
500mL PFAS Bottle
Jar (Glass or HDPE)
Other (Asbestos AS4964, WA Guidelines)

Sample Comments
/ Dangerous Goods Hazard Warning

Containers
Change container type & size if necessary.

Required Turnaround Time (TAT)

Default will be 5 days if not ticked.

Overnight (reporting by 9am) ☐

Same day ☐ 1 day ☒

2 days ☐ 3 days ☐

5 days (Standard) ☐

Other ☐

Surcharge will apply

libbybet@qualtest.com.au emmacoleman@qualtest.com.au

billysnow@qualtest.com.au tomhall@qualtest.com.au

tomhall@qualtest.com.au

Required Turnaround Time (TAT)

Default will be 5 days if not ticked.

Overnight (reporting by 9am) ☐

Same day ☐ 1 day ☒

2 days ☐ 3 days ☐

5 days (Standard) ☐

Other ☐

Company		Qualitest		Project No		NEW24P-0090	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		GNAPL - ASTRA	
Contact Name		Emma Coleman		EDD Format		Excel	
Phone No		0429 359 411		Eurofins Suite B7 (TRH, BTEX, PAH, Metals) - Quote 180622QUAN-3			
Special Directions				Suite CL10 (TRH, BTEX, PAH, Metals)			
Purchase Order				PFAS			
Quote ID No		QUAL-IE-OCT23-1464084		Asbestos (NEPM %w/w)			
Analyses		Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.					
Client Sample ID		Sampled Date/Time dd/mm/yyyy hh:mm		Matrix Solid (S) Wider (W)			
1		TP20 0.2-0.3		9/05/24		SOIL	
2		TP21 0.0-0.1		9/05/24		SOIL	
3		TP21 0.2-0.3		9/05/24		SOIL	
4		TP22 0.0-0.1		9/05/24		SOIL	
5		TP22 0.2-0.3		9/05/24		SOIL	
6		TP24 0.0-0.1		9/05/24		SOIL	
7		TP24 0.2-0.3		9/05/24		SOIL	
8		TP25 0.0-0.1		9/05/24		SOIL	
9		TP25 0.2-0.3		9/05/24		SOIL	
10		TP26 0.0-0.1		9/05/24		SOIL	
Total Counts		5		5			
Method of Shipment		☐ Courier #) ☐ Hand Delivered		☐ Postal		Name	
Laboratory Use Only		Received By A. Coleman		Signature		Date	
Received By		Signature		Signature		Date	
Signature		Signature		Signature		Date	
Date		Date		Date		Date	
Time		Time		Time		Time	
Report No		Report No		Report No		Report No	
Temperature		Temperature		Temperature		Temperature	
5:2		5:2		5:2		5:2	

500mL Plastic

250mL Plastic

125mL Plastic

200mL Amber Glass

40mL VOA vial

500mL PFAS Bottle

Jar (Glass or HDPE)

Other (Asbestos AS4964, WA Guidelines)

Overnight (reporting by 9am) ♦

Same day ♦

1 day ♦

2 days ♦

3 days (Standard)

Other

Sample Comments

Dangerous Goods Hazard Warning

Handed over by

Bill Snow

Email for Invoice

accounts@qualitest.com.au

Email for Results

lillyb@qualitest.com.au

Required Turnaround Time (TAT)

Default will be 5 days if not ticked

Containers

Charge container type & size if necessary

Signature

Signature

NEW24P-0090 Received 2024-05-10 Annotated

AU.SampleReceipt.Sydney, AU (Sydney) <AU.SampleReceipt.Sydney@sgs.com>

Fri 10/05/2024 1:50 PM

To: Emma Coleman <EmmaColeman@qualtest.com.au>

Cc: AU.SampleReceipt.Sydney, AU (Sydney) <AU.SampleReceipt.Sydney@sgs.com>

 1 attachments (4 MB)

Qualtest_NEW24P-0090_2024-05-10.pdf;

Hi Emma,

Attached is the annotated COC marking which containers were not received. Three things to note:

- TP18 and 19 are listed twice, see pages 6 and 7
- See below for unlisted samples and containers (J = 250mL Jar, P = PFAS, A = ASB)
 - TP11 0.0-0.1 JPA
 - TP11 0.4-0.5 JP
 - TP12 0.2-0.3 JP
 - TP13 0.0-0.1 JPA
 - TP13 0.2-0.3 JP
 - TP17 0.4-0.5 JP
 - TP17 0.9-1.0 P
 - TP17 1.4-1.5 P
 - TP24 0.9-1.0 JPA
 - TP28 04-0.5 JP
 - TP28 0.9-1.0 JP
- TP14 0.4-0.5 Acid Sulphate Suite sample received

We'll book as much of the job as we can, please advise if any of the missing containers are expected to arrive for this job.

Regards,

Michael Bousquet
Sydney Sample Receipt Team
Environment, Health & Safety
Sample Receipt

SGS Australia Pty Ltd
Unit 16, 33 Maddox Street



ANALYTICAL REPORT



Accreditation No. 2562

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
Address 2 MURRAY DWYER CIRCUIT
MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au
Project **NEW24P-0090 - GNAPL - ASTRA**
Order Number **NEW24P-0090**
Samples 21

LABORATORY DETAILS

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SGS Reference **SE265014 R0**
Date Received 10 May 2024
Date Reported 13 May 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample #6: Asbestos found in approx 10x4x2mm cement sheet fragment.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

S. Ravee

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE265014.002	SP4-2	Soil	660g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.003	SP4-3	Soil	540g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.004	SP4-4	Soil	565g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.005	SP4-5	Soil	317g Sand, Soil, Rocks	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.006	SP4-6	Soil	771g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.007	SP4-7	Soil	597g Sand, Soil, Rocks	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.008	SP4-8	Soil	578g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.009	SP4-9	Soil	550g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.010	SP4-10	Soil	622g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.011	SP6-1	Soil	500g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.012	SP6-2	Soil	453g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.013	SP6-3	Soil	488g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.014	SP6-4	Soil	396g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.015	SP6-5	Soil	281g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.016	SP6-6	Soil	345g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.017	SP6-7	Soil	435g Sand, Soil, Rocks, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.018	SP6-8	Soil	531g Sand, Soil, Plant Matter	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE265014.019	SP6-9	Soil	483g Sand, Soil, Rocks	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE265014.020	SP6-10	Soil	538g Sand, Soil, Rocks	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE265014.024	SS7	Soil	657g Clay, Sand, Soil, Rocks	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE265014.026	SS9	Soil	488g Clay, Sand, Soil, Rocks	09 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01



RESULTS

Fibre Identification in soil

Method AN602

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.002	9/5/2024 SE265014.003	9/5/2024 SE265014.004	9/5/2024 SE265014.005	9/5/2024 SE265014.006
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	660	540	565	617	771
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.0594
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	0.008
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	0.008
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	Chrysotile

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.007	9/5/2024 SE265014.008	9/5/2024 SE265014.009	9/5/2024 SE265014.010	9/5/2024 SE265014.011
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	597	578	550	622	500
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014.012	9/5/2024 SE265014.013	9/5/2024 SE265014.014	9/5/2024 SE265014.015	9/5/2024 SE265014.016
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	453	488	396	281	345
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS7
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014.017	9/5/2024 SE265014.018	9/5/2024 SE265014.019	9/5/2024 SE265014.020	9/5/2024 SE265014.024
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00
Total Sample Weight*	g	1	435	531	483	538	657
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	SS9
			SOIL
			-
			9/5/2024 SE265014.026
Date Analysed*	No unit	-	13/05/2024 00:00
Total Sample Weight*	g	1	488
Bonded ACM in >7mm Sample*	g	0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001
Fibre Type*	No unit	-	NAD

METHOD

METHODOLOGY SUMMARY

AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.
AN605	Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.
AN-605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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SAMPLE RECEIPT ADVICE

SE265014

CLIENT DETAILS

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Project **NEW24P-0090 - GNAPL - ASTRA**
Order Number **NEW24P-0090**
Samples 58

LABORATORY DETAILS

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Samples Received Fri 10/5/2024
Report Due Mon 13/5/2024
SGS Reference **SE265014**

SUBMISSION DETAILS

This is to confirm that 58 samples were received on Friday 10/5/2024. Results are expected to be ready by COB Monday 13/5/2024. Please quote SGS reference SE265014 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	49 Soil	Type of documentation received	COC
Date documentation received	10/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice	Samples clearly labelled	No
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS reported in SE265014A
25 Soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.
SP4-1 not received.
Red dot container listed not received.
Extra Samples Received: TP24 0.9-1.0, TP28 0.4-0.5, TP28 0.9-1.0

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



SAMPLE RECEIPT ADVICE

SE265014

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
028	SS11	-	26	-	7	10	11	7
030	SS13	-	26	-	7	10	11	7
031	SS14	-	26	-	7	10	11	7
032	TP08 0.0-0.1	-	26	-	7	10	11	7
034	SS18	-	26	-	7	10	11	7
035	TP12 0.0-0.1	13	26	1	7	10	11	7
036	D.9.5.24	-	26	-	7	10	11	7
037	D1.9.5.24	-	26	-	7	10	11	7
038	TP14 0.0-0.1	-	26	-	7	10	11	7
039	TP06 0.0-0.1	-	26	-	7	10	11	7
041	SS16	-	26	-	7	10	11	7
042	TP11 0.0-0.1	-	26	-	7	10	11	7
043	TP13 0.0-0.1	-	26	-	7	10	11	7
044	D2.9.5.24	-	26	-	7	10	11	7
045	SS17	-	26	-	7	10	11	7
046	SS19	-	26	-	7	10	11	7
047	TP16 0.0-0.1	-	26	-	7	10	11	7
048	TP17 0.0-0.1	-	26	-	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details.

Testing as per this table shall commence immediately unless the client intervenes with a correction.



SAMPLE RECEIPT ADVICE

SE265014

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
049	TP18 0.0-0.1	-	26	-	7	10	11	7
050	TP19 0.0-0.1	-	26	-	7	10	11	7
051	TP20 0.0-0.1	-	26	-	7	10	11	7
052	TP21 0.0-0.1	-	26	-	7	10	11	7
053	TP22 0.0-0.1	-	26	-	7	10	11	7
054	TP24 0.0-0.1	-	26	-	7	10	11	7
055	TP25 0.0-0.1	-	26	-	7	10	11	7
056	TP26 0.0-0.1	-	26	-	7	10	11	7
057	TP27 0.0-0.1	13	26	1	7	10	11	7
058	TP28 0.0-0.1	-	26	-	7	10	11	7

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE265014

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil
002	SP4-2	3	10
003	SP4-3	3	10
004	SP4-4	3	10
005	SP4-5	3	10
006	SP4-6	3	10
007	SP4-7	3	10
008	SP4-8	3	10
009	SP4-9	3	10
010	SP4-10	3	10
011	SP6-1	3	10
012	SP6-2	3	10
013	SP6-3	3	10
014	SP6-4	3	10
015	SP6-5	3	10
016	SP6-6	3	10
017	SP6-7	3	10
018	SP6-8	3	10
019	SP6-9	3	10
020	SP6-10	3	10
024	SS7	3	10

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE265014

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content
026	SS9	3	10	-	-
028	SS11	-	-	1	1
030	SS13	-	-	1	1
031	SS14	-	-	1	1
032	TP08 0.0-0.1	-	-	1	1
034	SS18	-	-	1	1
035	TP12 0.0-0.1	-	-	1	1
036	D.9.5.24	-	-	1	1
037	D1.9.5.24	-	-	1	1
038	TP14 0.0-0.1	-	-	1	1
039	TP06 0.0-0.1	-	-	1	1
041	SS16	-	-	1	1
042	TP11 0.0-0.1	-	-	1	1
043	TP13 0.0-0.1	-	-	1	1
044	D2.9.5.24	-	-	1	1
045	SS17	-	-	1	1
046	SS19	-	-	1	1
047	TP16 0.0-0.1	-	-	1	1
048	TP17 0.0-0.1	-	-	1	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE265014

CLIENT DETAILS

Client QUALTEST LABORATORY NSW PTY LTD

Project NEW24P-0090 - GNAPL - ASTRA

SUMMARY OF ANALYSIS

		Mercury in Soil	Moisture Content
No.	Sample ID		
049	TP18 0.0-0.1	1	1
050	TP19 0.0-0.1	1	1
051	TP20 0.0-0.1	1	1
052	TP21 0.0-0.1	1	1
053	TP22 0.0-0.1	1	1
054	TP24 0.0-0.1	1	1
055	TP25 0.0-0.1	1	1
056	TP26 0.0-0.1	1	1
057	TP27 0.0-0.1	1	1
058	TP28 0.0-0.1	1	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



ANALYTICAL REPORT



Accreditation No. 2562

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
Address 2 MURRAY DWYER CIRCUIT
MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au
Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**
Order Number **NEW24P-0090**
Samples 58

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
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Telephone +61 2 8594 0400
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Email au.environmental.sydney@sgs.com
SGS Reference **SE265014A R0**
Date Received 10/5/2024
Date Reported 17/5/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Numbe. 2562/14420. Report No ME351605

SIGNATORIES

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 17/5/2024

PARAMETER	UOM	LOR	SS11	SS12	SS14	TP08 0.0-0.1	TP07 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014A.028	9/5/2024 SE265014A.029	9/5/2024 SE265014A.031	9/5/2024 SE265014A.032	9/5/2024 SE265014A.033
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.0031	0.0038	<0.0016	0.0024	0.0020
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.024	0.043	0.0085	0.044	0.041
Sum PFOS and PFHXS	mg/kg	0.0016	0.027	0.047	0.0085	0.046	0.043
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.024	0.043	0.0085	0.044	0.041
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.027	0.047	0.0085	0.046	0.043
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	0.0036	<0.0016	<0.0016	0.0029
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	<0.08	<0.08	<0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 17/5/2024 (continued)

PARAMETER	UOM	LOR	SS18	TP12 0.0-0.1	D1.9.5.24	TP14 0.0-0.1	TP06 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014A.034	9/5/2024 SE265014A.035	9/5/2024 SE265014A.037	9/5/2024 SE265014A.038	9/5/2024 SE265014A.039
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.0081	0.0021	0.0043	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.045	0.034	0.057	<0.0016	0.013
Sum PFOS and PFHXS	mg/kg	0.0016	0.053	0.036	0.061	<0.0016	0.013
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.045	0.034	0.057	<0.0016	0.013
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.053	0.036	0.061	<0.0016	0.013
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	<0.08	<0.08	<0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 17/5/2024 (continued)

PARAMETER	UOM	LOR	TP09 0.0-0.1	SS16	TP11 0.0-0.1	TP13 0.0-0.1	D2.9.5.24
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014A.040	9/5/2024 SE265014A.041	9/5/2024 SE265014A.042	9/5/2024 SE265014A.043	9/5/2024 SE265014A.044
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	0.0010	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.0058	<0.0016	0.0039	0.010	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.043	0.0017	0.081	0.15	0.0021
Sum PFOS and PFHXS	mg/kg	0.0016	0.049	0.0017	0.085	0.16	0.0021
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.043	0.0017	0.081	0.15	0.0021
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.049	0.0017	0.085	0.16	0.0021
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.0021	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	0.08	0.16	<0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 17/5/2024 (continued)

PARAMETER	UOM	LOR	SS17	SS19	TP16 0.0-0.1	TP17 0.0-0.1	TP18 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014A.045	9/5/2024 SE265014A.046	9/5/2024 SE265014A.047	9/5/2024 SE265014A.048	9/5/2024 SE265014A.049
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	0.0032	0.0043	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	0.035	0.055	0.0029	0.0045
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	0.038	0.059	0.0029	0.0045
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.035	0.055	0.0029	0.0045
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.038	0.059	0.0029	0.0045
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	<0.08	<0.08	<0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 17/5/2024 (continued)

PARAMETER	UOM	LOR	TP19 0.0-0.1	TP20 0.0-0.1	TP21 0.0-0.1	TP22 0.0-0.1	TP24 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014A.050	9/5/2024 SE265014A.051	9/5/2024 SE265014A.052	9/5/2024 SE265014A.053	9/5/2024 SE265014A.054
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.0088	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	0.0054	0.0028	0.046	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	0.0054	0.0028	0.055	<0.0016
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.0054	0.0028	0.046	<0.0016
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	<0.0016	0.0054	0.0028	0.055	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	<0.08	<0.08	<0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 17/5/2024 (continued)

PARAMETER	UOM	LOR	TP25 0.0-0.1	TP26 0.0-0.1	TP27 0.0-0.1	TP28 0.0-0.1
			SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014A.055	9/5/2024 SE265014A.056	9/5/2024 SE265014A.057	9/5/2024 SE265014A.058
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.0069	0.0050	0.0033	0.0027
Sum PFOS and PFHXS	mg/kg	0.0016	0.0069	0.0050	0.0033	0.0027
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.0069	0.0050	0.0033	0.0027
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.0069	0.0050	0.0033	0.0027
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	<0.08	<0.08

METHOD

METHODOLOGY SUMMARY

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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SAMPLE RECEIPT ADVICE

SE265014A

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
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MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au

Project NEW24P-0090 - GNAPL - ASTRA - PFAS
Order Number NEW24P-0090
Samples 58

LABORATORY DETAILS

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Alexandria NSW 2015

Telephone +61 2 8594 0400
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Email au.environmental.sydney@sgs.com

Samples Received Fri 10/5/2024
Report Due Wed 15/5/2024
SGS Reference SE265014A

SUBMISSION DETAILS

This is to confirm that 58 samples were received on Friday 10/5/2024. Results are expected to be ready by COB Wednesday 15/5/2024. Please quote SGS reference SE265014A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	29 Soil	Type of documentation received	COC
Date documentation received	10/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Three Days
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Numbe. 2562/14420.
PFAS sample not received for D.9.5.24.

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SAMPLE RECEIPT ADVICE

SE265014A

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
028	SS11	59
029	SS12	59
031	SS14	59
032	TP08 0.0-0.1	59
033	TP07 0.0-0.1	59
034	SS18	59
035	TP12 0.0-0.1	59
037	D1.9.5.24	59
038	TP14 0.0-0.1	59
039	TP06 0.0-0.1	59
040	TP09 0.0-0.1	59
041	SS16	59
042	TP11 0.0-0.1	59
043	TP13 0.0-0.1	59
044	D2.9.5.24	59
045	SS17	59
046	SS19	59
047	TP16 0.0-0.1	59
048	TP17 0.0-0.1	59

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE265014A

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
049	TP18 0.0-0.1	59
050	TP19 0.0-0.1	59
051	TP20 0.0-0.1	59
052	TP21 0.0-0.1	59
053	TP22 0.0-0.1	59
054	TP24 0.0-0.1	59
055	TP25 0.0-0.1	59
056	TP26 0.0-0.1	59
057	TP27 0.0-0.1	59
058	TP28 0.0-0.1	59

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



STATEMENT OF QA/QC PERFORMANCE

SE265014A R0

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
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MAYFIELD WEST NSW 2304

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Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**
Order Number **NEW24P-0090**
Samples 58

LABORATORY DETAILS

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Alexandria NSW 2015

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Email au.environmental.sydney@sgs.com

SGS Reference **SE265014A R0**
Date Received 10 May 2024
Date Reported 17 May 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Surrogate	Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples	3 items

SAMPLE SUMMARY

Sample counts by matrix	29 Soil	Type of documentation received	COC
Date documentation received	10/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Three Days
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

No holding time data is available for this job.

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples**Method: MA-1523**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 130%	65
	SS12	SE265014A.029	%	0 - 130%	47
	SS14	SE265014A.031	%	0 - 130%	38
	TP08 0.0-0.1	SE265014A.032	%	0 - 130%	54
	TP07 0.0-0.1	SE265014A.033	%	0 - 130%	49
	SS18	SE265014A.034	%	0 - 130%	15
	TP12 0.0-0.1	SE265014A.035	%	0 - 130%	30
	D1.9.5.24	SE265014A.037	%	0 - 130%	82
	TP14 0.0-0.1	SE265014A.038	%	0 - 130%	47
	TP06 0.0-0.1	SE265014A.039	%	0 - 130%	12
	TP09 0.0-0.1	SE265014A.040	%	0 - 130%	18
	SS16	SE265014A.041	%	0 - 130%	46
	TP11 0.0-0.1	SE265014A.042	%	0 - 130%	121
	TP13 0.0-0.1	SE265014A.043	%	0 - 130%	105
	D2.9.5.24	SE265014A.044	%	0 - 130%	48
	SS17	SE265014A.045	%	0 - 130%	36
	SS19	SE265014A.046	%	0 - 130%	58
	TP16 0.0-0.1	SE265014A.047	%	0 - 130%	42
	TP17 0.0-0.1	SE265014A.048	%	0 - 130%	66
	TP18 0.0-0.1	SE265014A.049	%	0 - 130%	58
	TP19 0.0-0.1	SE265014A.050	%	0 - 130%	57
	TP20 0.0-0.1	SE265014A.051	%	0 - 130%	91
	TP21 0.0-0.1	SE265014A.052	%	0 - 130%	54
	TP22 0.0-0.1	SE265014A.053	%	0 - 130%	51
	TP24 0.0-0.1	SE265014A.054	%	0 - 130%	37
	TP25 0.0-0.1	SE265014A.055	%	0 - 130%	77
	TP26 0.0-0.1	SE265014A.056	%	0 - 130%	61
	TP27 0.0-0.1	SE265014A.057	%	0 - 130%	51
	TP28 0.0-0.1	SE265014A.058	%	0 - 130%	47
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	70
	SS12	SE265014A.029	%	0 - 150%	103
	SS14	SE265014A.031	%	0 - 150%	109
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	62
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	55
	SS18	SE265014A.034	%	0 - 150%	58
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	70
	D1.9.5.24	SE265014A.037	%	0 - 150%	79
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	69
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	74
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	55
	SS16	SE265014A.041	%	0 - 150%	90
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	74
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	67
	D2.9.5.24	SE265014A.044	%	0 - 150%	65
	SS17	SE265014A.045	%	0 - 150%	59
	SS19	SE265014A.046	%	0 - 150%	63
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	56
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	74
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	62
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	56
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	69
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	64
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	60
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	75
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	66
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	59
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	65
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	56
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	117
	SS12	SE265014A.029	%	0 - 150%	136
	SS14	SE265014A.031	%	0 - 150%	126

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	69
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	80
	SS18	SE265014A.034	%	0 - 150%	75
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	82
	D1.9.5.24	SE265014A.037	%	0 - 150%	79
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	90
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	74
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	65
	SS16	SE265014A.041	%	0 - 150%	111
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	81
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	80
	D2.9.5.24	SE265014A.044	%	0 - 150%	88
	SS17	SE265014A.045	%	0 - 150%	91
	SS19	SE265014A.046	%	0 - 150%	66
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	88
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	88
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	74
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	76
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	74
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	71
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	73
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	88
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	76
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	67
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	87
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	55
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	109
	SS12	SE265014A.029	%	0 - 150%	126
	SS14	SE265014A.031	%	0 - 150%	119
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	71
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	81
	SS18	SE265014A.034	%	0 - 150%	83
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	186 ↑
	D1.9.5.24	SE265014A.037	%	0 - 150%	70
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	73
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	56
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	66
	SS16	SE265014A.041	%	0 - 150%	77
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	78
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	94
	D2.9.5.24	SE265014A.044	%	0 - 150%	92
	SS17	SE265014A.045	%	0 - 150%	77
	SS19	SE265014A.046	%	0 - 150%	60
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	77
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	60
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	81
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	70
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	95
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	86
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	77
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	72
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	66
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	73
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	94
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	53
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	108
	SS12	SE265014A.029	%	0 - 150%	86
	SS14	SE265014A.031	%	0 - 150%	83
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	98
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	93
	SS18	SE265014A.034	%	0 - 150%	51

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	79
	D1.9.5.24	SE265014A.037	%	0 - 150%	102
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	88
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	60
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	61
	SS16	SE265014A.041	%	0 - 150%	77
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	108
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	102
	D2.9.5.24	SE265014A.044	%	0 - 150%	90
	SS17	SE265014A.045	%	0 - 150%	74
	SS19	SE265014A.046	%	0 - 150%	84
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	77
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	109
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	95
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	103
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	109
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	104
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	107
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	85
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	105
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	111
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	102
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	97
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	31
	SS12	SE265014A.029	%	0 - 150%	14
	SS14	SE265014A.031	%	0 - 150%	22
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	25
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	25
	SS18	SE265014A.034	%	0 - 150%	5
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	20
	D1.9.5.24	SE265014A.037	%	0 - 150%	86
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	12
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	3
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	3
	SS16	SE265014A.041	%	0 - 150%	20
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	179 ↑
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	161 ↑
	D2.9.5.24	SE265014A.044	%	0 - 150%	20
	SS17	SE265014A.045	%	0 - 150%	10
	SS19	SE265014A.046	%	0 - 150%	22
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	18
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	28
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	28
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	23
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	39
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	18
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	11
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	7
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	24
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	14
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	8
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	10
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	78
	SS12	SE265014A.029	%	0 - 150%	70
	SS14	SE265014A.031	%	0 - 150%	61
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	81
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	67
	SS18	SE265014A.034	%	0 - 150%	74
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	78
	D1.9.5.24	SE265014A.037	%	0 - 150%	77
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	79

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	79
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	69
	SS16	SE265014A.041	%	0 - 150%	82
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	74
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	75
	D2.9.5.24	SE265014A.044	%	0 - 150%	78
	SS17	SE265014A.045	%	0 - 150%	82
	SS19	SE265014A.046	%	0 - 150%	70
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	73
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	87
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	74
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	76
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	75
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	79
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	73
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	80
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	81
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	73
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	74
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	71
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	101
	SS12	SE265014A.029	%	0 - 150%	111
	SS14	SE265014A.031	%	0 - 150%	95
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	103
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	92
	SS18	SE265014A.034	%	0 - 150%	97
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	105
	D1.9.5.24	SE265014A.037	%	0 - 150%	92
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	101
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	87
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	83
	SS16	SE265014A.041	%	0 - 150%	106
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	95
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	82
	D2.9.5.24	SE265014A.044	%	0 - 150%	103
	SS17	SE265014A.045	%	0 - 150%	97
	SS19	SE265014A.046	%	0 - 150%	96
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	103
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	110
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	101
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	98
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	99
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	104
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	91
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	94
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	98
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	105
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	102
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	93
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	103
	SS12	SE265014A.029	%	0 - 150%	93
	SS14	SE265014A.031	%	0 - 150%	110
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	113
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	112
	SS18	SE265014A.034	%	0 - 150%	109
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	93
	D1.9.5.24	SE265014A.037	%	0 - 150%	111
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	104
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	96
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	96
	SS16	SE265014A.041	%	0 - 150%	93

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	102
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	95
	D2.9.5.24	SE265014A.044	%	0 - 150%	97
	SS17	SE265014A.045	%	0 - 150%	93
	SS19	SE265014A.046	%	0 - 150%	103
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	96
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	100
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	93
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	85
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	89
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	104
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	91
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	86
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	92
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	90
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	91
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	101
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	99
	SS12	SE265014A.029	%	0 - 150%	99
	SS14	SE265014A.031	%	0 - 150%	102
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	99
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	97
	SS18	SE265014A.034	%	0 - 150%	100
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	100
	D1.9.5.24	SE265014A.037	%	0 - 150%	101
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	99
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	102
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	100
	SS16	SE265014A.041	%	0 - 150%	101
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	99
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	101
	D2.9.5.24	SE265014A.044	%	0 - 150%	101
	SS17	SE265014A.045	%	0 - 150%	100
	SS19	SE265014A.046	%	0 - 150%	101
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	100
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	102
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	102
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	100
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	96
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	102
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	101
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	102
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	99
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	98
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	100
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	99
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	81
	SS12	SE265014A.029	%	0 - 150%	75
	SS14	SE265014A.031	%	0 - 150%	87
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	91
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	88
	SS18	SE265014A.034	%	0 - 150%	85
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	77
	D1.9.5.24	SE265014A.037	%	0 - 150%	83
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	90
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	86
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	86
	SS16	SE265014A.041	%	0 - 150%	80
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	88
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	82
	D2.9.5.24	SE265014A.044	%	0 - 150%	83

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	SS17	SE265014A.045	%	0 - 150%	78
	SS19	SE265014A.046	%	0 - 150%	77
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	78
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	81
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	75
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	72
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	71
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	88
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	79
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	72
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	76
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	80
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	77
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	84
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	76
	SS12	SE265014A.029	%	0 - 150%	66
	SS14	SE265014A.031	%	0 - 150%	81
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	98
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	84
	SS18	SE265014A.034	%	0 - 150%	80
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	75
	D1.9.5.24	SE265014A.037	%	0 - 150%	86
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	90
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	85
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	88
	SS16	SE265014A.041	%	0 - 150%	73
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	80
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	83
	D2.9.5.24	SE265014A.044	%	0 - 150%	81
	SS17	SE265014A.045	%	0 - 150%	79
	SS19	SE265014A.046	%	0 - 150%	79
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	66
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	86
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	68
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	72
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	70
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	85
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	76
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	77
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	73
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	78
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	77
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	86
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	87
	SS12	SE265014A.029	%	0 - 150%	90
	SS14	SE265014A.031	%	0 - 150%	89
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	85
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	87
	SS18	SE265014A.034	%	0 - 150%	87
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	88
	D1.9.5.24	SE265014A.037	%	0 - 150%	89
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	85
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	88
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	91
	SS16	SE265014A.041	%	0 - 150%	89
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	87
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	88
	D2.9.5.24	SE265014A.044	%	0 - 150%	89
	SS17	SE265014A.045	%	0 - 150%	86
	SS19	SE265014A.046	%	0 - 150%	90
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	85

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	84
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	88
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	86
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	89
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	101
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	89
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	88
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	88
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	86
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	88
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	87
	SS11	SE265014A.028	%	0 - 150%	82
	SS12	SE265014A.029	%	0 - 150%	97
	SS14	SE265014A.031	%	0 - 150%	111
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	95
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	69
	SS18	SE265014A.034	%	0 - 150%	92
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	123
	D1.9.5.24	SE265014A.037	%	0 - 150%	90
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	81
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	74
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	93
	SS16	SE265014A.041	%	0 - 150%	75
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	101
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	82
	D2.9.5.24	SE265014A.044	%	0 - 150%	107
	SS17	SE265014A.045	%	0 - 150%	87
	SS19	SE265014A.046	%	0 - 150%	101
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	94
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	87
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	92
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	83
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	120
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	125
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	80
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	95
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	109
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	101
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	105
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	108
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	87
	SS12	SE265014A.029	%	0 - 150%	97
	SS14	SE265014A.031	%	0 - 150%	89
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	95
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	89
	SS18	SE265014A.034	%	0 - 150%	84
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	102
	D1.9.5.24	SE265014A.037	%	0 - 150%	87
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	101
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	80
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	76
	SS16	SE265014A.041	%	0 - 150%	95
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	111
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	99
	D2.9.5.24	SE265014A.044	%	0 - 150%	85
	SS17	SE265014A.045	%	0 - 150%	94
	SS19	SE265014A.046	%	0 - 150%	82
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	98
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	111
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	94
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	101

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	115
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	102
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	97
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	98
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	97
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	100
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	100
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	98
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	90
	SS12	SE265014A.029	%	0 - 150%	97
	SS14	SE265014A.031	%	0 - 150%	127
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	84
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	95
	SS18	SE265014A.034	%	0 - 150%	116
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	80
	D1.9.5.24	SE265014A.037	%	0 - 150%	84
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	101
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	88
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	102
	SS16	SE265014A.041	%	0 - 150%	88
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	88
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	102
	D2.9.5.24	SE265014A.044	%	0 - 150%	82
	SS17	SE265014A.045	%	0 - 150%	95
	SS19	SE265014A.046	%	0 - 150%	110
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	95
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	108
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	99
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	72
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	93
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	87
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	88
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	94
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	97
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	96
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	79
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	95
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	49
	SS12	SE265014A.029	%	0 - 150%	29
	SS14	SE265014A.031	%	0 - 150%	12
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	52
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	43
	SS18	SE265014A.034	%	0 - 150%	37
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	42
	D1.9.5.24	SE265014A.037	%	0 - 150%	71
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	58
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	34
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	18
	SS16	SE265014A.041	%	0 - 150%	30
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	81
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	77
	D2.9.5.24	SE265014A.044	%	0 - 150%	37
	SS17	SE265014A.045	%	0 - 150%	59
	SS19	SE265014A.046	%	0 - 150%	89
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	49
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	65
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	55
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	54
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	51
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	55
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	44

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	64
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	64
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	67
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	61
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	60
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	119
	SS12	SE265014A.029	%	0 - 150%	96
	SS14	SE265014A.031	%	0 - 150%	101
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	98
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	107
	SS18	SE265014A.034	%	0 - 150%	90
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	101
	D1.9.5.24	SE265014A.037	%	0 - 150%	99
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	100
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	99
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	111
	SS16	SE265014A.041	%	0 - 150%	91
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	96
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	92
	D2.9.5.24	SE265014A.044	%	0 - 150%	93
	SS17	SE265014A.045	%	0 - 150%	103
	SS19	SE265014A.046	%	0 - 150%	89
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	101
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	98
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	106
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	101
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	101
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	107
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	85
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	93
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	103
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	99
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	93
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	100
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	54
	SS12	SE265014A.029	%	0 - 150%	27
	SS14	SE265014A.031	%	0 - 150%	28
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	36
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	31
	SS18	SE265014A.034	%	0 - 150%	16
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	21
	D1.9.5.24	SE265014A.037	%	0 - 150%	64
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	32
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	10
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	7
	SS16	SE265014A.041	%	0 - 150%	31
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	65
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	62
	D2.9.5.24	SE265014A.044	%	0 - 150%	50
	SS17	SE265014A.045	%	0 - 150%	42
	SS19	SE265014A.046	%	0 - 150%	92
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	38
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	40
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	55
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	38
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	28
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	29
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	15
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	32
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	35
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	41

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)**Method: MA-1523**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	38
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	14
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	64
	SS12	SE265014A.029	%	0 - 150%	80
	SS14	SE265014A.031	%	0 - 150%	79
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	80
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	54
	SS18	SE265014A.034	%	0 - 150%	62
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	52
	D1.9.5.24	SE265014A.037	%	0 - 150%	73
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	53
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	48
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	60
	SS16	SE265014A.041	%	0 - 150%	68
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	68
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	75
	D2.9.5.24	SE265014A.044	%	0 - 150%	59
	SS17	SE265014A.045	%	0 - 150%	71
	SS19	SE265014A.046	%	0 - 150%	86
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	70
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	69
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	62
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	47
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	60
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	50
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	60
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	50
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	53
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	64
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	59
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	45
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	37
	SS12	SE265014A.029	%	0 - 150%	27
	SS14	SE265014A.031	%	0 - 150%	41
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	21
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	21
	SS18	SE265014A.034	%	0 - 150%	13
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	18
	D1.9.5.24	SE265014A.037	%	0 - 150%	51
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	16
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	4
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	8
	SS16	SE265014A.041	%	0 - 150%	32
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	58
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	60
	D2.9.5.24	SE265014A.044	%	0 - 150%	39
	SS17	SE265014A.045	%	0 - 150%	31
	SS19	SE265014A.046	%	0 - 150%	73
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	33
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	40
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	41
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	30
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	36
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	25
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	11
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	16
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	31
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	31
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	19
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	13
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	66

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SS12	SE265014A.029	%	0 - 150%	65
	SS14	SE265014A.031	%	0 - 150%	89
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	90
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	46
	SS18	SE265014A.034	%	0 - 150%	68
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	48
	D1.9.5.24	SE265014A.037	%	0 - 150%	58
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	54
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	45
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	37
	SS16	SE265014A.041	%	0 - 150%	65
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	64
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	73
	D2.9.5.24	SE265014A.044	%	0 - 150%	66
	SS17	SE265014A.045	%	0 - 150%	50
	SS19	SE265014A.046	%	0 - 150%	90
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	61
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	51
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	59
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	44
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	46
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	51
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	49
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	44
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	54
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	54
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	49
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	49
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	66
	SS12	SE265014A.029	%	0 - 150%	46
	SS14	SE265014A.031	%	0 - 150%	70
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	57
	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	45
	SS18	SE265014A.034	%	0 - 150%	62
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	39
	D1.9.5.24	SE265014A.037	%	0 - 150%	81
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	54
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	28
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	29
	SS16	SE265014A.041	%	0 - 150%	57
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	70
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	82
	D2.9.5.24	SE265014A.044	%	0 - 150%	62
	SS17	SE265014A.045	%	0 - 150%	57
	SS19	SE265014A.046	%	0 - 150%	86
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	60
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	65
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	65
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	64
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	58
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	51
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	43
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	54
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	59
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	60
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	55
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	48
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	SS11	SE265014A.028	%	0 - 150%	62
	SS12	SE265014A.029	%	0 - 150%	53
	SS14	SE265014A.031	%	0 - 150%	68
	TP08 0.0-0.1	SE265014A.032	%	0 - 150%	39

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	TP07 0.0-0.1	SE265014A.033	%	0 - 150%	35
	SS18	SE265014A.034	%	0 - 150%	51
	TP12 0.0-0.1	SE265014A.035	%	0 - 150%	52
	D1.9.5.24	SE265014A.037	%	0 - 150%	76
	TP14 0.0-0.1	SE265014A.038	%	0 - 150%	47
	TP06 0.0-0.1	SE265014A.039	%	0 - 150%	18
	TP09 0.0-0.1	SE265014A.040	%	0 - 150%	25
	SS16	SE265014A.041	%	0 - 150%	56
	TP11 0.0-0.1	SE265014A.042	%	0 - 150%	76
	TP13 0.0-0.1	SE265014A.043	%	0 - 150%	87
	D2.9.5.24	SE265014A.044	%	0 - 150%	62
	SS17	SE265014A.045	%	0 - 150%	52
	SS19	SE265014A.046	%	0 - 150%	133
	TP16 0.0-0.1	SE265014A.047	%	0 - 150%	68
	TP17 0.0-0.1	SE265014A.048	%	0 - 150%	63
	TP18 0.0-0.1	SE265014A.049	%	0 - 150%	59
	TP19 0.0-0.1	SE265014A.050	%	0 - 150%	57
	TP20 0.0-0.1	SE265014A.051	%	0 - 150%	52
	TP21 0.0-0.1	SE265014A.052	%	0 - 150%	45
	TP22 0.0-0.1	SE265014A.053	%	0 - 150%	44
	TP24 0.0-0.1	SE265014A.054	%	0 - 150%	51
	TP25 0.0-0.1	SE265014A.055	%	0 - 150%	55
	TP26 0.0-0.1	SE265014A.056	%	0 - 150%	54
	TP27 0.0-0.1	SE265014A.057	%	0 - 150%	52
	TP28 0.0-0.1	SE265014A.058	%	0 - 150%	44

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No method blanks were required for this job.

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

No duplicates were required for this job.

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No laboratory control standards were required for this job.

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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Company		Qualitest		Project Name		NEW2AP-0080		Project Manager		Emma Coleman		Sample(s)		Billy Snow	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		GNAPL - ASTRA		EDD Format		Excel		Handled over by			
Contact Name		Emma Coleman		Analyses		Suite CL10 (TRH, BTEX, PAH, Metals)		Eurofins Suite B7 (TRH, BTEX, PAH, Metals) - Quote 180622QUAN-3				Email for Invoice		accounts@qualitest.com.au	
Phone No		0429 359 411		Where metals are requested, please specify 'Total' or 'Filtered'. SUITE code must be used to attract SUITE pricing.		PFAS						Email for Results		bbyrd@qualitest.com.au emmacoleman@qualitest.com.au billysnow@qualitest.com.au lewiscollins@qualitest.com.au kohl@qualitest.com.au	
Special Directions						Asbestos (NEPM %w/w)						Containers		Request Turnaround Time (hrs)	
Purchase Order												500mL Plastic		1 day	
Client Ref		QUAL-IE-OCT23-1464084										250mL Plastic		Same day	
												125mL Plastic		2 days	
												200mL Amber Glass		3	
												40mL VOA vial		Other	
												500mL PFAS Bottle		Other (Asbestos AS4964, WA Guidelines)	
												Jar (Glass or HDPE)		Sample Confirmed	
														Dangerous Goods Hazmat Manual	
														* Shipping will apply	
														Overnight (reporting by 9am)	
														Same day	
														1 day	
														2 days	
														5 days (Standard)	
														Other	

Re	Client Sample ID	Sample Date/Time	Matrix	Analysis	Result	Signature	Date	Time	Report No
1	46 SS19	9/05/24	SOIL	×	×				
2	47 TP16 0.0-0.1	9/05/24	SOIL	×	×				
3	TP16 0.2-0.3	9/05/24	SOIL						
4	48 TP17 0.0-0.1	9/05/24	SOIL	×	×				
5	TP17 0.2-0.3	9/05/24	SOIL						
6	49 TP18 0.0-0.1	9/05/24	SOIL	×	×				
7	TP18 0.2-0.3	9/05/24	SOIL						
8	50 TP19 0.0-0.1	9/05/24	SOIL	×	×				
9	TP19 0.2-0.3	9/05/24	SOIL						
10	51 TP20 0.0-0.1	9/05/24	SOIL	×	×				
Total Counts				6	6				

Laboratory Use Only		Received By		Signature		Date		Time		Temperature	
Received By		Signature		Date		Time		Temperature			

Submission of samples to the laboratory for the detection of acceptance of Funds | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

Company	Qualtest
Address	2 Murray Dwyer Circuit NSW 2204
Contact Name	Emma Coleman
Phone No	0429 359 411
Special Directions	
Purchase Order	
Quote ID No	QUAL-IE-OCT23-1464084

Project No	NEW24P-0090
Project Name	GNAPL - ASTRA
Analyses	Suite CL10 (TRH, BTEX, PAH, Metals)
	PFAS
	Asbestos (NEPM %w/w)
	pH and Cation Exchange Capacity
Project Manager	Emma Coleman
ECN Form	Excel
Eurolins Suite B7 (TRH, BTEX, PAH, Metals) - Quote 180622QUAN-3	

Sampler(s)	Billy Snow
Handed over by	
Email for Invoice	accounts@qualtest.com.au
Email for Results	bdyperez@qualtest.com.au billysnow@qualtest.com.au emma@qualtest.com.au
Containers	500mL Plastic 250mL Plastic 125mL Plastic 200mL Amber Glass 40mL VOA vial 500mL PFAS Bottle Jar (Glass or HDPE) Other (Asbestos AS4964, WA Guidelines)
Required Turnaround Time (h)	☐ Overnight (reporting by 9am) ☐ Same day ☒ 1 day ☐ 2 days ☐ 3 days ☐ 5 days (Standard) ☐ Other

Client Sample ID	Sampled Date/Time	Matrix	Analyses	Signature	Date	Time	Temperature
TP26 0.2-0.3	9/05/24	SOIL					
57 TP27 0.0-0.1	9/05/24	SOIL	X				
TP27 0.2-0.3	9/05/24	SOIL					
58 TP28 0.0-0.1	9/05/24	SOIL	X				
TP28 0.2-0.3	9/05/24	SOIL					
TP29 0.9-1.0							
TP29 0.9-0.5							
TP28 0.9-1.0							
Total Counts		2	2	1			

Shipment	☐ Courier (#) ☐ Hand Delivered ☐ Postal
Signature	
Date	
Time	

Laboratory Use Only	Received By	Signature	Date	Time	Temperature
	Received By	Signature	Date	Time	Report No

CLIENT DETAILS

Contact Emma Coleman
 Client QUALTEST LABORATORY NSW PTY LTD
 Address 2 MURRAY DWYER CIRCUIT
 MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
 Facsimile (Not specified)
 Email emmacoleman@qualtest.com.au

Project NEW24P-0090 - GNAPL - ASTRA-Add
 Order Number NEW24P-0090
 Samples 58

LABORATORY DETAILS

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 Email au.environmental.sydney@sgs.com

SGS Reference SE265014B R0
 Date Received 14/5/2024
 Date Reported 15/5/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES



Akheeque BENIAMEEN
 Chemist



Dong LIANG
 Metals/Inorganics Team Leader



Kamrul AHSAN
 Senior Chemist



Ly Kim HA
 Organic Section Head

VOC's in Soil [AN433] Tested: 14/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.002	9/5/2024 SE265014B.003	9/5/2024 SE265014B.004	9/5/2024 SE265014B.005	9/5/2024 SE265014B.006
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.007	9/5/2024 SE265014B.008	9/5/2024 SE265014B.009	9/5/2024 SE265014B.010	9/5/2024 SE265014B.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.012	9/5/2024 SE265014B.013	9/5/2024 SE265014B.014	9/5/2024 SE265014B.015	9/5/2024 SE265014B.016
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.017	9/5/2024 SE265014B.018	9/5/2024 SE265014B.019	9/5/2024 SE265014B.020	9/5/2024 SE265014B.023
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

VOC's in Soil [AN433] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SS7	SS8	SS9	SS10
			SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.024	9/5/2024 SE265014B.025	9/5/2024 SE265014B.026	9/5/2024 SE265014B.027
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 14/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.002	9/5/2024 SE265014B.003	9/5/2024 SE265014B.004	9/5/2024 SE265014B.005	9/5/2024 SE265014B.006
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.007	9/5/2024 SE265014B.008	9/5/2024 SE265014B.009	9/5/2024 SE265014B.010	9/5/2024 SE265014B.011
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.012	9/5/2024 SE265014B.013	9/5/2024 SE265014B.014	9/5/2024 SE265014B.015	9/5/2024 SE265014B.016
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.017	9/5/2024 SE265014B.018	9/5/2024 SE265014B.019	9/5/2024 SE265014B.020	9/5/2024 SE265014B.023
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SS7	SS8	SS9	SS10
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/5/2024 SE265014B.024	9/5/2024 SE265014B.025	9/5/2024 SE265014B.026	9/5/2024 SE265014B.027
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 14/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.002	9/5/2024 SE265014B.003	9/5/2024 SE265014B.004	9/5/2024 SE265014B.005	9/5/2024 SE265014B.006
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	89	77	61	60	89
TRH C29-C36	mg/kg	45	91	97	75	67	100
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	160	150	120	110	160
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	180	170	140	130	190
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.007	9/5/2024 SE265014B.008	9/5/2024 SE265014B.009	9/5/2024 SE265014B.010	9/5/2024 SE265014B.011
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	56	52	130	64	100
TRH C29-C36	mg/kg	45	63	75	120	84	120
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	100	110	220	130	200
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	120	130	250	150	230
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	220	<210	<210

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.012	9/5/2024 SE265014B.013	9/5/2024 SE265014B.014	9/5/2024 SE265014B.015	9/5/2024 SE265014B.016
TRH C10-C14	mg/kg	20	<20	<20	31	29	37
TRH C15-C28	mg/kg	45	49	130	230	200	230
TRH C29-C36	mg/kg	45	57	180	370	410	310
TRH C37-C40	mg/kg	100	<100	<100	<100	120	<100
TRH >C10-C16	mg/kg	25	<25	27	47	40	61
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	27	47	40	61
TRH >C16-C34 (F3)	mg/kg	90	91	250	460	370	390
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	350	210
TRH C10-C36 Total	mg/kg	110	<110	310	630	640	580
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	280	700	760	660

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.017	9/5/2024 SE265014B.018	9/5/2024 SE265014B.019	9/5/2024 SE265014B.020	9/5/2024 SE265014B.023
TRH C10-C14	mg/kg	20	33	<20	<20	<20	24
TRH C15-C28	mg/kg	45	210	86	<45	<45	86
TRH C29-C36	mg/kg	45	420	180	87	51	<45
TRH C37-C40	mg/kg	100	120	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	52	<25	<25	<25	31
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	52	<25	<25	<25	31
TRH >C16-C34 (F3)	mg/kg	90	400	200	100	<90	97
TRH >C34-C40 (F4)	mg/kg	120	330	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	660	260	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	780	<210	<210	<210	<210

PARAMETER	UOM	LOR	SS7	SS8	SS9	SS10
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/5/2024 SE265014B.024	9/5/2024 SE265014B.025	9/5/2024 SE265014B.026	9/5/2024 SE265014B.027
TRH C10-C14	mg/kg	20	21	35	37	25
TRH C15-C28	mg/kg	45	97	170	190	110
TRH C29-C36	mg/kg	45	<45	55	67	46
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	30	48	53	36
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	30	48	53	36
TRH >C16-C34 (F3)	mg/kg	90	110	200	230	140
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	120	260	300	180
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	240	280	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 14/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.002	9/5/2024 SE265014B.003	9/5/2024 SE265014B.004	9/5/2024 SE265014B.005	9/5/2024 SE265014B.006
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	2.6	0.1	0.1	0.1	0.3
Anthracene	mg/kg	0.1	0.6	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	4.1	0.4	0.4	0.3	0.7
Pyrene	mg/kg	0.1	3.6	0.4	0.4	0.3	0.6
Benzo(a)anthracene	mg/kg	0.1	1.1	0.1	0.1	0.1	0.2
Chrysene	mg/kg	0.1	1.2	0.2	0.2	0.1	0.3
Benzo(b&j)fluoranthene	mg/kg	0.1	1.6	0.2	0.2	0.2	0.4
Benzo(k)fluoranthene	mg/kg	0.1	0.7	0.1	0.1	<0.1	0.2
Benzo(a)pyrene	mg/kg	0.1	1.6	0.2	0.2	0.2	0.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	1.2	0.2	0.2	0.1	0.3
Dibenzo(ah)anthracene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	1.3	0.2	0.2	0.2	0.3
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	2.2	0.3	0.3	0.2	0.5
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	2.2	0.4	0.4	0.3	0.6
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	2.2	0.4	0.3	0.3	0.5
Total PAH (18)	mg/kg	0.8	20	2.3	2.2	1.8	3.5
Total PAH (NEPM/WHO 16)	mg/kg	0.8	20	2.3	2.2	1.8	3.5

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.007	9/5/2024 SE265014B.008	9/5/2024 SE265014B.009	9/5/2024 SE265014B.010	9/5/2024 SE265014B.011
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.2	0.1	3.9	0.2	0.2
Anthracene	mg/kg	0.1	<0.1	<0.1	0.8	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.5	0.4	5.1	0.5	0.4
Pyrene	mg/kg	0.1	0.5	0.4	4.5	0.4	0.4
Benzo(a)anthracene	mg/kg	0.1	0.2	<0.1	1.4	0.1	0.1
Chrysene	mg/kg	0.1	0.2	0.2	1.5	0.2	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	0.2	1.8	0.2	0.2
Benzo(k)fluoranthene	mg/kg	0.1	0.1	0.1	0.8	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.3	0.2	1.7	0.2	0.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	0.2	1.2	0.2	0.2
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.2	0.2	1.2	0.2	0.2
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	0.4	0.3	2.4	0.3	0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	0.5	0.4	2.4	0.4	0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	0.4	0.3	2.4	0.3	0.3
Total PAH (18)	mg/kg	0.8	2.7	2.1	24	2.3	2.1
Total PAH (NEPM/WHO 16)	mg/kg	0.8	2.7	2.1	24	2.3	2.1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.012	9/5/2024 SE265014B.013	9/5/2024 SE265014B.014	9/5/2024 SE265014B.015	9/5/2024 SE265014B.016
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.4	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.4	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	0.3	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	1.7	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.7	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.017	9/5/2024 SE265014B.018	9/5/2024 SE265014B.019	9/5/2024 SE265014B.020	9/5/2024 SE265014B.023
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.2
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.7
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.8
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.7
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	0.2	<0.1	<0.1	0.2
Pyrene	mg/kg	0.1	<0.1	0.2	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	2.9
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	1.4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SS7	SS8	SS9	SS10
			SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014B.024	9/5/2024 SE265014B.025	9/5/2024 SE265014B.026	9/5/2024 SE265014B.027
Naphthalene	mg/kg	0.1	0.2	0.3	0.3	0.2
2-methylnaphthalene	mg/kg	0.1	0.7	1.1	1.0	0.6
1-methylnaphthalene	mg/kg	0.1	0.8	1.0	1.0	0.7
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.7	1.5	1.2	0.5
Anthracene	mg/kg	0.1	<0.1	0.2	0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1	0.9	0.4	0.2
Pyrene	mg/kg	0.1	0.2	0.6	0.4	0.2
Benzo(a)anthracene	mg/kg	0.1	0.1	0.3	0.3	0.1
Chrysene	mg/kg	0.1	0.1	0.5	0.3	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.3	0.2	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	0.1	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	0.3	0.2	<0.2
Total PAH (18)	mg/kg	0.8	2.9	6.9	5.1	2.6
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.4	4.9	3.0	1.2



ANALYTICAL RESULTS

SE265014B R0

pH in soil (1:5) [AN101] Tested: 14/5/2024

			SS2
			SOIL
			-
			9/5/2024
			SE265014B.021
PARAMETER	UOM	LOR	
pH	pH Units	0.1	4.5

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 15/5/2024

			SS2
			SOIL
			-
			9/5/2024
			SE265014B.021
PARAMETER	UOM	LOR	
Exchangeable Calcium, Ca	mg/kg	2	18
Exchangeable Calcium, Ca	meq/100g	0.01	0.09
Exchangeable Calcium Percentage*	%	0.1	65.3
Exchangeable Potassium, K	mg/kg	2	4
Exchangeable Potassium, K	meq/100g	0.01	<0.01
Exchangeable Potassium Percentage*	%	0.1	6.5
Exchangeable Magnesium, Mg	mg/kg	2	4
Exchangeable Magnesium, Mg	meq/100g	0.02	0.03
Exchangeable Magnesium Percentage*	%	0.1	23.0
Exchangeable Sodium, Na	mg/kg	2	<2
Exchangeable Sodium, Na	meq/100g	0.01	<0.01
Exchangeable Sodium Percentage*	%	0.1	5.2
Cation Exchange Capacity	meq/100g	0.02	0.14

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 14/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.002	9/5/2024 SE265014B.003	9/5/2024 SE265014B.004	9/5/2024 SE265014B.005	9/5/2024 SE265014B.006
Arsenic, As	mg/kg	1	2	1	2	2	1
Cadmium, Cd	mg/kg	0.3	<0.3	0.3	<0.3	<0.3	0.4
Chromium, Cr	mg/kg	0.5	3.3	3.7	3.8	8.2	5.1
Copper, Cu	mg/kg	0.5	9.9	9.7	6.0	13	18
Lead, Pb	mg/kg	1	6	6	5	6	8
Nickel, Ni	mg/kg	0.5	1.0	1.2	1.8	5.2	1.7
Zinc, Zn	mg/kg	2	19	29	21	38	32

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.007	9/5/2024 SE265014B.008	9/5/2024 SE265014B.009	9/5/2024 SE265014B.010	9/5/2024 SE265014B.011
Arsenic, As	mg/kg	1	1	<1	1	1	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.7	2.6	2.4	4.1	2.5
Copper, Cu	mg/kg	0.5	10	6.8	7.2	8.0	2.7
Lead, Pb	mg/kg	1	6	5	7	5	8
Nickel, Ni	mg/kg	0.5	2.3	1.0	0.7	1.6	0.9
Zinc, Zn	mg/kg	2	26	20	21	25	16

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.012	9/5/2024 SE265014B.013	9/5/2024 SE265014B.014	9/5/2024 SE265014B.015	9/5/2024 SE265014B.016
Arsenic, As	mg/kg	1	3	2	3	<1	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.8	4.6	5.5	1.0	3.7
Copper, Cu	mg/kg	0.5	7.6	3.0	1.9	3.0	4.5
Lead, Pb	mg/kg	1	5	6	6	5	6
Nickel, Ni	mg/kg	0.5	2.8	1.1	0.6	<0.5	1.6
Zinc, Zn	mg/kg	2	27	13	2.7	12	23

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.017	9/5/2024 SE265014B.018	9/5/2024 SE265014B.019	9/5/2024 SE265014B.020	9/5/2024 SE265014B.023
Arsenic, As	mg/kg	1	1	1	2	2	13
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	2.9	18	2.0	6.1	2.9
Copper, Cu	mg/kg	0.5	3.9	3.1	1.9	6.2	14
Lead, Pb	mg/kg	1	7	5	5	4	20
Nickel, Ni	mg/kg	0.5	1.3	1.3	0.8	4.2	4.9
Zinc, Zn	mg/kg	2	23	12	25	31	67

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 14/5/2024 (continued)

PARAMETER	UOM	LOR	SS7	SS8	SS9	SS10
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/5/2024 SE265014B.024	9/5/2024 SE265014B.025	9/5/2024 SE265014B.026	9/5/2024 SE265014B.027
Arsenic, As	mg/kg	1	22	4	10	14
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	1.9	3.3	1.3	3.0
Copper, Cu	mg/kg	0.5	10	19	14	11
Lead, Pb	mg/kg	1	26	13	17	22
Nickel, Ni	mg/kg	0.5	4.1	7.9	5.0	20
Zinc, Zn	mg/kg	2	56	40	39	47

Mercury in Soil [AN312] Tested: 14/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.002	9/5/2024 SE265014B.003	9/5/2024 SE265014B.004	9/5/2024 SE265014B.005	9/5/2024 SE265014B.006
Mercury	mg/kg	0.05	0.09	0.09	0.05	0.08	0.14

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.007	9/5/2024 SE265014B.008	9/5/2024 SE265014B.009	9/5/2024 SE265014B.010	9/5/2024 SE265014B.011
Mercury	mg/kg	0.05	0.07	0.06	0.06	0.07	<0.05

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.012	9/5/2024 SE265014B.013	9/5/2024 SE265014B.014	9/5/2024 SE265014B.015	9/5/2024 SE265014B.016
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024 SE265014B.017	9/5/2024 SE265014B.018	9/5/2024 SE265014B.019	9/5/2024 SE265014B.020	9/5/2024 SE265014B.023
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	0.18

PARAMETER	UOM	LOR	SS7	SS8	SS9	SS10
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/5/2024 SE265014B.024	9/5/2024 SE265014B.025	9/5/2024 SE265014B.026	9/5/2024 SE265014B.027
Mercury	mg/kg	0.05	0.14	<0.05	0.12	0.23

Moisture Content [AN002] Tested: 14/5/2024

			SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
PARAMETER	UOM	LOR	SE265014B.002	SE265014B.003	SE265014B.004	SE265014B.005	SE265014B.006
% Moisture	%w/w	1	5.6	7.6	8.6	8.2	5.6

			SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
PARAMETER	UOM	LOR	SE265014B.007	SE265014B.008	SE265014B.009	SE265014B.010	SE265014B.011
% Moisture	%w/w	1	7.2	7.8	8.1	8.2	14.3

			SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
PARAMETER	UOM	LOR	SE265014B.012	SE265014B.013	SE265014B.014	SE265014B.015	SE265014B.016
% Moisture	%w/w	1	15.5	14.4	16.7	18.1	23.3

			SP6-7	SP6-8	SP6-9	SP6-10	SS2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
PARAMETER	UOM	LOR	SE265014B.017	SE265014B.018	SE265014B.019	SE265014B.020	SE265014B.021
% Moisture	%w/w	1	25.5	13.5	9.0	10.2	17.0

			SS6	SS7	SS8	SS9	SS10
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
PARAMETER	UOM	LOR	SE265014B.023	SE265014B.024	SE265014B.025	SE265014B.026	SE265014B.027
% Moisture	%w/w	1	10.0	9.2	11.5	11.4	13.7

METHOD

METHODOLOGY SUMMARY

AN002

The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.

AN040/AN320

A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.

AN040

A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.

AN101

pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl₂) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H⁺.

AN122

Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.

AN122

The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100.

ESP can be used to categorise the sodicity of the soil as below :

ESP < 6% non-sodic
ESP 6-15% sodic
ESP > 15% strongly sodic

Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-

AN312

Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500

AN403

Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.

AN403

Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.

AN403

The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.

AN420

(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

Total PAH calculated from individual analyte detections at or above the limit of reporting.

AN420

Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all <LOR results are half the LOR and the third assuming all <LOR results are the LOR.

AN433

VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
***	Indicates that both * and ** apply.	LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE265014B R0

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Order Number **NEW24P-0090**
Samples 58

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SGS Reference **SE265014B R0**
Date Received 14 May 2024
Date Reported 15 May 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	4 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	2 items
Matrix Spike	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	2 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Sample counts by matrix	25 Soil	Type of documentation received	Email
Date documentation received	14/5/2024@10:14A	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice	Samples clearly labelled	No
Complete documentation received	Yes		



HOLDING TIME SUMMARY

SE265014B R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-ENVJAN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS2	SE265014B.021	LB312297	09 May 2024	14 May 2024	06 Jun 2024	15 May 2024	06 Jun 2024	15 May 2024

Mercury in Soil

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-2	SE265014B.002	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-3	SE265014B.003	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-4	SE265014B.004	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-5	SE265014B.005	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-6	SE265014B.006	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-7	SE265014B.007	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-8	SE265014B.008	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-9	SE265014B.009	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP4-10	SE265014B.010	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-1	SE265014B.011	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-2	SE265014B.012	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-3	SE265014B.013	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-4	SE265014B.014	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-5	SE265014B.015	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-6	SE265014B.016	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-7	SE265014B.017	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-8	SE265014B.018	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-9	SE265014B.019	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SP6-10	SE265014B.020	LB312234	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SS6	SE265014B.023	LB312235	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SS7	SE265014B.024	LB312235	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SS8	SE265014B.025	LB312235	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SS9	SE265014B.026	LB312235	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024
SS10	SE265014B.027	LB312235	09 May 2024	14 May 2024	06 Jun 2024	14 May 2024	06 Jun 2024	15 May 2024

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-2	SE265014B.002	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-3	SE265014B.003	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-4	SE265014B.004	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-5	SE265014B.005	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-6	SE265014B.006	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-7	SE265014B.007	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-8	SE265014B.008	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-9	SE265014B.009	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP4-10	SE265014B.010	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-1	SE265014B.011	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-2	SE265014B.012	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-3	SE265014B.013	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-4	SE265014B.014	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-5	SE265014B.015	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-6	SE265014B.016	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-7	SE265014B.017	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-8	SE265014B.018	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-9	SE265014B.019	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SP6-10	SE265014B.020	LB312236	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SS2	SE265014B.021	LB312240	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SS6	SE265014B.023	LB312240	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SS7	SE265014B.024	LB312240	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SS8	SE265014B.025	LB312240	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SS9	SE265014B.026	LB312240	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024
SS10	SE265014B.027	LB312240	09 May 2024	14 May 2024	23 May 2024	14 May 2024	19 May 2024	15 May 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-2	SE265014B.002	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-3	SE265014B.003	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-4	SE265014B.004	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-5	SE265014B.005	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-6	SE265014B.006	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-7	SE265014B.007	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-8	SE265014B.008	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-9	SE265014B.009	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-10	SE265014B.010	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-1	SE265014B.011	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-2	SE265014B.012	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-3	SE265014B.013	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-4	SE265014B.014	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-5	SE265014B.015	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-6	SE265014B.016	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-7	SE265014B.017	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-8	SE265014B.018	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-9	SE265014B.019	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-10	SE265014B.020	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS6	SE265014B.023	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS7	SE265014B.024	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS8	SE265014B.025	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS9	SE265014B.026	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS10	SE265014B.027	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024

pH in soil (1:5)

Method: ME-(AU)-ENVJAN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS2	SE265014B.021	LB312246	09 May 2024	14 May 2024	16 May 2024	14 May 2024	15 May 2024	14 May 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-ENVJAN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-2	SE265014B.002	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-3	SE265014B.003	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-4	SE265014B.004	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-5	SE265014B.005	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-6	SE265014B.006	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-7	SE265014B.007	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-8	SE265014B.008	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-9	SE265014B.009	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP4-10	SE265014B.010	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-1	SE265014B.011	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-2	SE265014B.012	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-3	SE265014B.013	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-4	SE265014B.014	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-5	SE265014B.015	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-6	SE265014B.016	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-7	SE265014B.017	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-8	SE265014B.018	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-9	SE265014B.019	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SP6-10	SE265014B.020	LB312232	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SS6	SE265014B.023	LB312233	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SS7	SE265014B.024	LB312233	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SS8	SE265014B.025	LB312233	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SS9	SE265014B.026	LB312233	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024
SS10	SE265014B.027	LB312233	09 May 2024	14 May 2024	05 Nov 2024	14 May 2024	05 Nov 2024	15 May 2024

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-2	SE265014B.002	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-3	SE265014B.003	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024



HOLDING TIME SUMMARY

SE265014B R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-4	SE265014B.004	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-5	SE265014B.005	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-6	SE265014B.006	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-7	SE265014B.007	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-8	SE265014B.008	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-9	SE265014B.009	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP4-10	SE265014B.010	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-1	SE265014B.011	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-2	SE265014B.012	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-3	SE265014B.013	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-4	SE265014B.014	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-5	SE265014B.015	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-6	SE265014B.016	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-7	SE265014B.017	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-8	SE265014B.018	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-9	SE265014B.019	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SP6-10	SE265014B.020	LB312225	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS6	SE265014B.023	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS7	SE265014B.024	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS8	SE265014B.025	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS9	SE265014B.026	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024
SS10	SE265014B.027	LB312226	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 Jun 2024	15 May 2024

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-2	SE265014B.002	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-3	SE265014B.003	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-4	SE265014B.004	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-5	SE265014B.005	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-6	SE265014B.006	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-7	SE265014B.007	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-8	SE265014B.008	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-9	SE265014B.009	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-10	SE265014B.010	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-1	SE265014B.011	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-2	SE265014B.012	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-3	SE265014B.013	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-4	SE265014B.014	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-5	SE265014B.015	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-6	SE265014B.016	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-7	SE265014B.017	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-8	SE265014B.018	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-9	SE265014B.019	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-10	SE265014B.020	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS6	SE265014B.023	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS7	SE265014B.024	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS8	SE265014B.025	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS9	SE265014B.026	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS10	SE265014B.027	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP4-2	SE265014B.002	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-3	SE265014B.003	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-4	SE265014B.004	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-5	SE265014B.005	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-6	SE265014B.006	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-7	SE265014B.007	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-8	SE265014B.008	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-9	SE265014B.009	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP4-10	SE265014B.010	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP6-1	SE265014B.011	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-2	SE265014B.012	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-3	SE265014B.013	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-4	SE265014B.014	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-5	SE265014B.015	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-6	SE265014B.016	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-7	SE265014B.017	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-8	SE265014B.018	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-9	SE265014B.019	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SP6-10	SE265014B.020	LB312227	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS6	SE265014B.023	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS7	SE265014B.024	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS8	SE265014B.025	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS9	SE265014B.026	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024
SS10	SE265014B.027	LB312231	09 May 2024	14 May 2024	23 May 2024	14 May 2024	23 May 2024	15 May 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil**Method: ME-(AU)-[ENV]AN420**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SP4-2	SE265014B.002	%	70 - 130%	92
	SP4-3	SE265014B.003	%	70 - 130%	82
	SP4-4	SE265014B.004	%	70 - 130%	95
	SP4-5	SE265014B.005	%	70 - 130%	98
	SP4-6	SE265014B.006	%	70 - 130%	101
	SP4-7	SE265014B.007	%	70 - 130%	100
	SP4-8	SE265014B.008	%	70 - 130%	98
	SP4-9	SE265014B.009	%	70 - 130%	103
	SP4-10	SE265014B.010	%	70 - 130%	98
	SP6-1	SE265014B.011	%	70 - 130%	106
	SP6-2	SE265014B.012	%	70 - 130%	98
	SP6-3	SE265014B.013	%	70 - 130%	106
	SP6-4	SE265014B.014	%	70 - 130%	109
	SP6-5	SE265014B.015	%	70 - 130%	107
	SP6-6	SE265014B.016	%	70 - 130%	100
	SP6-7	SE265014B.017	%	70 - 130%	103
	SP6-8	SE265014B.018	%	70 - 130%	107
	SP6-9	SE265014B.019	%	70 - 130%	110
	SP6-10	SE265014B.020	%	70 - 130%	110
	SS6	SE265014B.023	%	70 - 130%	102
	SS7	SE265014B.024	%	70 - 130%	107
	SS8	SE265014B.025	%	70 - 130%	113
	SS9	SE265014B.026	%	70 - 130%	108
	SS10	SE265014B.027	%	70 - 130%	109
d14-p-terphenyl (Surrogate)	SP4-2	SE265014B.002	%	70 - 130%	94
	SP4-3	SE265014B.003	%	70 - 130%	100
	SP4-4	SE265014B.004	%	70 - 130%	106
	SP4-5	SE265014B.005	%	70 - 130%	107
	SP4-6	SE265014B.006	%	70 - 130%	109
	SP4-7	SE265014B.007	%	70 - 130%	107
	SP4-8	SE265014B.008	%	70 - 130%	104
	SP4-9	SE265014B.009	%	70 - 130%	102
	SP4-10	SE265014B.010	%	70 - 130%	107
	SP6-1	SE265014B.011	%	70 - 130%	113
	SP6-2	SE265014B.012	%	70 - 130%	107
	SP6-3	SE265014B.013	%	70 - 130%	110
	SP6-4	SE265014B.014	%	70 - 130%	111
	SP6-5	SE265014B.015	%	70 - 130%	113
	SP6-6	SE265014B.016	%	70 - 130%	103
	SP6-7	SE265014B.017	%	70 - 130%	104
	SP6-8	SE265014B.018	%	70 - 130%	109
	SP6-9	SE265014B.019	%	70 - 130%	112
	SP6-10	SE265014B.020	%	70 - 130%	113
	SS6	SE265014B.023	%	70 - 130%	112
	SS7	SE265014B.024	%	70 - 130%	112
	SS8	SE265014B.025	%	70 - 130%	113
	SS9	SE265014B.026	%	70 - 130%	108
	SS10	SE265014B.027	%	70 - 130%	111
d5-nitrobenzene (Surrogate)	SP4-2	SE265014B.002	%	70 - 130%	99
	SP4-3	SE265014B.003	%	70 - 130%	95
	SP4-4	SE265014B.004	%	70 - 130%	109
	SP4-5	SE265014B.005	%	70 - 130%	112
	SP4-6	SE265014B.006	%	70 - 130%	113
	SP4-7	SE265014B.007	%	70 - 130%	115
	SP4-8	SE265014B.008	%	70 - 130%	108
	SP4-9	SE265014B.009	%	70 - 130%	112
	SP4-10	SE265014B.010	%	70 - 130%	108
	SP6-1	SE265014B.011	%	70 - 130%	118
	SP6-2	SE265014B.012	%	70 - 130%	113
	SP6-3	SE265014B.013	%	70 - 130%	113
	SP6-4	SE265014B.014	%	70 - 130%	121

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	SP6-5	SE265014B.015	%	70 - 130%	120
	SP6-6	SE265014B.016	%	70 - 130%	112
	SP6-7	SE265014B.017	%	70 - 130%	113
	SP6-8	SE265014B.018	%	70 - 130%	119
	SP6-9	SE265014B.019	%	70 - 130%	121
	SP6-10	SE265014B.020	%	70 - 130%	121
	SS6	SE265014B.023	%	70 - 130%	117
	SS7	SE265014B.024	%	70 - 130%	114
	SS8	SE265014B.025	%	70 - 130%	121
	SS9	SE265014B.026	%	70 - 130%	114
	SS10	SE265014B.027	%	70 - 130%	118

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP4-2	SE265014B.002	%	60 - 130%	94
	SP4-3	SE265014B.003	%	60 - 130%	83
	SP4-4	SE265014B.004	%	60 - 130%	93
	SP4-5	SE265014B.005	%	60 - 130%	89
	SP4-6	SE265014B.006	%	60 - 130%	92
	SP4-7	SE265014B.007	%	60 - 130%	89
	SP4-8	SE265014B.008	%	60 - 130%	87
	SP4-9	SE265014B.009	%	60 - 130%	89
	SP4-10	SE265014B.010	%	60 - 130%	89
	SP6-1	SE265014B.011	%	60 - 130%	83
	SP6-2	SE265014B.012	%	60 - 130%	80
	SP6-3	SE265014B.013	%	60 - 130%	82
	SP6-4	SE265014B.014	%	60 - 130%	79
	SP6-5	SE265014B.015	%	60 - 130%	77
	SP6-6	SE265014B.016	%	60 - 130%	76
	SP6-7	SE265014B.017	%	60 - 130%	83
	SP6-8	SE265014B.018	%	60 - 130%	83
	SP6-9	SE265014B.019	%	60 - 130%	91
	SP6-10	SE265014B.020	%	60 - 130%	90
	SS6	SE265014B.023	%	60 - 130%	96
	SS7	SE265014B.024	%	60 - 130%	87
d4-1,2-dichloroethane (Surrogate)	SS8	SE265014B.025	%	60 - 130%	89
	SS9	SE265014B.026	%	60 - 130%	81
	SS10	SE265014B.027	%	60 - 130%	80
	SP4-2	SE265014B.002	%	60 - 130%	85
	SP4-3	SE265014B.003	%	60 - 130%	72
	SP4-4	SE265014B.004	%	60 - 130%	82
	SP4-5	SE265014B.005	%	60 - 130%	79
	SP4-6	SE265014B.006	%	60 - 130%	84
	SP4-7	SE265014B.007	%	60 - 130%	77
	SP4-8	SE265014B.008	%	60 - 130%	78
	SP4-9	SE265014B.009	%	60 - 130%	82
	SP4-10	SE265014B.010	%	60 - 130%	83
	SP6-1	SE265014B.011	%	60 - 130%	76
	SP6-2	SE265014B.012	%	60 - 130%	72
	SP6-3	SE265014B.013	%	60 - 130%	74
	SP6-4	SE265014B.014	%	60 - 130%	72
	SP6-5	SE265014B.015	%	60 - 130%	70
	SP6-6	SE265014B.016	%	60 - 130%	92
	SP6-7	SE265014B.017	%	60 - 130%	75
	SP6-8	SE265014B.018	%	60 - 130%	74
	SP6-9	SE265014B.019	%	60 - 130%	79
	SP6-10	SE265014B.020	%	60 - 130%	80
	SS6	SE265014B.023	%	60 - 130%	89
	SS7	SE265014B.024	%	60 - 130%	81
	SS8	SE265014B.025	%	60 - 130%	83
	SS9	SE265014B.026	%	60 - 130%	80

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SS10	SE265014B.027	%	60 - 130%	77
d8-toluene (Surrogate)	SP4-2	SE265014B.002	%	60 - 130%	87
	SP4-3	SE265014B.003	%	60 - 130%	75
	SP4-4	SE265014B.004	%	60 - 130%	85
	SP4-5	SE265014B.005	%	60 - 130%	82
	SP4-6	SE265014B.006	%	60 - 130%	87
	SP4-7	SE265014B.007	%	60 - 130%	81
	SP4-8	SE265014B.008	%	60 - 130%	80
	SP4-9	SE265014B.009	%	60 - 130%	84
	SP4-10	SE265014B.010	%	60 - 130%	85
	SP6-1	SE265014B.011	%	60 - 130%	77
	SP6-2	SE265014B.012	%	60 - 130%	73
	SP6-3	SE265014B.013	%	60 - 130%	75
	SP6-4	SE265014B.014	%	60 - 130%	73
	SP6-5	SE265014B.015	%	60 - 130%	71
	SP6-6	SE265014B.016	%	60 - 130%	92
	SP6-7	SE265014B.017	%	60 - 130%	76
	SP6-8	SE265014B.018	%	60 - 130%	76
	SP6-9	SE265014B.019	%	60 - 130%	83
	SP6-10	SE265014B.020	%	60 - 130%	82
	SS6	SE265014B.023	%	60 - 130%	94
	SS7	SE265014B.024	%	60 - 130%	87
	SS8	SE265014B.025	%	60 - 130%	88
	SS9	SE265014B.026	%	60 - 130%	84
	SS10	SE265014B.027	%	60 - 130%	81

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP4-2	SE265014B.002	%	60 - 130%	94
	SP4-3	SE265014B.003	%	60 - 130%	83
	SP4-4	SE265014B.004	%	60 - 130%	93
	SP4-5	SE265014B.005	%	60 - 130%	89
	SP4-6	SE265014B.006	%	60 - 130%	92
	SP4-7	SE265014B.007	%	60 - 130%	89
	SP4-8	SE265014B.008	%	60 - 130%	87
	SP4-9	SE265014B.009	%	60 - 130%	89
	SP4-10	SE265014B.010	%	60 - 130%	89
	SP6-1	SE265014B.011	%	60 - 130%	83
	SP6-2	SE265014B.012	%	60 - 130%	80
	SP6-3	SE265014B.013	%	60 - 130%	82
	SP6-4	SE265014B.014	%	60 - 130%	79
	SP6-5	SE265014B.015	%	60 - 130%	77
	SP6-6	SE265014B.016	%	60 - 130%	76
	SP6-7	SE265014B.017	%	60 - 130%	83
	SP6-8	SE265014B.018	%	60 - 130%	83
	SP6-9	SE265014B.019	%	60 - 130%	91
	SP6-10	SE265014B.020	%	60 - 130%	90
	SS6	SE265014B.023	%	60 - 130%	96
	SS7	SE265014B.024	%	60 - 130%	87
	SS8	SE265014B.025	%	60 - 130%	89
	SS9	SE265014B.026	%	60 - 130%	81
	SS10	SE265014B.027	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	SP4-2	SE265014B.002	%	60 - 130%	85
	SP4-3	SE265014B.003	%	60 - 130%	72
	SP4-4	SE265014B.004	%	60 - 130%	82
	SP4-5	SE265014B.005	%	60 - 130%	79
	SP4-6	SE265014B.006	%	60 - 130%	84
	SP4-7	SE265014B.007	%	60 - 130%	77
	SP4-8	SE265014B.008	%	60 - 130%	78
	SP4-9	SE265014B.009	%	60 - 130%	82
	SP4-10	SE265014B.010	%	60 - 130%	83

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SP6-1	SE265014B.011	%	60 - 130%	76
	SP6-2	SE265014B.012	%	60 - 130%	72
	SP6-3	SE265014B.013	%	60 - 130%	74
	SP6-4	SE265014B.014	%	60 - 130%	72
	SP6-5	SE265014B.015	%	60 - 130%	70
	SP6-6	SE265014B.016	%	60 - 130%	92
	SP6-7	SE265014B.017	%	60 - 130%	75
	SP6-8	SE265014B.018	%	60 - 130%	74
	SP6-9	SE265014B.019	%	60 - 130%	79
	SP6-10	SE265014B.020	%	60 - 130%	80
	SS6	SE265014B.023	%	60 - 130%	89
	SS7	SE265014B.024	%	60 - 130%	81
	SS8	SE265014B.025	%	60 - 130%	83
	SS9	SE265014B.026	%	60 - 130%	80
	SS10	SE265014B.027	%	60 - 130%	77
d8-toluene (Surrogate)	SP4-2	SE265014B.002	%	60 - 130%	87
	SP4-3	SE265014B.003	%	60 - 130%	75
	SP4-4	SE265014B.004	%	60 - 130%	85
	SP4-5	SE265014B.005	%	60 - 130%	82
	SP4-6	SE265014B.006	%	60 - 130%	87
	SP4-7	SE265014B.007	%	60 - 130%	81
	SP4-8	SE265014B.008	%	60 - 130%	80
	SP4-9	SE265014B.009	%	60 - 130%	84
	SP4-10	SE265014B.010	%	60 - 130%	85
	SP6-1	SE265014B.011	%	60 - 130%	77
	SP6-2	SE265014B.012	%	60 - 130%	73
	SP6-3	SE265014B.013	%	60 - 130%	75
	SP6-4	SE265014B.014	%	60 - 130%	73
	SP6-5	SE265014B.015	%	60 - 130%	71
	SP6-6	SE265014B.016	%	60 - 130%	92
	SP6-7	SE265014B.017	%	60 - 130%	76
	SP6-8	SE265014B.018	%	60 - 130%	76
	SP6-9	SE265014B.019	%	60 - 130%	83
	SP6-10	SE265014B.020	%	60 - 130%	82
	SS6	SE265014B.023	%	60 - 130%	94
	SS7	SE265014B.024	%	60 - 130%	87
	SS8	SE265014B.025	%	60 - 130%	88
	SS9	SE265014B.026	%	60 - 130%	84
	SS10	SE265014B.027	%	60 - 130%	81

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB312297.001	Exchangeable Sodium, Na	mg/kg	2	-0.1814
	Exchangeable Potassium, K	mg/kg	2	0.0941
	Exchangeable Calcium, Ca	mg/kg	2	0.0009
	Exchangeable Magnesium, Mg	mg/kg	2	-0.0088

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB312234.001	Mercury	mg/kg	0.05	<0.05
LB312235.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB312225.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	115
		2-fluorobiphenyl (Surrogate)	%	109
		d14-p-terphenyl (Surrogate)	%	114
LB312226.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	125
		2-fluorobiphenyl (Surrogate)	%	118
		d14-p-terphenyl (Surrogate)	%	112

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB312232.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB312232.001	Zinc, Zn	mg/kg	2	<2.0
LB312233.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB312225.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
LB312226.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB312227.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	89
		d8-toluene (Surrogate)	%	-	91
		Bromofluorobenzene (Surrogate)	%	-	96
	Totals	Total BTEX*	mg/kg	0.6	<0.6
LB312231.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
		d8-toluene (Surrogate)	%	-	91
		Bromofluorobenzene (Surrogate)	%	-	87
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB312227.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	89
LB312231.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury in Soil

Method: ME-(AU)-[ENV]JAN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.011	LB312234.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE265014B.020	LB312234.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE265026.023	LB312235.013	Mercury	mg/kg	0.05	0.01113653480	0.0080334268	200	0

Moisture Content

Method: ME-(AU)-[ENV]JAN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.011	LB312236.011	% Moisture	%w/w	1	14.3	15.0	37	5
SE265014B.020	LB312236.021	% Moisture	%w/w	1	10.2	11.3	39	11
SE265026.023	LB312240.021	% Moisture	%w/w	1	11.08580106309	6.484667165	40	14
SE265108.004	LB312240.011	% Moisture	%w/w	1	17.92349726717	9.653679653	36	0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.011	LB312225.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.2	<0.1	119	53
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	0.4	0.2	65	86 @
		Pyrene	mg/kg	0.1	0.4	0.2	66	86 @
		Benzo(a)anthracene	mg/kg	0.1	0.1	<0.1	143	20
		Chrysene	mg/kg	0.1	0.1	<0.1	126	36
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	<0.1	97	69
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	173	0
		Benzo(a)pyrene	mg/kg	0.1	0.2	<0.1	103	61
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	<0.1	112	47
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	0.2	<0.1	102	60
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0.2	<0.2	170	22
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.3	<0.2	105	40
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.3	<0.3	111	15
		Total PAH (18)	mg/kg	0.8	2.1	<0.8	38	147 @
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	30	10
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	11
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	10
SE265014B.020	LB312225.024	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0.2	122	50
		Pyrene	mg/kg	0.1	<0.1	0.2	125	46
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	91	106 @
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	30	5

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.020	LB312225.024	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	9
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	3
SE265108.005	LB312226.014		Naphthalene	mg/kg	0.1	0.00154441860.0015387481		200	0
			2-methylnaphthalene	mg/kg	0.1	0.00037776190.0007150105		200	0
			1-methylnaphthalene	mg/kg	0.1	0.00061544420.0007124228		200	0
			Acenaphthylene	mg/kg	0.1	0.00151864330.0022638635		200	0
			Acenaphthene	mg/kg	0.1	0.00056614740.0003787369		200	0
			Fluorene	mg/kg	0.1	0.00010210050.0001173556		200	0
			Phenanthrene	mg/kg	0.1	0.00596846640.0062862743		200	0
			Anthracene	mg/kg	0.1	0.00578541500.0060793745		200	0
			Fluoranthene	mg/kg	0.1	0.01018604960.0084818031		200	0
			Pyrene	mg/kg	0.1	0.01215016430.0114677419		200	0
			Benzo(a)anthracene	mg/kg	0.1	0.00914287360.0106826152		200	0
			Chrysene	mg/kg	0.1	0.01176577120.0134216233		200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.01198976090.0038895784		200	0
			Benzo(k)fluoranthene	mg/kg	0.1	0.01112470670.0038893284		200	0
			Benzo(a)pyrene	mg/kg	0.1	0.00701960550.0112515280		200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.00442793360.0078130388		200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	0.0001405118	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.00481174200.0094717789		200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.121	0.121	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.242	0.242	134	0
			Total PAH (18)	mg/kg	0.8	0	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.58016161140.5734811419		30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.56681704500.5439672951		30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.54901007960.5134512791		30	7
SE265108.009	LB312226.025		Naphthalene	mg/kg	0.1	0.00066777070.0029062131		200	0
			2-methylnaphthalene	mg/kg	0.1	6.9438778721	0	200	0
			1-methylnaphthalene	mg/kg	0.1	1.7505420022	0	200	0
			Acenaphthylene	mg/kg	0.1	0	0	200	0
			Acenaphthene	mg/kg	0.1	0.00022886480.0007037949		200	0
			Fluorene	mg/kg	0.1	0.00022074910.0002658254		200	0
			Phenanthrene	mg/kg	0.1	0.00345612470.0057072697		200	0
			Anthracene	mg/kg	0.1	0.00341079840.0055322291		200	0
			Fluoranthene	mg/kg	0.1	0.00461989630.0057222460		200	0
			Pyrene	mg/kg	0.1	0.00549912120.0069253547		200	0
			Benzo(a)anthracene	mg/kg	0.1	0.01298796680.0136863460		200	0
			Chrysene	mg/kg	0.1	0.01313927260.0144262000		200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.00562612500.0069074453		200	0
			Benzo(k)fluoranthene	mg/kg	0.1	0.00516651610.0061051942		200	0
			Benzo(a)pyrene	mg/kg	0.1	0.00302503680.0035944056		200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.00274199120.0030092600		200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	0.00117227140.0011372895		200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.00251496570.0023565398		200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.121	0.121	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.242	0.242	134	0
			Total PAH (18)	mg/kg	0.8	0	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.57208033100.5441329092		30	5
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.54965098640.5491616086		30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.53217851190.5504228635		30	3

pH in soil (1:5)

Method: ME-(AU)-[ENV]JAN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265091.029	LB312246.014	pH	pH Units	0.1	4.9	5.0	32	1
SE265091.032	LB312246.018	pH	pH Units	0.1	4.8	4.7	32	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]JAN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.011	LB312232.014	Arsenic, As	mg/kg	1	1	<1	138	6
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	2.5	2.9	49	17
		Copper, Cu	mg/kg	0.5	2.7	2.9	48	8
		Nickel, Ni	mg/kg	0.5	0.9	1.2	80	28
		Lead, Pb	mg/kg	1	8	9	41	10
		Zinc, Zn	mg/kg	2	16	16	42	4
SE265014B.020	LB312232.024	Arsenic, As	mg/kg	1	2	2	81	3
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	6.1	6.3	38	3
		Copper, Cu	mg/kg	0.5	6.2	6.1	38	2
		Nickel, Ni	mg/kg	0.5	4.2	3.5	43	18
		Lead, Pb	mg/kg	1	4	4	54	5
		Zinc, Zn	mg/kg	2	31	28	37	9
SE265026.023	LB312233.013	Arsenic, As	mg/kg	1	5.2550661827	6.103372	48	15
		Cadmium, Cd	mg/kg	0.3	0.0384265584	0.06654475	200	0
		Chromium, Cr	mg/kg	0.5	12.7332493595	17.53126125	33	32
		Copper, Cu	mg/kg	0.5	9.3971680187	12.3998175	35	28
		Nickel, Ni	mg/kg	0.5	8.8006191289	12.975289	35	38 @
		Lead, Pb	mg/kg	1	35.8735354397	57.43936625	32	46 @
		Zinc, Zn	mg/kg	2	46.8251046114	61.01028875	34	26

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.011	LB312225.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	100	<45	92	78
		TRH C29-C36	mg/kg	45	120	70	76	55
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	230	<110	104	69
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	174	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	200	94	92	71
SE265014B.020	LB312225.024	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
		TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	191	0
		TRH C29-C36	mg/kg	45	51	54	116	5
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
SE265108.005	LB312226.014	TRH >C16-C34 (F3)	mg/kg	90	<90	<90	168	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
		TRH C10-C14	mg/kg	20	0.8691367112	0.6770364138	200	0
		TRH C15-C28	mg/kg	45	2.0053396895	1.8202674518	200	0
		TRH C29-C36	mg/kg	45	2.5160453581	1.6398805872	200	0
		TRH C37-C40	mg/kg	100	0.1335331335	0.1171343276	200	0
		TRH C10-C36 Total	mg/kg	110	0	0	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	0	0	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	0.7379462642	0.6489241752	200	0
SE265108.009	LB312226.025	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	0	0	200	0
		TRH >C16-C34 (F3)	mg/kg	90	4.1371844529	3.1954244585	200	0
		TRH >C34-C40 (F4)	mg/kg	120	0.4966495492	0.2623808939	200	0
		TRH C10-C14	mg/kg	20	0.8772058940	0	200	0
		TRH C15-C28	mg/kg	45	4.4936761463	0	200	0
		TRH C29-C36	mg/kg	45	5.5724332640	0	200	0
		TRH C37-C40	mg/kg	100	0.2244547718	0	200	0
		TRH C10-C36 Total	mg/kg	110	0	0	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	0	0	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	0.9138515710	0	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265108.009	LB312226.025	TRH F Bands						
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	0	0	200	0
		TRH >C16-C34 (F3)	mg/kg	90	9.1316446460	0	200	0
		TRH >C34-C40 (F4)	mg/kg	120	0.9321744095	0	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.011	LB312227.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	7.3	50	4
			d8-toluene (Surrogate)	mg/kg	-	7.7	7.4	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	8.0	50	3
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
Total Xylenes*	mg/kg		0.3	<0.3	<0.3	200	0		
SE265014B.020	LB312227.024	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	7.7	50	4
			d8-toluene (Surrogate)	mg/kg	-	8.2	7.9	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	8.6	50	4
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
Total Xylenes*	mg/kg		0.3	<0.3	<0.3	200	0		
SE265108.005	LB312231.014	Monocyclic	Benzene	mg/kg	0.1	0.00078980290.0007333401	200	0	
			Aromatic	Toluene	mg/kg	0.1	0	0	200
			Ethylbenzene	mg/kg	0.1	0.00063498890.0006126448	200	0	
			m/p-xylene	mg/kg	0.2	0.00190492970.0017973727	200	0	
			o-xylene	mg/kg	0.1	0.00070538050.0006520252	200	0	
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	0.00316972870.0030858298	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.09535263799.2898923364	50	14	
			d8-toluene (Surrogate)	mg/kg	-	8.26581634489.5181100258	50	14	
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.26104459819.1492313846	50	10	
		Totals	Total BTEX*	mg/kg	0.6	0	0	200	0
Total Xylenes*	mg/kg		0.3	0.00261031030.0024493979	200	0			
SE265108.009	LB312231.025	Monocyclic	Benzene	mg/kg	0.1	0.00065836240.0007322540	200	0	
			Aromatic	Toluene	mg/kg	0.1	0	0	200
			Ethylbenzene	mg/kg	0.1	0.00050098360.0004260209	200	0	
			m/p-xylene	mg/kg	0.2	0.00143433000.0012786158	200	0	
			o-xylene	mg/kg	0.1	0.00044138570.0004558279	200	0	
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	0.00194259860.0016155997	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.67301138918.2115351477	50	5	
			d8-toluene (Surrogate)	mg/kg	-	8.66850250868.4484311475	50	3	
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.51120597888.2110207500	50	4	
		Totals	Total BTEX*	mg/kg	0.6	0	0	200	0
Total Xylenes*	mg/kg		0.3	0.00187571580.0017344438	200	0			

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE265014B.011	LB312227.014	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	7.3	50	4
			d8-toluene (Surrogate)	mg/kg	-	7.7	7.4	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	8.0	50	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE265014B.020	LB312227.024	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE265014B.020	LB312227.024	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	7.7	50
			d8-toluene (Surrogate)	mg/kg	-	8.2	7.9	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	8.6	50
		VPF F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200
SE265108.005	LB312231.014		TRH C6-C10	mg/kg	25	0	0	200
			TRH C6-C9	mg/kg	20	0	0	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.09535263799.2898923364	50	14
			d8-toluene (Surrogate)	mg/kg	-	8.26581634489.5181100258	50	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.26104459819.1492313846	50	10
		VPF F Bands	Benzene (F0)	mg/kg	0.1	0.00078980290.0007333401	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0	0	200
SE265108.009	LB312231.025		TRH C6-C10	mg/kg	25	0	0	200
			TRH C6-C9	mg/kg	20	0	0	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.67301138918.2115351477	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.66850250868.4484311475	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.51120597888.2110207500	50	4
		VPF F Bands	Benzene (F0)	mg/kg	0.1	0.00065836240.0007322540	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0	0	200

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312297.002	Exchangeable Sodium, Na	meq/100g	0.01	0.16	0.194	80 - 120	83
	Exchangeable Potassium, K	meq/100g	0.01	0.59	0.63	80 - 120	93
	Exchangeable Calcium, Ca	meq/100g	0.01	5.8	6.3	80 - 120	91
	Exchangeable Magnesium, Mg	meq/100g	0.02	0.95	1.11	80 - 120	85

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312234.002	Mercury	mg/kg	0.05	0.22	0.2	80 - 120	108
LB312235.002	Mercury	mg/kg	0.05	0.21	0.2	80 - 120	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312225.002	Naphthalene	mg/kg	0.1	4.8	4	60 - 140	119
	Acenaphthylene	mg/kg	0.1	4.8	4	60 - 140	121
	Acenaphthene	mg/kg	0.1	4.8	4	60 - 140	120
	Phenanthrene	mg/kg	0.1	4.7	4	60 - 140	118
	Anthracene	mg/kg	0.1	5.0	4	60 - 140	124
	Fluoranthene	mg/kg	0.1	4.9	4	60 - 140	123
	Pyrene	mg/kg	0.1	4.5	4	60 - 140	113
	Benzo(a)pyrene	mg/kg	0.1	5.2	4	60 - 140	131
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	111
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	109
LB312226.002	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
	Naphthalene	mg/kg	0.1	5.1	4	60 - 140	126
	Acenaphthylene	mg/kg	0.1	5.2	4	60 - 140	129
	Acenaphthene	mg/kg	0.1	5.4	4	60 - 140	134
	Phenanthrene	mg/kg	0.1	5.1	4	60 - 140	127
	Anthracene	mg/kg	0.1	5.5	4	60 - 140	137
	Fluoranthene	mg/kg	0.1	5.2	4	60 - 140	129
	Pyrene	mg/kg	0.1	5.5	4	60 - 140	138
	Benzo(a)pyrene	mg/kg	0.1	5.5	4	60 - 140	137
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	109
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	107
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	112

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312246.003	pH	pH Units	0.1	7.4	7.415	98 - 102	99

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312232.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	104
	Cadmium, Cd	mg/kg	0.3	4.6	4.81	70 - 130	96
	Chromium, Cr	mg/kg	0.5	40	38.31	80 - 120	105
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	104
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	100
	Lead, Pb	mg/kg	1	89	89.9	80 - 120	99
	Zinc, Zn	mg/kg	2	270	273	80 - 120	98
LB312233.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	4.5	4.81	70 - 130	94
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	102
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	102
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	97
	Lead, Pb	mg/kg	1	87	89.9	80 - 120	96
	Zinc, Zn	mg/kg	2	260	273	80 - 120	95

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB312225.002	TRH C10-C14	mg/kg	20	38	40	60 - 140	96	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	92	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	80	
	TRH F Bands	TRH >C10-C16	mg/kg	25	38	40	60 - 140	96
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	91
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	84
LB312226.002	TRH C10-C14	mg/kg	20	40	40	60 - 140	100	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	87	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	68	
	TRH F Bands	TRH >C10-C16	mg/kg	25	39	40	60 - 140	97
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	75
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	69

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB312227.002	Monocyclic	Benzene	mg/kg	0.1	4.2	5	60 - 140	85
	Aromatic	Toluene	mg/kg	0.1	4.4	5	60 - 140	88
		Ethylbenzene	mg/kg	0.1	4.3	5	60 - 140	87
		m/p-xylene	mg/kg	0.2	8.8	10	60 - 140	88
	Surrogates	o-xylene	mg/kg	0.1	4.5	5	60 - 140	90
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	10	70 - 130	90
		d8-toluene (Surrogate)	mg/kg	-	9.4	10	70 - 130	94
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
LB312231.002	Monocyclic	Benzene	mg/kg	0.1	4.6	5	60 - 140	91
	Aromatic	Toluene	mg/kg	0.1	4.7	5	60 - 140	94
		Ethylbenzene	mg/kg	0.1	4.7	5	60 - 140	93
		m/p-xylene	mg/kg	0.2	9.4	10	60 - 140	94
	Surrogates	o-xylene	mg/kg	0.1	4.7	5	60 - 140	95
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.2	10	70 - 130	102
		d8-toluene (Surrogate)	mg/kg	-	10.3	10	70 - 130	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB312227.002	TRH C6-C10	mg/kg	25	67	92.5	60 - 140	73	
	TRH C6-C9	mg/kg	20	58	80	60 - 140	72	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	10	70 - 130	90
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	41	62.5	60 - 140	65
LB312231.002	TRH C6-C10	mg/kg	25	75	92.5	60 - 140	81	
	TRH C6-C9	mg/kg	20	64	80	60 - 140	81	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.2	10	70 - 130	102
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	47	62.5	60 - 140	75

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014B.002	LB312234.004	Mercury	mg/kg	0.05	0.31	0.09	0.2	110
SE265014B.023	LB312235.004	Mercury	mg/kg	0.05	0.37	0.18	0.2	93

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014B.002	LB312225.004	Naphthalene	mg/kg	0.1	5.3	<0.1	4	131
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	5.4	0.1	4	131
		Acenaphthene	mg/kg	0.1	5.3	<0.1	4	131
		Fluorene	mg/kg	0.1	<0.1	0.2	-	-
		Phenanthrene	mg/kg	0.1	5.4	2.6	4	71
		Anthracene	mg/kg	0.1	5.4	0.6	4	120
		Fluoranthene	mg/kg	0.1	5.9	4.1	4	46 ⑥
		Pyrene	mg/kg	0.1	5.3	3.6	4	42 ⑥
		Benzo(a)anthracene	mg/kg	0.1	0.2	1.1	-	-
		Chrysene	mg/kg	0.1	0.2	1.2	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	1.6	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.7	-	-
		Benzo(a)pyrene	mg/kg	0.1	5.9	1.6	4	108
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	1.2	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.2	-	-
		Benzo(ghi)perylene	mg/kg	0.1	0.3	1.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	6.0	2.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	6.0	2.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	6.1	2.2	-	-
		Total PAH (18)	mg/kg	0.8	45	20	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	-	115
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	-	112
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	99
SE265014B.023	LB312226.004	Naphthalene	mg/kg	0.1	5.2	0.2	4	126
		2-methylnaphthalene	mg/kg	0.1	0.6	0.7	-	-
		1-methylnaphthalene	mg/kg	0.1	0.8	0.8	-	-
		Acenaphthylene	mg/kg	0.1	5.1	<0.1	4	127
		Acenaphthene	mg/kg	0.1	5.2	<0.1	4	129
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	5.8	0.7	4	128
		Anthracene	mg/kg	0.1	5.3	<0.1	4	130
		Fluoranthene	mg/kg	0.1	5.3	0.2	4	128
		Pyrene	mg/kg	0.1	5.3	0.2	4	129
		Benzo(a)anthracene	mg/kg	0.1	0.1	0.1	-	-
		Chrysene	mg/kg	0.1	0.1	0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.9	<0.1	4	122
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	5.0	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	5.0	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	5.1	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	44	2.9	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	-	111
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	-	110
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.6	-	110

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)
Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014B.002	LB312232.004	Arsenic, As	mg/kg	1	51	2	50	99
		Cadmium, Cd	mg/kg	0.3	46	<0.3	50	92
		Chromium, Cr	mg/kg	0.5	53	3.3	50	100
		Copper, Cu	mg/kg	0.5	61	9.9	50	102
		Nickel, Ni	mg/kg	0.5	52	1.0	50	102
		Lead, Pb	mg/kg	1	56	6	50	100
SE265014B.023	LB312233.004	Zinc, Zn	mg/kg	2	69	19	50	101
		Arsenic, As	mg/kg	1	54	13	50	81
		Cadmium, Cd	mg/kg	0.3	45	<0.3	50	89
		Chromium, Cr	mg/kg	0.5	50	2.9	50	93
		Copper, Cu	mg/kg	0.5	63	14	50	97
		Nickel, Ni	mg/kg	0.5	51	4.9	50	93
		Lead, Pb	mg/kg	1	58	20	50	76
		Zinc, Zn	mg/kg	2	77	67	50	19 @

TRH (Total Recoverable Hydrocarbons) in Soil
Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014B.002	LB312225.004	TRH C10-C14	mg/kg	20	49	<20	40	103
		TRH C15-C28	mg/kg	45	120	89	40	69
		TRH C29-C36	mg/kg	45	140	91	40	114
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	300	180	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	250	<210	-	-
		TRH F	mg/kg	25	54	<25	40	106
		Bands	mg/kg	25	54	<25	-	-
SE265014B.023	LB312226.004	TRH >C10-C16	mg/kg	25	54	<25	-	-
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	54	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	190	160	40	89
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
		TRH C10-C14	mg/kg	20	64	24	40	101
		TRH C15-C28	mg/kg	45	130	86	40	102
		TRH C29-C36	mg/kg	45	60	<45	40	86
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	250	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F	mg/kg	25	71	31	40	99
		Bands	mg/kg	25	71	31	-	-
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	71	31	-	-
		TRH >C16-C34 (F3)	mg/kg	90	130	97	40	93
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil
Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014B.002	LB312227.004	Monocyclic	Benzene	mg/kg	0.1	4.1	<0.1	5	83
			Aromatic	Toluene	mg/kg	0.1	4.4	<0.1	5
		Ethylbenzene		mg/kg	0.1	4.5	<0.1	5	89
		m/p-xylene		mg/kg	0.2	9.0	<0.2	10	90
		o-xylene		mg/kg	0.1	4.6	<0.1	5	91
		Polycyclic		Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-
			Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.5	10
		d8-toluene (Surrogate)		mg/kg	-	8.8	8.7	10	88
		Bromofluorobenzene (Surrogate)		mg/kg	-	8.6	9.4	10	86
		Totals	Total BTEX*	mg/kg	0.6	27	<0.6	-	-
Total Xylenes*	mg/kg		0.3	14	<0.3	-	-		
SE265014B.023	LB312231.004	Monocyclic	Benzene	mg/kg	0.1	4.6	<0.1	5	92
			Aromatic	Toluene	mg/kg	0.1	4.8	<0.1	5
		Ethylbenzene		mg/kg	0.1	4.8	<0.1	5	95
		m/p-xylene		mg/kg	0.2	9.6	<0.2	10	95
		o-xylene		mg/kg	0.1	4.8	<0.1	5	96
		Polycyclic		Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-
			Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.8	8.9	10
		d8-toluene (Surrogate)		mg/kg	-	10.2	9.4	10	102
		Bromofluorobenzene (Surrogate)		mg/kg	-	10.0	9.6	10	100
		Totals	Total BTEX*	mg/kg	0.6	29	<0.6	-	-
Total Xylenes*	mg/kg		0.3	14	<0.3	-	-		

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE265014B.002	LB312227.004	TRH C6-C10	mg/kg	25	68	<25	92.5	72
		TRH C6-C9	mg/kg	20	59	<20	80	73
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.5	10	86
		d8-toluene (Surrogate)	mg/kg	-	8.8	8.7	10	88
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	9.4	-	86
		VPH F						
		Benzene (F0)	mg/kg	0.1	4.1	<0.1	-	-
		Bands						
SE265014B.023	LB312231.004	TRH C6-C10 minus BTEX (F1)	mg/kg	25	41	<25	62.5	64
		TRH C6-C10	mg/kg	25	72	<25	92.5	76
		TRH C6-C9	mg/kg	20	64	<20	80	78
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.8	8.9	10	98
		d8-toluene (Surrogate)	mg/kg	-	10.2	9.4	10	102
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.0	9.6	-	100
		VPH F						
		Benzene (F0)	mg/kg	0.1	4.6	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	<25	62.5	66

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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Company		Qualitest		Project No		NEW24P-0090		Project Manager		Emma Coleman		Sampler(s)		Billy Snow	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		GNAPL - ASTRA		EOD Format ES&L, EQUS etc		Excel		Handed over by			
Contact Name		Emma Coleman		Analyses		Suite CL10 (TRH, BTEX, PAH, Metals)						Email for Invoice		accounts@qualitest.com.au	
Phone No		0429 359 411		Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.		PFAS						Email for Results		billysnow@qualitest.com.au emma@qualitest.com.au tomhall@qualitest.com.au	
Special Directions						Asbestos (NEPM %w/w)						Containers		Change container type & size if necessary.	
Purchase Order						pH & Cation Exchange Capacity						500mL Plastic			
Quote ID No		QUAL-IE-OCT23-1464084										250mL Plastic			
												125mL Plastic			
												200mL Amber Glass			
												40mL VOA vial			
												500mL PFAS Bottle			
												Jar (Glass or HDPE)			
												Other (Asbestos AS4964, WA Guidelines)			
												Overnight (reporting by 9am)*		* Surcharge will apply	
												Same day ♦		1 day ♦	
												2 days ♦		3	
												5 days (Standard)			
												Other()			
												Sample Comments / Dangerous Goods Hazard Warning			
No		Client Sample ID		Sampled Date/Time admin only format		Matrix Soils (S) Water (W)									
1		SP4-1		9/05/24		SOIL		X		X		X		X	
2		SP4-2		9/05/24		SOIL		X		X		X		X	
3		SP4-3		9/05/24		SOIL		X		X		X		X	
4		SP4-4		9/05/24		SOIL		X		X		X		X	
5		SP4-5		9/05/24		SOIL		X		X		X		X	
6		SP4-6		9/05/24		SOIL		X		X		X		X	
7		SP4-7		9/05/24		SOIL		X		X		X		X	
8		SP4-8		9/05/24		SOIL		X		X		X		X	
9		SP4-9		9/05/24		SOIL		X		X		X		X	
10		SP4-10		9/05/24		SOIL		X		X		X		X	
		Total Counts						10		10		10		1	
Method of Shipment		☐ Courier #		☐ Hand Delivered											
Laboratory Use Only		Received By		Signature		Date		Time		Temperature		Report No			
		Received By		Signature		Date		Time		Temperature		Report No			
		Received By		Signature		Date		Time		Temperature		Report No			

SGS Alexandria Environmental

Received: 14 - May - 2024

SE265014B COC

SGS

Qualitest

2 Murray Dwyer Circuit NSW 2304

Emma Coleman

0429 359 411

QUAL-IE-OCT23-1464084

NEW24P-0090

GNAPL - ASTRA

Emma Coleman

Excel

Billy Snow

accounts@qualitest.com.au

billysnow@qualitest.com.au

emma@qualitest.com.au

tomhall@qualitest.com.au

Overnight (reporting by 9am)*

Same day ♦

2 days ♦

5 days (Standard)

Other()

Sample Comments

/ Dangerous Goods Hazard Warning

Surcharge will apply

1 day ♦

3

Required Turnaround Time (TAT)

Default will be 5 days from listed

Temperature

Report No

Company	Qualtest	Project No	NEW24P-0090	Project Manager	Emma Coleman	Sampler(s)	Billy Snow
Address	2 Murray Dwyer Circuit NSW 2304	Project Name	GNAPL - ASTRA	EDD Format ES&H EOLIS etc	Excel	Handed over by	
Contact Name	Emma Coleman						
Phone No	0429 359 411						
Special Directions							
Purchase Order							
Quote ID No	QUAL-IE-OC123-1464084						
		Analyses Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.					
		Suite CL10 (TRH, BTEX, PAH, Metals)					
		PFAS					
		Asbestos (NEPM %w/w)					

Company		Qualtest		Project No		NEW24P-0090		Project Manager		Emma Coleman		Sampler(s)		Billy Snow	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		GNAFL - ASTRA		EDD Format (ESDA, EOLIS etc)		Excel		Handed over by			
Contact Name		Emma Coleman		Analyses		Suite CL10 (TRH, BTEX, PAH, Metals)		PFAS		Asbestos (NEPM %w/w)		pH & Cation Exchange Capacity		Email for Invoice	
Phone No		0429 359 411		Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.										Email for Results	
Special Directions				Matrix Solid (S) Water (W)										billysnow@qualtest.com.au lewiecollman@qualtest.com.au tomhall@qualtest.com.au	
Purchase Order				Client Sample ID										Required Turnaround Time (TAT) Default will be 5 days from ticked.	
Quote ID No		QUAL-IE-OCT23-1464084		Sampled Date/Time dd/mm/yyyy hh:mm										☐ Overnight (reporting by 9am) ♦ ☐ Same day ♦ ☒ 1 day ♦ ☐ 2 days ♦ ☐ 3 ☐ 5 days (Standard) ☐ Other ()	
No		1		21		SS2		9/05/24		SOIL		X		X	
2		22		SS4		9/05/24		SOIL		X		X		X	
3															
4		23		SS6		9/05/24		SOIL		X		X		X	
5		24		SS7		9/05/24		SOIL		X		X		X	
6		25		SS8		9/05/24		SOIL		X		X		X	
7		26		SS9		9/05/24		SOIL		X		X		X	
8		27		SS10		9/05/24		SOIL		X		X		X	
9		28		SS11		9/05/24		SOIL		X		X		X	
10		29		SS12		9/05/24		SOIL		X		X		X	
Method of Shipment		☐ Courier #) ☐ Hand Delivered		Total Counts		6		6		2		1			
Laboratory Use Only		Received By		Received By		SYD BNE MEL PER ADL MTL DRW		Signature		Signature		Date		Time	
		M. Brown		M. Brown		SYD BNE MEL PER ADL MTL DRW		Signature		Signature		Date		Time	
												12/05/24		16:45	
														Temperature Report No	
														572	

Yin, Emily (Sydney)

From: Emma Coleman <EmmaColeman@qualtest.com.au>
Sent: Tuesday, 14 May 2024 10:17 AM
To: AU.SampleReceipt.Sydney, AU (Sydney)
Subject: [EXTERNAL] RE: NEW24P-0090 Received 2024-05-10 Annotated

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments.

Hi Michael,
Yes, still on a 24hr TAT.
Cancel analysis for SP4-1, it mustn't exist. Thanks

Regards,
Emma Coleman
Senior Environmental Scientist
Certified Environmental Practitioner – Site Contamination Specialist

Mob: 0429 359 411
Tel: 02 4968 4468
Web: www.qualtest.com.au
2 Murray Dwyer Circuit, Mayfield West, NSW, 2304
emmacoleman@qualtest.com.au

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From: AU.SampleReceipt.Sydney, AU (Sydney) <AU.SampleReceipt.Sydney@sgs.com>
Sent: Tuesday, 14 May 2024 10:14 AM
To: Emma Coleman <EmmaColeman@qualtest.com.au>
Subject: Re: NEW24P-0090 Received 2024-05-10 Annotated

Hi Emma,

The esky arrived this morning containing SP4-2 through SP4-10, all SP6 samples, and the remaining SS samples as well. At present this means the only sample requesting analysis that cannot be completed is SP4-1 (No containers received) and the previously listed containers which were for samples on Hold.

We'll get the new samples booked in for you this morning. Can you please confirm the TAT for these, whether they're still 24-Hr as per the original job? If so, we will have to do a separate split for the PFAS on a 3-day TAT.

Regards,

Michael Bousquet
Sydney Sample Receipt Team



SAMPLE RECEIPT ADVICE

SE265014B

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
Address 2 MURRAY DWYER CIRCUIT
MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au

Project **NEW24P-0090 - GNAPL - ASTRA-Add**
Order Number **NEW24P-0090**
Samples 58

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Tue 14/5/2024
Report Due Wed 15/5/2024
SGS Reference **SE265014B**

SUBMISSION DETAILS

This is to confirm that 58 samples were received on Tuesday 14/5/2024. Results are expected to be ready by COB Wednesday 15/5/2024. Please quote SGS reference SE265014B when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	25 Soil	Type of documentation received	COC
Date documentation received	14/05/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice	Samples clearly labelled	No
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS reported in SE265014C.

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CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA-Add**

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
002	SP4-2	-	26	-	7	10	11	7
003	SP4-3	-	26	-	7	10	11	7
004	SP4-4	-	26	-	7	10	11	7
005	SP4-5	-	26	-	7	10	11	7
006	SP4-6	-	26	-	7	10	11	7
007	SP4-7	-	26	-	7	10	11	7
008	SP4-8	-	26	-	7	10	11	7
009	SP4-9	-	26	-	7	10	11	7
010	SP4-10	-	26	-	7	10	11	7
011	SP6-1	-	26	-	7	10	11	7
012	SP6-2	-	26	-	7	10	11	7
013	SP6-3	-	26	-	7	10	11	7
014	SP6-4	-	26	-	7	10	11	7
015	SP6-5	-	26	-	7	10	11	7
016	SP6-6	-	26	-	7	10	11	7
017	SP6-7	-	26	-	7	10	11	7
018	SP6-8	-	26	-	7	10	11	7
019	SP6-9	-	26	-	7	10	11	7
020	SP6-10	-	26	-	7	10	11	7
021	SS2	13	-	1	-	-	-	-
023	SS6	-	26	-	7	10	11	7
024	SS7	-	26	-	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE265014B

CLIENT DETAILS

Client QUALTEST LABORATORY NSW PTY LTD

Project NEW24P-0090 - GNAPL - ASTRA-Add

SUMMARY OF ANALYSIS

No.	Sample ID	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	SS8	26	7	10	11	7
026	SS9	26	7	10	11	7
027	SS10	26	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE265014B

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA-Add**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	Moisture Content
002	SP4-2	1	1
003	SP4-3	1	1
004	SP4-4	1	1
005	SP4-5	1	1
006	SP4-6	1	1
007	SP4-7	1	1
008	SP4-8	1	1
009	SP4-9	1	1
010	SP4-10	1	1
011	SP6-1	1	1
012	SP6-2	1	1
013	SP6-3	1	1
014	SP6-4	1	1
015	SP6-5	1	1
016	SP6-6	1	1
017	SP6-7	1	1
018	SP6-8	1	1
019	SP6-9	1	1
020	SP6-10	1	1
021	SS2	-	1
023	SS6	1	1
024	SS7	1	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE265014B

CLIENT DETAILS

Client QUALTEST LABORATORY NSW PTY LTD

Project NEW24P-0090 - GNAPL - ASTRA-Add

SUMMARY OF ANALYSIS

		Mercury in Soil	Moisture Content
No.	Sample ID		
025	SS8	1	1
026	SS9	1	1
027	SS10	1	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Contact Emma Coleman
 Client QUALTEST LABORATORY NSW PTY LTD
 Address 2 MURRAY DWYER CIRCUIT
 MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
 Facsimile (Not specified)
 Email emmacoleman@qualtest.com.au

Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**
 Order Number **NEW24P-0090**
 Samples 58

LABORATORY DETAILS

Manager Huong Crawford
 Laboratory SGS Alexandria Environmental
 Address Unit 16, 33 Maddox St
 Alexandria NSW 2015

Telephone +61 2 8594 0400
 Facsimile +61 2 8594 0499
 Email au.environmental.sydney@sgs.com

SGS Reference **SE265014C R0**
 Date Received 14/5/2024
 Date Reported 20/5/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES



Huong CRAWFORD
 Production Manager

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 20/5/2024

PARAMETER	UOM	LOR	SP4-2	SP4-3	SP4-4	SP4-5	SP4-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014C.002	9/5/2024 SE265014C.003	9/5/2024 SE265014C.004	9/5/2024 SE265014C.005	9/5/2024 SE265014C.006
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.0013	0.0010	0.0012	<0.0008	0.0012
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.0093	0.0063	0.0084	0.0048	0.0076
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.15	0.098	0.071	0.064	0.088
Sum PFOS and PFHXS	mg/kg	0.0016	0.16	0.10	0.080	0.069	0.096
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.15	0.099	0.073	0.064	0.089
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.16	0.11	0.081	0.069	0.097
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	0.16	0.11	0.08	<0.08	0.10

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 20/5/2024 (continued)

PARAMETER	UOM	LOR	SP4-7	SP4-8	SP4-9	SP4-10	SP6-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014C.007	9/5/2024 SE265014C.008	9/5/2024 SE265014C.009	9/5/2024 SE265014C.010	9/5/2024 SE265014C.011
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	0.0020	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	0.0020	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.0011	<0.0008	0.0012	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.0045	0.0029	0.0076	0.0044	0.0062
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.067	0.075	0.18	0.10	0.062
Sum PFOS and PFHXS	mg/kg	0.0016	0.071	0.078	0.19	0.11	0.068
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.068	0.075	0.18	0.10	0.062
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.072	0.078	0.19	0.11	0.068
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	0.19	0.11	<0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 20/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-2	SP6-3	SP6-4	SP6-5	SP6-6
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014C.012	9/5/2024 SE265014C.013	9/5/2024 SE265014C.014	9/5/2024 SE265014C.015	9/5/2024 SE265014C.016
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	0.0046	<0.0016	0.0030
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	0.0011	0.0018	<0.0008	0.0029
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	0.011	0.029	0.0096	0.017
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.034	0.13	0.17	0.22	0.25
Sum PFOS and PFHXS	mg/kg	0.0016	0.034	0.14	0.20	0.23	0.27
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.034	0.13	0.17	0.22	0.26
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.034	0.14	0.20	0.23	0.27
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	0.14	0.21	0.23	0.28

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 20/5/2024 (continued)

PARAMETER	UOM	LOR	SP6-7	SP6-8	SP6-9	SP6-10	SS2
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/5/2024 SE265014C.017	9/5/2024 SE265014C.018	9/5/2024 SE265014C.019	9/5/2024 SE265014C.020	9/5/2024 SE265014C.021
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	0.0010	<0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	0.014	0.0028	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	0.31	0.13	0.076	0.042	0.0031
Sum PFOS and PFHXS	mg/kg	0.0016	0.32	0.13	0.076	0.042	0.0031
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	0.31	0.13	0.076	0.042	0.0031
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	0.33	0.13	0.076	0.042	0.0031
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	0.33	0.13	<0.08	<0.08	<0.08

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples [MA-1523] Tested: 20/5/2024 (continued)

PARAMETER	UOM	LOR	SS4	SS7	SS9
			SOIL	SOIL	SOIL
			9/5/2024 SE265014C.022	9/5/2024 SE265014C.024	9/5/2024 SE265014C.026
Perfluorobutanoic acid (PFBA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0008	<0.0008	<0.0008	<0.0008
Perfluorononanoic acid (PFNA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecanoic acid (PFDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0032	<0.0032	<0.0032	<0.0032
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Sum PFOS and PFHXS	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorononane sulfonate (PFNS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.0016	<0.0016	<0.0016	<0.0016
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.008	<0.008	<0.008	<0.008
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.016	<0.016	<0.016	<0.016
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.008	<0.008	<0.008	<0.008
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.008	<0.008	<0.008	<0.008
Total of PFAS (n=30)	mg/kg	0.08	<0.08	<0.08	<0.08

METHOD

METHODOLOGY SUMMARY

MA-1523

This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts, determined as the total of linear and branched isomers. After spiking with isotopically labelled quantification surrogates and clean-up via SPE cartridges sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE265014C R0

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Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**
Order Number **NEW24P-0090**
Samples 58

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SGS Reference **SE265014C R0**
Date Received 14 May 2024
Date Reported 20 May 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Surrogate Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

14 items

SAMPLE SUMMARY

Sample counts by matrix	23 Soil	Type of documentation received	COC
Date documentation received	14/05/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Three Days
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

No holding time data is available for this job.

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 130%	103
	SP4-3	SE265014C.003	%	0 - 130%	116
	SP4-4	SE265014C.004	%	0 - 130%	72
	SP4-5	SE265014C.005	%	0 - 130%	85
	SP4-6	SE265014C.006	%	0 - 130%	84
	SP4-7	SE265014C.007	%	0 - 130%	88
	SP4-8	SE265014C.008	%	0 - 130%	93
	SP4-9	SE265014C.009	%	0 - 130%	113
	SP4-10	SE265014C.010	%	0 - 130%	129
	SP6-1	SE265014C.011	%	0 - 130%	101
	SP6-2	SE265014C.012	%	0 - 130%	73
	SP6-3	SE265014C.013	%	0 - 130%	141 †
	SP6-4	SE265014C.014	%	0 - 130%	116
	SP6-5	SE265014C.015	%	0 - 130%	110
	SP6-6	SE265014C.016	%	0 - 130%	106
	SP6-7	SE265014C.017	%	0 - 130%	122
	SP6-8	SE265014C.018	%	0 - 130%	153 †
	SP6-9	SE265014C.019	%	0 - 130%	182 †
	SP6-10	SE265014C.020	%	0 - 130%	39
	SS2	SE265014C.021	%	0 - 130%	37
	SS4	SE265014C.022	%	0 - 130%	21
	SS7	SE265014C.024	%	0 - 130%	27
	SS9	SE265014C.026	%	0 - 130%	64
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	77
	SP4-3	SE265014C.003	%	0 - 150%	75
	SP4-4	SE265014C.004	%	0 - 150%	65
	SP4-5	SE265014C.005	%	0 - 150%	61
	SP4-6	SE265014C.006	%	0 - 150%	60
	SP4-7	SE265014C.007	%	0 - 150%	60
	SP4-8	SE265014C.008	%	0 - 150%	61
	SP4-9	SE265014C.009	%	0 - 150%	69
	SP4-10	SE265014C.010	%	0 - 150%	68
	SP6-1	SE265014C.011	%	0 - 150%	62
	SP6-2	SE265014C.012	%	0 - 150%	63
	SP6-3	SE265014C.013	%	0 - 150%	64
	SP6-4	SE265014C.014	%	0 - 150%	80
	SP6-5	SE265014C.015	%	0 - 150%	62
	SP6-6	SE265014C.016	%	0 - 150%	61
	SP6-7	SE265014C.017	%	0 - 150%	59
	SP6-8	SE265014C.018	%	0 - 150%	53
	SP6-9	SE265014C.019	%	0 - 150%	71
	SP6-10	SE265014C.020	%	0 - 150%	56
	SS2	SE265014C.021	%	0 - 150%	68
	SS4	SE265014C.022	%	0 - 150%	74
	SS7	SE265014C.024	%	0 - 150%	79
	SS9	SE265014C.026	%	0 - 150%	59
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	80
	SP4-3	SE265014C.003	%	0 - 150%	96
	SP4-4	SE265014C.004	%	0 - 150%	58
	SP4-5	SE265014C.005	%	0 - 150%	63
	SP4-6	SE265014C.006	%	0 - 150%	63
	SP4-7	SE265014C.007	%	0 - 150%	50
	SP4-8	SE265014C.008	%	0 - 150%	54
	SP4-9	SE265014C.009	%	0 - 150%	81
	SP4-10	SE265014C.010	%	0 - 150%	81
	SP6-1	SE265014C.011	%	0 - 150%	72
	SP6-2	SE265014C.012	%	0 - 150%	68
	SP6-3	SE265014C.013	%	0 - 150%	80
	SP6-4	SE265014C.014	%	0 - 150%	75
	SP6-5	SE265014C.015	%	0 - 150%	66
	SP6-6	SE265014C.016	%	0 - 150%	69

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	SP6-7	SE265014C.017	%	0 - 150%	54
	SP6-8	SE265014C.018	%	0 - 150%	94
	SP6-9	SE265014C.019	%	0 - 150%	84
	SP6-10	SE265014C.020	%	0 - 150%	86
	SS2	SE265014C.021	%	0 - 150%	75
	SS4	SE265014C.022	%	0 - 150%	81
	SS7	SE265014C.024	%	0 - 150%	86
	SS9	SE265014C.026	%	0 - 150%	88
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	88
	SP4-3	SE265014C.003	%	0 - 150%	67
	SP4-4	SE265014C.004	%	0 - 150%	79
	SP4-5	SE265014C.005	%	0 - 150%	79
	SP4-6	SE265014C.006	%	0 - 150%	85
	SP4-7	SE265014C.007	%	0 - 150%	60
	SP4-8	SE265014C.008	%	0 - 150%	64
	SP4-9	SE265014C.009	%	0 - 150%	65
	SP4-10	SE265014C.010	%	0 - 150%	80
	SP6-1	SE265014C.011	%	0 - 150%	70
	SP6-2	SE265014C.012	%	0 - 150%	71
	SP6-3	SE265014C.013	%	0 - 150%	81
	SP6-4	SE265014C.014	%	0 - 150%	77
	SP6-5	SE265014C.015	%	0 - 150%	64
	SP6-6	SE265014C.016	%	0 - 150%	85
	SP6-7	SE265014C.017	%	0 - 150%	70
	SP6-8	SE265014C.018	%	0 - 150%	94
	SP6-9	SE265014C.019	%	0 - 150%	101
	SP6-10	SE265014C.020	%	0 - 150%	80
	SS2	SE265014C.021	%	0 - 150%	108
	SS4	SE265014C.022	%	0 - 150%	67
	SS7	SE265014C.024	%	0 - 150%	151 †
	SS9	SE265014C.026	%	0 - 150%	104
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	112
	SP4-3	SE265014C.003	%	0 - 150%	98
	SP4-4	SE265014C.004	%	0 - 150%	112
	SP4-5	SE265014C.005	%	0 - 150%	115
	SP4-6	SE265014C.006	%	0 - 150%	106
	SP4-7	SE265014C.007	%	0 - 150%	97
	SP4-8	SE265014C.008	%	0 - 150%	118
	SP4-9	SE265014C.009	%	0 - 150%	99
	SP4-10	SE265014C.010	%	0 - 150%	110
	SP6-1	SE265014C.011	%	0 - 150%	125
	SP6-2	SE265014C.012	%	0 - 150%	107
	SP6-3	SE265014C.013	%	0 - 150%	115
	SP6-4	SE265014C.014	%	0 - 150%	110
	SP6-5	SE265014C.015	%	0 - 150%	92
	SP6-6	SE265014C.016	%	0 - 150%	120
	SP6-7	SE265014C.017	%	0 - 150%	107
	SP6-8	SE265014C.018	%	0 - 150%	119
	SP6-9	SE265014C.019	%	0 - 150%	108
	SP6-10	SE265014C.020	%	0 - 150%	78
	SS2	SE265014C.021	%	0 - 150%	100
	SS4	SE265014C.022	%	0 - 150%	67
	SS7	SE265014C.024	%	0 - 150%	73
	SS9	SE265014C.026	%	0 - 150%	106
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	143
	SP4-3	SE265014C.003	%	0 - 150%	160 †
	SP4-4	SE265014C.004	%	0 - 150%	36
	SP4-5	SE265014C.005	%	0 - 150%	39
	SP4-6	SE265014C.006	%	0 - 150%	54
	SP4-7	SE265014C.007	%	0 - 150%	36
	SP4-8	SE265014C.008	%	0 - 150%	65

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)**Method: MA-1523**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	SP4-9	SE265014C.009	%	0 - 150%	158 ↑
	SP4-10	SE265014C.010	%	0 - 150%	203 ↑
	SP6-1	SE265014C.011	%	0 - 150%	41
	SP6-2	SE265014C.012	%	0 - 150%	66
	SP6-3	SE265014C.013	%	0 - 150%	267 ↑
	SP6-4	SE265014C.014	%	0 - 150%	222 ↑
	SP6-5	SE265014C.015	%	0 - 150%	172 ↑
	SP6-6	SE265014C.016	%	0 - 150%	212 ↑
	SP6-7	SE265014C.017	%	0 - 150%	193 ↑
	SP6-8	SE265014C.018	%	0 - 150%	140
	SP6-9	SE265014C.019	%	0 - 150%	460 ↑
	SP6-10	SE265014C.020	%	0 - 150%	7
	SS2	SE265014C.021	%	0 - 150%	11
	SS4	SE265014C.022	%	0 - 150%	6
	SS7	SE265014C.024	%	0 - 150%	12
	SS9	SE265014C.026	%	0 - 150%	13
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	100
	SP4-3	SE265014C.003	%	0 - 150%	105
	SP4-4	SE265014C.004	%	0 - 150%	91
	SP4-5	SE265014C.005	%	0 - 150%	96
	SP4-6	SE265014C.006	%	0 - 150%	94
	SP4-7	SE265014C.007	%	0 - 150%	91
	SP4-8	SE265014C.008	%	0 - 150%	93
	SP4-9	SE265014C.009	%	0 - 150%	92
	SP4-10	SE265014C.010	%	0 - 150%	91
	SP6-1	SE265014C.011	%	0 - 150%	95
	SP6-2	SE265014C.012	%	0 - 150%	96
	SP6-3	SE265014C.013	%	0 - 150%	89
	SP6-4	SE265014C.014	%	0 - 150%	106
	SP6-5	SE265014C.015	%	0 - 150%	90
	SP6-6	SE265014C.016	%	0 - 150%	102
	SP6-7	SE265014C.017	%	0 - 150%	79
	SP6-8	SE265014C.018	%	0 - 150%	88
	SP6-9	SE265014C.019	%	0 - 150%	94
	SP6-10	SE265014C.020	%	0 - 150%	85
	SS2	SE265014C.021	%	0 - 150%	91
	SS4	SE265014C.022	%	0 - 150%	108
	SS7	SE265014C.024	%	0 - 150%	112
	SS9	SE265014C.026	%	0 - 150%	95
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	105
	SP4-3	SE265014C.003	%	0 - 150%	111
	SP4-4	SE265014C.004	%	0 - 150%	115
	SP4-5	SE265014C.005	%	0 - 150%	106
	SP4-6	SE265014C.006	%	0 - 150%	114
	SP4-7	SE265014C.007	%	0 - 150%	105
	SP4-8	SE265014C.008	%	0 - 150%	105
	SP4-9	SE265014C.009	%	0 - 150%	111
	SP4-10	SE265014C.010	%	0 - 150%	97
	SP6-1	SE265014C.011	%	0 - 150%	119
	SP6-2	SE265014C.012	%	0 - 150%	116
	SP6-3	SE265014C.013	%	0 - 150%	104
	SP6-4	SE265014C.014	%	0 - 150%	118
	SP6-5	SE265014C.015	%	0 - 150%	112
	SP6-6	SE265014C.016	%	0 - 150%	108
	SP6-7	SE265014C.017	%	0 - 150%	90
	SP6-8	SE265014C.018	%	0 - 150%	99
	SP6-9	SE265014C.019	%	0 - 150%	116
	SP6-10	SE265014C.020	%	0 - 150%	92
	SS2	SE265014C.021	%	0 - 150%	106
	SS4	SE265014C.022	%	0 - 150%	129
	SS7	SE265014C.024	%	0 - 150%	113

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	SS9	SE265014C.026	%	0 - 150%	108
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	94
	SP4-3	SE265014C.003	%	0 - 150%	84
	SP4-4	SE265014C.004	%	0 - 150%	93
	SP4-5	SE265014C.005	%	0 - 150%	107
	SP4-6	SE265014C.006	%	0 - 150%	100
	SP4-7	SE265014C.007	%	0 - 150%	85
	SP4-8	SE265014C.008	%	0 - 150%	106
	SP4-9	SE265014C.009	%	0 - 150%	94
	SP4-10	SE265014C.010	%	0 - 150%	106
	SP6-1	SE265014C.011	%	0 - 150%	86
	SP6-2	SE265014C.012	%	0 - 150%	105
	SP6-3	SE265014C.013	%	0 - 150%	102
	SP6-4	SE265014C.014	%	0 - 150%	105
	SP6-5	SE265014C.015	%	0 - 150%	113
	SP6-6	SE265014C.016	%	0 - 150%	108
	SP6-7	SE265014C.017	%	0 - 150%	107
	SP6-8	SE265014C.018	%	0 - 150%	109
	SP6-9	SE265014C.019	%	0 - 150%	101
	SP6-10	SE265014C.020	%	0 - 150%	96
	SS2	SE265014C.021	%	0 - 150%	97
	SS4	SE265014C.022	%	0 - 150%	106
	SS7	SE265014C.024	%	0 - 150%	95
	SS9	SE265014C.026	%	0 - 150%	94
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	103
	SP4-3	SE265014C.003	%	0 - 150%	102
	SP4-4	SE265014C.004	%	0 - 150%	100
	SP4-5	SE265014C.005	%	0 - 150%	104
	SP4-6	SE265014C.006	%	0 - 150%	105
	SP4-7	SE265014C.007	%	0 - 150%	101
	SP4-8	SE265014C.008	%	0 - 150%	100
	SP4-9	SE265014C.009	%	0 - 150%	99
	SP4-10	SE265014C.010	%	0 - 150%	100
	SP6-1	SE265014C.011	%	0 - 150%	99
	SP6-2	SE265014C.012	%	0 - 150%	102
	SP6-3	SE265014C.013	%	0 - 150%	100
	SP6-4	SE265014C.014	%	0 - 150%	99
	SP6-5	SE265014C.015	%	0 - 150%	103
	SP6-6	SE265014C.016	%	0 - 150%	101
	SP6-7	SE265014C.017	%	0 - 150%	101
	SP6-8	SE265014C.018	%	0 - 150%	100
	SP6-9	SE265014C.019	%	0 - 150%	100
	SP6-10	SE265014C.020	%	0 - 150%	99
	SS2	SE265014C.021	%	0 - 150%	102
	SS4	SE265014C.022	%	0 - 150%	99
	SS7	SE265014C.024	%	0 - 150%	100
	SS9	SE265014C.026	%	0 - 150%	100
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	102
	SP4-3	SE265014C.003	%	0 - 150%	87
	SP4-4	SE265014C.004	%	0 - 150%	93
	SP4-5	SE265014C.005	%	0 - 150%	99
	SP4-6	SE265014C.006	%	0 - 150%	94
	SP4-7	SE265014C.007	%	0 - 150%	94
	SP4-8	SE265014C.008	%	0 - 150%	93
	SP4-9	SE265014C.009	%	0 - 150%	96
	SP4-10	SE265014C.010	%	0 - 150%	98
	SP6-1	SE265014C.011	%	0 - 150%	95
	SP6-2	SE265014C.012	%	0 - 150%	94
	SP6-3	SE265014C.013	%	0 - 150%	102
	SP6-4	SE265014C.014	%	0 - 150%	94
	SP6-5	SE265014C.015	%	0 - 150%	96

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	SP6-6	SE265014C.016	%	0 - 150%	101
	SP6-7	SE265014C.017	%	0 - 150%	101
	SP6-8	SE265014C.018	%	0 - 150%	104
	SP6-9	SE265014C.019	%	0 - 150%	89
	SP6-10	SE265014C.020	%	0 - 150%	88
	SS2	SE265014C.021	%	0 - 150%	99
	SS4	SE265014C.022	%	0 - 150%	104
	SS7	SE265014C.024	%	0 - 150%	96
	SS9	SE265014C.026	%	0 - 150%	93
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	90
	SP4-3	SE265014C.003	%	0 - 150%	84
	SP4-4	SE265014C.004	%	0 - 150%	88
	SP4-5	SE265014C.005	%	0 - 150%	89
	SP4-6	SE265014C.006	%	0 - 150%	91
	SP4-7	SE265014C.007	%	0 - 150%	83
	SP4-8	SE265014C.008	%	0 - 150%	87
	SP4-9	SE265014C.009	%	0 - 150%	92
	SP4-10	SE265014C.010	%	0 - 150%	97
	SP6-1	SE265014C.011	%	0 - 150%	84
	SP6-2	SE265014C.012	%	0 - 150%	87
	SP6-3	SE265014C.013	%	0 - 150%	98
	SP6-4	SE265014C.014	%	0 - 150%	98
	SP6-5	SE265014C.015	%	0 - 150%	92
	SP6-6	SE265014C.016	%	0 - 150%	99
	SP6-7	SE265014C.017	%	0 - 150%	94
	SP6-8	SE265014C.018	%	0 - 150%	102
	SP6-9	SE265014C.019	%	0 - 150%	94
	SP6-10	SE265014C.020	%	0 - 150%	84
	SS2	SE265014C.021	%	0 - 150%	98
	SS4	SE265014C.022	%	0 - 150%	107
	SS7	SE265014C.024	%	0 - 150%	102
	SS9	SE265014C.026	%	0 - 150%	99
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	101
	SP4-3	SE265014C.003	%	0 - 150%	98
	SP4-4	SE265014C.004	%	0 - 150%	96
	SP4-5	SE265014C.005	%	0 - 150%	99
	SP4-6	SE265014C.006	%	0 - 150%	101
	SP4-7	SE265014C.007	%	0 - 150%	101
	SP4-8	SE265014C.008	%	0 - 150%	97
	SP4-9	SE265014C.009	%	0 - 150%	96
	SP4-10	SE265014C.010	%	0 - 150%	100
	SP6-1	SE265014C.011	%	0 - 150%	98
	SP6-2	SE265014C.012	%	0 - 150%	99
	SP6-3	SE265014C.013	%	0 - 150%	96
	SP6-4	SE265014C.014	%	0 - 150%	98
	SP6-5	SE265014C.015	%	0 - 150%	99
	SP6-6	SE265014C.016	%	0 - 150%	97
	SP6-7	SE265014C.017	%	0 - 150%	98
	SP6-8	SE265014C.018	%	0 - 150%	100
	SP6-9	SE265014C.019	%	0 - 150%	99
	SP6-10	SE265014C.020	%	0 - 150%	97
	SS2	SE265014C.021	%	0 - 150%	98
	SS4	SE265014C.022	%	0 - 150%	96
	SS7	SE265014C.024	%	0 - 150%	95
	SS9	SE265014C.026	%	0 - 150%	98
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	68
	SP4-3	SE265014C.003	%	0 - 150%	105
	SP4-4	SE265014C.004	%	0 - 150%	103
	SP4-5	SE265014C.005	%	0 - 150%	81
	SP4-6	SE265014C.006	%	0 - 150%	88
	SP4-7	SE265014C.007	%	0 - 150%	106

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	SP4-8	SE265014C.008	%	0 - 150%	101
	SP4-9	SE265014C.009	%	0 - 150%	103
	SP4-10	SE265014C.010	%	0 - 150%	122
	SP6-1	SE265014C.011	%	0 - 150%	112
	SP6-2	SE265014C.012	%	0 - 150%	113
	SP6-3	SE265014C.013	%	0 - 150%	102
	SP6-4	SE265014C.014	%	0 - 150%	98
	SP6-5	SE265014C.015	%	0 - 150%	90
	SP6-6	SE265014C.016	%	0 - 150%	92
	SP6-7	SE265014C.017	%	0 - 150%	84
	SP6-8	SE265014C.018	%	0 - 150%	111
	SP6-9	SE265014C.019	%	0 - 150%	104
	SP6-10	SE265014C.020	%	0 - 150%	96
	SS2	SE265014C.021	%	0 - 150%	96
	SS4	SE265014C.022	%	0 - 150%	111
	SS7	SE265014C.024	%	0 - 150%	73
	SS9	SE265014C.026	%	0 - 150%	112
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	75
	SP4-3	SE265014C.003	%	0 - 150%	102
	SP4-4	SE265014C.004	%	0 - 150%	109
	SP4-5	SE265014C.005	%	0 - 150%	96
	SP4-6	SE265014C.006	%	0 - 150%	99
	SP4-7	SE265014C.007	%	0 - 150%	101
	SP4-8	SE265014C.008	%	0 - 150%	107
	SP4-9	SE265014C.009	%	0 - 150%	95
	SP4-10	SE265014C.010	%	0 - 150%	101
	SP6-1	SE265014C.011	%	0 - 150%	112
	SP6-2	SE265014C.012	%	0 - 150%	104
	SP6-3	SE265014C.013	%	0 - 150%	107
	SP6-4	SE265014C.014	%	0 - 150%	106
	SP6-5	SE265014C.015	%	0 - 150%	86
	SP6-6	SE265014C.016	%	0 - 150%	101
	SP6-7	SE265014C.017	%	0 - 150%	93
	SP6-8	SE265014C.018	%	0 - 150%	94
	SP6-9	SE265014C.019	%	0 - 150%	102
	SP6-10	SE265014C.020	%	0 - 150%	96
	SS2	SE265014C.021	%	0 - 150%	94
	SS4	SE265014C.022	%	0 - 150%	89
	SS7	SE265014C.024	%	0 - 150%	78
	SS9	SE265014C.026	%	0 - 150%	91
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	118
	SP4-3	SE265014C.003	%	0 - 150%	114
	SP4-4	SE265014C.004	%	0 - 150%	135
	SP4-5	SE265014C.005	%	0 - 150%	108
	SP4-6	SE265014C.006	%	0 - 150%	108
	SP4-7	SE265014C.007	%	0 - 150%	113
	SP4-8	SE265014C.008	%	0 - 150%	119
	SP4-9	SE265014C.009	%	0 - 150%	102
	SP4-10	SE265014C.010	%	0 - 150%	113
	SP6-1	SE265014C.011	%	0 - 150%	111
	SP6-2	SE265014C.012	%	0 - 150%	128
	SP6-3	SE265014C.013	%	0 - 150%	113
	SP6-4	SE265014C.014	%	0 - 150%	128
	SP6-5	SE265014C.015	%	0 - 150%	120
	SP6-6	SE265014C.016	%	0 - 150%	127
	SP6-7	SE265014C.017	%	0 - 150%	96
	SP6-8	SE265014C.018	%	0 - 150%	101
	SP6-9	SE265014C.019	%	0 - 150%	84
	SP6-10	SE265014C.020	%	0 - 150%	107
	SS2	SE265014C.021	%	0 - 150%	86
	SS4	SE265014C.022	%	0 - 150%	109

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	SS7	SE265014C.024	%	0 - 150%	135
	SS9	SE265014C.026	%	0 - 150%	94
(13C8-PFOA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	99
	SP4-3	SE265014C.003	%	0 - 150%	92
	SP4-4	SE265014C.004	%	0 - 150%	87
	SP4-5	SE265014C.005	%	0 - 150%	82
	SP4-6	SE265014C.006	%	0 - 150%	76
	SP4-7	SE265014C.007	%	0 - 150%	72
	SP4-8	SE265014C.008	%	0 - 150%	82
	SP4-9	SE265014C.009	%	0 - 150%	91
	SP4-10	SE265014C.010	%	0 - 150%	105
	SP6-1	SE265014C.011	%	0 - 150%	71
	SP6-2	SE265014C.012	%	0 - 150%	94
	SP6-3	SE265014C.013	%	0 - 150%	91
	SP6-4	SE265014C.014	%	0 - 150%	86
	SP6-5	SE265014C.015	%	0 - 150%	82
	SP6-6	SE265014C.016	%	0 - 150%	92
	SP6-7	SE265014C.017	%	0 - 150%	63
	SP6-8	SE265014C.018	%	0 - 150%	74
	SP6-9	SE265014C.019	%	0 - 150%	60
	SP6-10	SE265014C.020	%	0 - 150%	75
	SS2	SE265014C.021	%	0 - 150%	56
	SS4	SE265014C.022	%	0 - 150%	64
	SS7	SE265014C.024	%	0 - 150%	93
	SS9	SE265014C.026	%	0 - 150%	65
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	115
	SP4-3	SE265014C.003	%	0 - 150%	98
	SP4-4	SE265014C.004	%	0 - 150%	92
	SP4-5	SE265014C.005	%	0 - 150%	89
	SP4-6	SE265014C.006	%	0 - 150%	100
	SP4-7	SE265014C.007	%	0 - 150%	94
	SP4-8	SE265014C.008	%	0 - 150%	112
	SP4-9	SE265014C.009	%	0 - 150%	87
	SP4-10	SE265014C.010	%	0 - 150%	98
	SP6-1	SE265014C.011	%	0 - 150%	95
	SP6-2	SE265014C.012	%	0 - 150%	89
	SP6-3	SE265014C.013	%	0 - 150%	106
	SP6-4	SE265014C.014	%	0 - 150%	130
	SP6-5	SE265014C.015	%	0 - 150%	113
	SP6-6	SE265014C.016	%	0 - 150%	106
	SP6-7	SE265014C.017	%	0 - 150%	106
	SP6-8	SE265014C.018	%	0 - 150%	102
	SP6-9	SE265014C.019	%	0 - 150%	106
	SP6-10	SE265014C.020	%	0 - 150%	90
	SS2	SE265014C.021	%	0 - 150%	106
	SS4	SE265014C.022	%	0 - 150%	109
	SS7	SE265014C.024	%	0 - 150%	107
	SS9	SE265014C.026	%	0 - 150%	108
(D3-N-MeFOA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	71
	SP4-3	SE265014C.003	%	0 - 150%	77
	SP4-4	SE265014C.004	%	0 - 150%	72
	SP4-5	SE265014C.005	%	0 - 150%	59
	SP4-6	SE265014C.006	%	0 - 150%	76
	SP4-7	SE265014C.007	%	0 - 150%	60
	SP4-8	SE265014C.008	%	0 - 150%	62
	SP4-9	SE265014C.009	%	0 - 150%	65
	SP4-10	SE265014C.010	%	0 - 150%	106
	SP6-1	SE265014C.011	%	0 - 150%	63
	SP6-2	SE265014C.012	%	0 - 150%	56
	SP6-3	SE265014C.013	%	0 - 150%	73
	SP6-4	SE265014C.014	%	0 - 150%	102

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	SP6-5	SE265014C.015	%	0 - 150%	68
	SP6-6	SE265014C.016	%	0 - 150%	72
	SP6-7	SE265014C.017	%	0 - 150%	71
	SP6-8	SE265014C.018	%	0 - 150%	129
	SP6-9	SE265014C.019	%	0 - 150%	123
	SP6-10	SE265014C.020	%	0 - 150%	90
	SS2	SE265014C.021	%	0 - 150%	33
	SS4	SE265014C.022	%	0 - 150%	38
	SS7	SE265014C.024	%	0 - 150%	60
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	SS9	SE265014C.026	%	0 - 150%	205 †
	SP4-2	SE265014C.002	%	0 - 150%	76
	SP4-3	SE265014C.003	%	0 - 150%	88
	SP4-4	SE265014C.004	%	0 - 150%	89
	SP4-5	SE265014C.005	%	0 - 150%	80
	SP4-6	SE265014C.006	%	0 - 150%	52
	SP4-7	SE265014C.007	%	0 - 150%	64
	SP4-8	SE265014C.008	%	0 - 150%	83
	SP4-9	SE265014C.009	%	0 - 150%	83
	SP4-10	SE265014C.010	%	0 - 150%	110
	SP6-1	SE265014C.011	%	0 - 150%	68
	SP6-2	SE265014C.012	%	0 - 150%	86
	SP6-3	SE265014C.013	%	0 - 150%	78
	SP6-4	SE265014C.014	%	0 - 150%	70
	SP6-5	SE265014C.015	%	0 - 150%	100
	SP6-6	SE265014C.016	%	0 - 150%	97
	SP6-7	SE265014C.017	%	0 - 150%	74
	SP6-8	SE265014C.018	%	0 - 150%	87
	SP6-9	SE265014C.019	%	0 - 150%	104
	SP6-10	SE265014C.020	%	0 - 150%	83
	SS2	SE265014C.021	%	0 - 150%	54
	SS4	SE265014C.022	%	0 - 150%	63
	SS7	SE265014C.024	%	0 - 150%	91
	SS9	SE265014C.026	%	0 - 150%	82
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	84
	SP4-3	SE265014C.003	%	0 - 150%	56
	SP4-4	SE265014C.004	%	0 - 150%	89
	SP4-5	SE265014C.005	%	0 - 150%	46
	SP4-6	SE265014C.006	%	0 - 150%	75
	SP4-7	SE265014C.007	%	0 - 150%	63
	SP4-8	SE265014C.008	%	0 - 150%	83
	SP4-9	SE265014C.009	%	0 - 150%	67
	SP4-10	SE265014C.010	%	0 - 150%	99
	SP6-1	SE265014C.011	%	0 - 150%	76
	SP6-2	SE265014C.012	%	0 - 150%	73
	SP6-3	SE265014C.013	%	0 - 150%	80
	SP6-4	SE265014C.014	%	0 - 150%	85
	SP6-5	SE265014C.015	%	0 - 150%	78
	SP6-6	SE265014C.016	%	0 - 150%	81
	SP6-7	SE265014C.017	%	0 - 150%	65
	SP6-8	SE265014C.018	%	0 - 150%	87
	SP6-9	SE265014C.019	%	0 - 150%	106
	SP6-10	SE265014C.020	%	0 - 150%	69
	SS2	SE265014C.021	%	0 - 150%	25
	SS4	SE265014C.022	%	0 - 150%	22
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SS7	SE265014C.024	%	0 - 150%	27
	SS9	SE265014C.026	%	0 - 150%	120
	SP4-2	SE265014C.002	%	0 - 150%	93
	SP4-3	SE265014C.003	%	0 - 150%	115
	SP4-4	SE265014C.004	%	0 - 150%	93
	SP4-5	SE265014C.005	%	0 - 150%	78
	SP4-6	SE265014C.006	%	0 - 150%	70

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	SP4-7	SE265014C.007	%	0 - 150%	58
	SP4-8	SE265014C.008	%	0 - 150%	67
	SP4-9	SE265014C.009	%	0 - 150%	73
	SP4-10	SE265014C.010	%	0 - 150%	78
	SP6-1	SE265014C.011	%	0 - 150%	92
	SP6-2	SE265014C.012	%	0 - 150%	85
	SP6-3	SE265014C.013	%	0 - 150%	95
	SP6-4	SE265014C.014	%	0 - 150%	103
	SP6-5	SE265014C.015	%	0 - 150%	107
	SP6-6	SE265014C.016	%	0 - 150%	105
	SP6-7	SE265014C.017	%	0 - 150%	83
	SP6-8	SE265014C.018	%	0 - 150%	86
	SP6-9	SE265014C.019	%	0 - 150%	88
	SP6-10	SE265014C.020	%	0 - 150%	92
	SS2	SE265014C.021	%	0 - 150%	73
	SS4	SE265014C.022	%	0 - 150%	72
	SS7	SE265014C.024	%	0 - 150%	101
	SS9	SE265014C.026	%	0 - 150%	87
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	77
	SP4-3	SE265014C.003	%	0 - 150%	91
	SP4-4	SE265014C.004	%	0 - 150%	76
	SP4-5	SE265014C.005	%	0 - 150%	62
	SP4-6	SE265014C.006	%	0 - 150%	65
	SP4-7	SE265014C.007	%	0 - 150%	66
	SP4-8	SE265014C.008	%	0 - 150%	78
	SP4-9	SE265014C.009	%	0 - 150%	93
	SP4-10	SE265014C.010	%	0 - 150%	87
	SP6-1	SE265014C.011	%	0 - 150%	68
	SP6-2	SE265014C.012	%	0 - 150%	85
	SP6-3	SE265014C.013	%	0 - 150%	91
	SP6-4	SE265014C.014	%	0 - 150%	93
	SP6-5	SE265014C.015	%	0 - 150%	89
	SP6-6	SE265014C.016	%	0 - 150%	97
	SP6-7	SE265014C.017	%	0 - 150%	66
	SP6-8	SE265014C.018	%	0 - 150%	69
	SP6-9	SE265014C.019	%	0 - 150%	82
	SP6-10	SE265014C.020	%	0 - 150%	65
	SS2	SE265014C.021	%	0 - 150%	42
	SS4	SE265014C.022	%	0 - 150%	50
	SS7	SE265014C.024	%	0 - 150%	72
	SS9	SE265014C.026	%	0 - 150%	64
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	SP4-2	SE265014C.002	%	0 - 150%	90
	SP4-3	SE265014C.003	%	0 - 150%	82
	SP4-4	SE265014C.004	%	0 - 150%	81
	SP4-5	SE265014C.005	%	0 - 150%	62
	SP4-6	SE265014C.006	%	0 - 150%	62
	SP4-7	SE265014C.007	%	0 - 150%	64
	SP4-8	SE265014C.008	%	0 - 150%	77
	SP4-9	SE265014C.009	%	0 - 150%	79
	SP4-10	SE265014C.010	%	0 - 150%	90
	SP6-1	SE265014C.011	%	0 - 150%	79
	SP6-2	SE265014C.012	%	0 - 150%	79
	SP6-3	SE265014C.013	%	0 - 150%	86
	SP6-4	SE265014C.014	%	0 - 150%	94
	SP6-5	SE265014C.015	%	0 - 150%	87
	SP6-6	SE265014C.016	%	0 - 150%	90
	SP6-7	SE265014C.017	%	0 - 150%	69
	SP6-8	SE265014C.018	%	0 - 150%	95
	SP6-9	SE265014C.019	%	0 - 150%	97
	SP6-10	SE265014C.020	%	0 - 150%	79
	SS2	SE265014C.021	%	0 - 150%	55

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	SS4	SE265014C.022	%	0 - 150%	56
	SS7	SE265014C.024	%	0 - 150%	75
	SS9	SE265014C.026	%	0 - 150%	75

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No method blanks were required for this job.

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

No duplicates were required for this job.

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No laboratory control standards were required for this job.

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022_QA_QC_Plan.pdf

- * NATA accreditation does not cover the performance of this service.
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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SGS EHS Alexandria Laboratory

SE265014C COC
 Received: 14-May-2024

SFS

Company		Qualitest		Project No		NEW24P-0090		Project Manager		Emma Coleman		Sample(s)		Billy Snow	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		GNAPL - ASTRA		EOD Format		Excel		Handed over by			
Contact Name		Emma Coleman		Analyses		Suite CL10 (TRH, BTEX, PAH, Metals)		PFAS		Asbestos (NEPM %w/w)		Email for Invoice		accounts@qualitest.com.au	
Phone No		0423 359 411		Where metals are requested please specify 'Total' or 'Filtered'. SUITE codes must be used to avoid SUITE pricing.								Email for Results		billysnow@qualitest.com.au emma@qualitest.com.au emma@qualitest.com.au	
Special Direction				Purchase Order				500mL Plastic		250mL Plastic		125mL Plastic		200mL Amber Glass	
Quote ID#		QUAL-IE-00173-1464004		Sample Date/Time		9/05/24		40mL VOA vial		500mL PFAS Bottle		Jar (Glass or HDPE)		Other (Asbestos AS4984, WA Guidelines)	
Client Sample ID		SP#1		Matrix Sample (Wt %)		SOIL		Overnight (reporting by 9am)		Same day 1 day		2 days		5 days (Standard)	
Sample ID		SP#2		Matrix Sample (Wt %)		SOIL		Other							
Sample ID		SP#3		Matrix Sample (Wt %)		SOIL									
Sample ID		SP#4		Matrix Sample (Wt %)		SOIL									
Sample ID		SP#5		Matrix Sample (Wt %)		SOIL									
Sample ID		SP#6		Matrix Sample (Wt %)		SOIL									
Sample ID		SP#7		Matrix Sample (Wt %)		SOIL									
Sample ID		SP#8		Matrix Sample (Wt %)		SOIL									
Sample ID		SP#9		Matrix Sample (Wt %)		SOIL									
Sample ID		SP#10		Matrix Sample (Wt %)		SOIL									
Total Counts		10		10		10									
Method of Shipment		☐ Courier (#) ☐ Hand Delivered		☐ Postal		Name		Signature		Date		Time		Temperature	
Laboratory Use Only		Received By		Signature		Date		Time		Temperature		Report to			

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



SAMPLE RECEIPT ADVICE

SE265014C

CLIENT DETAILS

Contact Emma Coleman
Client QUALTEST LABORATORY NSW PTY LTD
Address 2 MURRAY DWYER CIRCUIT
MAYFIELD WEST NSW 2304

Telephone 61 2 49684468
Facsimile (Not specified)
Email emmacoleman@qualtest.com.au

Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**
Order Number **NEW24P-0090**
Samples 58

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Tue 14/5/2024
Report Due Fri 17/5/2024
SGS Reference **SE265014C**

SUBMISSION DETAILS

This is to confirm that 58 samples were received on Tuesday 14/5/2024. Results are expected to be ready by COB Friday 17/5/2024. Please quote SGS reference SE265014C when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	23 Soil	Type of documentation received	COC
Date documentation received	14/05/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Three Days
Samples received in correct containers	Yes	Sufficient sample for analysis	No
Sample cooling method	Ice Bricks	Samples clearly labelled	No
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

PFAS subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Numbe. 2562/14420.

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SAMPLE RECEIPT ADVICE

SE265014C

CLIENT DETAILS

Client **QUALTEST LABORATORY NSW PTY LTD**

Project **NEW24P-0090 - GNAPL - ASTRA - PFAS**

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
002	SP4-2	59
003	SP4-3	59
004	SP4-4	59
005	SP4-5	59
006	SP4-6	59
007	SP4-7	59
008	SP4-8	59
009	SP4-9	59
010	SP4-10	59
011	SP6-1	59
012	SP6-2	59
013	SP6-3	59
014	SP6-4	59
015	SP6-5	59
016	SP6-6	59
017	SP6-7	59
018	SP6-8	59
019	SP6-9	59
020	SP6-10	59
021	SS2	59
022	SS4	59
024	SS7	59

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE265014C

CLIENT DETAILS

Client QUALTEST LABORATORY NSW PTY LTD

Project NEW24P-0090 - GNAPL - ASTRA - PFAS

SUMMARY OF ANALYSIS

		Per- and Polyfluoroalkyl Substances (PFAS) in
No.	Sample ID	
026	SS9	59

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

APPENDIX E:

Data Validation Report

QA/QC DATA VALIDATION REPORT**Job No: NEW24P-0090**

Samples were collected for two adjacent sites in the sample sampling event. Therefore, this data validation report covers both sites (Lot 200-212 and Lot 400-500).

SGS Australia report: SE264905, SE264905A, SE265014, SE265014A, SE265014B, SE265014C

Eurofins reports: 1096083, 1096095

1. SAMPLE HANDLING

Item	Yes/No	Comments
Were the sample holding times met?	Yes	
Were the samples in proper custody between collection in the field and reaching the laboratory?	Yes	
Were the samples properly and adequately preserved?	Yes	
Were the samples received by the laboratory in good condition?	Yes	

Sampling Handling was:

Satisfactory :	✓	Partially Satisfactory:	Unsatisfactory:

2. PRECISION AND ACCURACY ASSESSMENT

Item	Yes/No	Comment
Was a NATA registered laboratory used?	Yes	-
Did the laboratory perform the requested tests?	Yes	-
Were the laboratory methods adopted NATA endorsed?	Yes	-
Were the appropriate test procedures followed?	Yes	-
Were the reporting limits satisfactory?	Yes	-
Was the NATA seal on the reports?	Yes	-
Were the reports signed by an authorised person?	Yes	-

Laboratory Precision and Accuracy was:

Satisfactory :	✓	Partially Satisfactory:	Unsatisfactory:

3. FIELD QA/QC

	Soil
No. Samples Analysed	TRH, BTEX, PAH, Metals – 83 PFAS – 85 Asbestos NEPM – 53 Asbestos gravimetric onsite – 81
No. of Duplicates	5
No. of Triplicates	4
No. of Wash Blanks	0
No. of Trip Blanks	0
No. of Trip Spikes	0

No. Days Sampling

Item	Soil
Number of Days Sampling	2
Number of Sampling Events	1

Field Duplicates

Item	Yes/No	Comments
Were an adequate number of field duplicates collected?	Yes	Duplicates collected and tested at a rate of 10% (1 per 10 samples).
Were RPDs within control limits? No Limit for 5-10 x EQL and 30% for >10 x EQL	Yes	-

Trip Blanks/Trip Spikes

Item	Yes/No	Comments
Were an adequate number of trip blanks and trip spikes collected?	Yes	No trip blanks or spikes were collected, as volatiles were not a primary contaminant of concern.
Were the trip blanks free of contaminants? (If no, comment whether the contaminants present are also detected in the samples and whether they are common laboratory chemicals).	N/A	-
Were the trip spikes within recovery limits (between 80% and 120%)	N/A	

Rinsate Samples

Item	Yes/No	Comments
Were an adequate number of rinsate samples used? (1 per day of using reusable sampling equipment – trowel, hand auger etc)	Yes	No rinsate samples were collected as no reusable sampling equipment was used.
Were the rinsate samples free of contaminants? (If no, comment whether the contaminants present are also detected in the samples and whether they are common laboratory chemicals).	N/A	-

4. LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

A) Type of QA/QC Sample	Yes/No	Comments
Laboratory Blanks/Reagent Blanks (at least 1 per batch)	Yes	-
Laboratory Duplicates (at least 1 per batch or 1 per 10 samples)	Yes	-
Matrix Spikes, Matrix Spike Duplicates (1 for each soil type)	Yes	-
Laboratory Control Spike	Yes	-
Surrogate (where appropriate)	Yes	-

Item	Yes/No	Comments
B) Were the laboratory blanks and/or reagent blanks free of contamination?	Yes	-

Item	Yes/No	Comments
C) Were the spike recoveries within control limits? I: Organics/inorganics/metals (50% to 150%) II: Phenols (20% to 130%)	No	Laboratory matrix spike recoveries were within the control limits, with the exception of: Batch 265014 - TRH >C16-C34 (147%). The lab quoted code 9 which states: <i>"Recovery failed acceptance criteria due to sample heterogeneity"</i>. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of TRH were below the criteria, this does not affect the data usability. Batch 265014B - Fluoranthene (45%), pyrene (42%) and zinc (19%). The lab quoted code 9 which states: <i>"Recovery failed acceptance criteria due to sample heterogeneity"</i>, and code 5 which states: <i>"Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds spike level)"</i>. As the recoveries were lower than the control limits, theoretically concentrations could be higher in the samples than that recovered. Concentrations of PAHs and zinc were well below the adopted criteria. Therefore, these recoveries do not affect the outcome of the assessment. Batch 1096083 – Several PAH compounds (62% to 140%). The lab quoted code Q08 which states: <i>The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference."</i> As the recoveries were generally lower than the control limits, theoretically concentrations could be higher in the samples than that recovered. Concentrations of PAHs were well below the adopted criteria. Therefore, these recoveries do not affect the outcome of the assessment.

QA/QC DATA VALIDATION REPORT

Item	Yes/No	Comments
D) Were the RPDs of the laboratory duplicates within control limits?	No	Laboratory duplicate RPDs were recorded within the control limits except for: Batch 265014 - a range of PAHs (57%-128%) and zinc (42%). The laboratory quoted code 2 which states: <i>"The RPD failed acceptance criteria due to sample heterogeneity."</i> Based on this, these RPDs do not affect data usability. Batch 265014B - a range of PAHs (86%-147%) and nickel (38%) and zinc (46%). The laboratory quoted code 2 which states: <i>"The RPD failed acceptance criteria due to sample heterogeneity."</i> Based on this, these RPDs do not affect data usability.

Item	Yes/No	Comments
E) Were the surrogate recoveries within control limits?	No	Surrogates and laboratory control samples were within the laboratories acceptable range with the exception of: Batch 265905A - surrogate for PFAS compounds for samples SP4-1 and SP6-9, recoveries of 141% and 135%. The lab did not provide a reason the recoveries. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of PFAS were below the criteria, this does not affect the data usability. Batch 265014 – surrogate for PAH compounds for sample D.9.5.24 (d5-nitrobenzene 136%). The lab quoted code 1, which states: "At least 2 of 3 surrogates are within acceptance criteria". Based on this, the surrogate outlier is not considered to affect the usability of the results. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of PAHs were below the criteria, this does not affect the outcome of the report. Batch 265014A - surrogate for PFAS compounds for samples TP11 0.0-0.1, TP12 0.0-0.1 and TP13 0.0-0.1, recoveries of 179%, 186%, and 161%. The lab did not provide a reason the recoveries. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of PFAS were below the criteria, this does not affect the data usability. Batch 265014c - surrogate for PFAS compounds for 14 samples, recoveries between 141% and 460%. The lab did not provide a reason the recoveries. As the recovery was higher than the control limits, theoretically concentrations could be lower in the samples than that recovered. As the concentrations of PFAS were below the criteria, this does not affect the data usability.

Laboratory Internal QA/QC was:

Satisfactory :	✓	Partially Satisfactory:	Unsatisfactory:

5. DATA USABILITY

Item	Yes/No	Comments
Was the data directly usable?	Yes	
Was the data usable with the following corrections/modifications? (see comments)	NA	

QA/QC DATA VALIDATION REPORT

Was the data not usable?	NA	