



Detailed Phase 2 Contamination Investigation Data Gap Closure

30 – 46 Auburn Road, Regents Park NSW

28 JUNE 2021

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Executive Summary

30 Auburn Road Pty Ltd engaged Sullivan Environmental Sciences Pty Ltd to conduct a detailed Phase 2 contamination investigation (the Phase 2) to close out data gaps on the property at 30-46 Auburn Road, Regents Park NSW. The properties comprising the site have been a combination of industrial commercial premises built prior to 1960.

It is understood that the site is subject to proposed development for mixed use including commercial retail ground floor with residential apartments above and underlying basements. Recent correspondence received by 30 Auburn Road Pty Ltd from the Department Planning contained conditions of an amended gateway determination requiring preparation of a Remedial Action Plan (RAP) with reference to Ministerial Direction 2.6 Remediation of Contaminated Land, made under *Section 9.1(2) of the Environmental Planning and Assessment Act 1979*.

In response, Sullivan-ES prepared a RAP (Feb 2021) to satisfy the amended condition to the gateway determination and fulfil obligations under SEPP55 for site remediation. The RAP presented an overview of a staged remediation methodology comprising (1) a Phase 2 - Data Gap Closure - Investigation and subject to the findings, (2) remediate contaminated areas by excavation and subsequent disposal offsite to a licenced landfill.

The objectives of this Phase 2 were to investigate for the presence of soil and groundwater contamination to close out data gaps on the site, to assess potential health risks for future use of the land under a high-density residential setting, and provide recommendations for additional investigations or remediation, if required

The following conclusions are made based on the findings of this Phase 2 and subject to the limitations presented in Section 10:

- Soils at the former AST area, represented by results for BH08, are impacted by lead and TRH (>C₁₀-C₁₆) above human health criteria. The impacted soils are consistent with diesel spills observed by Woodward-Clyde at TP6 (WWC, 1998 & DP, 2002).
- While there is no health risks to current site users, there is a potential risk to future site users by contaminated soils at BH08 that requires remediation during site redevelopment.
- Asbestos containing fibre cement fragments were observed in ballast gravels/crushed rock beneath Building #2 foundation slab at BH28. Similar gravel layers were also observed elsewhere beneath and adjacent to Building #2 however no further ACM was observed. As such the extent of ACM impact is considered localised.
- While there is no health risks to current site users, there is a potential risk to future site users by the ACM impacted gravel fill beneath the east side of Building #2 that requires remediation during site redevelopment.
- A soil/waste stockpile (SP02_A) located on #46 Auburn Rd is impacted by TRH (>C₁₀-C₁₆ and >C₁₆-C₃₄) fractions above the adopted site criteria. While the waste pile causes no risk to current site users, the stockpile is not suitable to remain onsite for the future redevelopment and therefore requires remediation or management.
- Surface soils proximal to SS01 on #46 Auburn Rd show oily stains and discolouration that should be ameliorated to address the aesthetic impacts in this localised area of the site.
- Groundwater onsite is of relatively good quality with no exceedances of the adopted human health screening levels.
- Heavy metals were recorded above the adopted GILs for ecological receptors. The exceedances are considered inconsequential at these locations and do not represent a health risk to the nearest

Executive Summary

receiving water (Duck Creek). No corresponding heavy metal impacts in soil were identified onsite suggesting impacts, particularly cadmium and chromium, are likely to be endemic in the local area.

- PFAS in groundwater was not reported above the adopted GILs for Ecological Freshwater 90% or 95% species protection values and PFOA was not detected onsite above the 99% species protection value representing a negligible risk to offsite ecological receptors.
- PFOS was detected marginally exceeding the draft NEMP freshwater 99% species protection value however site history, in an industrial setting and similar PFOS concentrations recorded at opposite site boundaries suggests levels are most likely ambient background concentrations in the area.

Sullivan-ES conclude that the site poses a relatively low contamination risk and can be made suitable for the proposed high density residential use subject to performing remediation works in localised areas of the site.

We recommend the existing RAP (Sullivan, Feb 2021) is revised to document the current contamination status of the site and evaluate the most suitable method/s to remediate contamination identified in this Phase 2 in consideration of the proposed mixed-use high-rise residential development. The revised RAP should consider the follow items as a minimum:

- During site demolition stage - Additional sampling in and around the former AST to refine localised remediation extent within impacted surface soils and soils at depth for lead and TRH.
- During site demolition stage - Additional sampling to delineate beneath Building #2 to obtain a better understanding of the presence of buried asbestos fragments within impacted ballast/gravel fill materials.
- During site demolition stage - Characterisation and waste management of stockpiled soils associated with SP02_A.
- During site demolition stage - Removal of oil impacted surface soils in and around SS01 at the rear of #46 Auburn Rd.
- Materials management, classification and handling requirements and disposal.
- Unexpected finds protocol.

We also recommend, if not already completed, a hazardous building materials survey covering the entire site, meeting the requirements of the WH&S (Regulation) 2017, is carried out on all built structures and any recommendations complied with prior to demolishing site buildings.

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Introduction

30 Auburn Road Pty Ltd engaged Sullivan Environmental Sciences Pty Ltd (Sullivan-ES) to conduct a detailed Phase 2 contamination investigation (the Phase 2) to close out data gaps on the property at 30-46 Auburn Road, Regents Park NSW, henceforth referred to as 'the site'. The site location is shown on Figure 1 and the general site layout is shown on Figure 2 (**Appendix A**).

The properties comprising the site have been a combination of industrial commercial premises built prior to 1960. It is understood that the site is proposed for future development for mixed use with retail ground floor space, high density apartments and car parking basement levels.. Recent correspondence received by 30 Auburn Road Pty Ltd from the Department Planning contained conditions of an amended gateway determination requiring preparation of a Remedial Action Plan (RAP). The correspondence referenced Ministerial Direction 2.6 Remediation of Contaminated Land, made under Section 9.1(2) of the Environmental Planning and Assessment Act 1979:

“...to demonstrate the land can be suitable [sic] remediated for the land uses permissible under the R4 High Density Residential zone, and the method and feasibility of remediation.”

In response, Sullivan-ES prepared a RAP (Sullivan-ES, Feb 2021¹) to satisfy the amended condition to the gateway determination and fulfil obligations under SEPP55 for site remediation. The RAP presented an overview of the remediation methodology. The preferred remedial approach in the RAP comprised two steps:

1. A Phase 2 - Data Gap Closure – Investigation involving:
 - o Verifying validation of former USTs and AST areas - #30 Auburn Rd.
 - o Assess contamination status of:
 - former wash bay area and settling pit areas - #30 Auburn Rd.
 - Waste piles, drains and pits - #46 Auburn Rd.
 - beneath building footprints and site coverage – sitewide.
 - o Assess contamination status of groundwater sitewide.

And subject to the findings of the data gap closure:

2. Remediate contaminated soils by excavation and subsequent disposal offsite to a licenced landfill.

This Phase 2 relates to closing the data gaps outlined above to inform remediation requirements. The RAP is to be updated and revised based on the findings of this Phase 2 investigation.

1.1 Objective

Our objectives were to investigate for the presence of soil and groundwater contamination to close out data gaps on the site in accordance with Section 3.5.1 of the RAP (Sullivan-ES, Feb 2021), to assess potential health risks for future use of the land under a high-density residential setting, and provide recommendations for additional investigations or remediation, if required.

1.2 Scope of Work

Our scope of work to complete the Phase 2 and close out the data gaps is presented below:

¹ Remedial Action Plan, 30-46 Auburn Rd, Regents Park, Sullivan Environmental Sciences Pty Ltd, February 2021.

Introduction

Document Review

- Conduct a review of background information and available reports.

Field Work Sampling

- Prepare a safety and sampling work plan for all field-based work on the site.
- Conduct clearance of underground utilities using Dial Before You Dig plans and a Telstra accredited pipe locating subcontractor, to clear and confirm soil/groundwater sampling locations.
- Conduct concrete coring, bore drilling and soil sampling inside and outside buildings at nominated locations.
- Install/construct 6 groundwater monitoring wells by extending a selected soil bore to the required depth using solid stem drilling methods.
- Gauge and purge each groundwater well and collect a sample of groundwater from each, measuring field parameters during the process.
- Dispatch collected samples of soil and groundwater (including QA/QC duplicates and blank samples) to a NATA accredited laboratory for analysis of a suite of contaminants.

Reporting

- Prepare a Phase 2 contamination investigation report in consideration of the Reporting Guidelines (EPA, 2020) and Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure 2013 (ASC NEPM 2013).

1.3 Regulatory Framework

The Investigation was conducted in consideration of the following regulatory framework and guideline documents. A full list of reference documents is presented in Section 9.

- Contaminated Land Management Act 1997 (CLM Act).
- National Environment Protection (Assessment of Site Contamination) Measure 2013 (ASC NEPM 2013).
- Contaminated Land Guidelines: Consultants Reporting on Contaminated Land, 2020 (NSW EPA 2020).
- Sampling Design Guidelines, 1995 (NSW EPA 1995).
- Guidelines for the NSW Site Auditor Scheme (3rd Edition), 2017 (NSW EPA 2017).
- Guidelines for the Assessment and Management of Groundwater Contamination, 2007 (NSW DEC 2007).
- State Environmental Planning Policy No.55 – Remediation of Land 1998 (SEPP55).

1.4 Consultant's Competency and Certification

All contamination assessment work and reporting were conducted by the professionally trained team at Sullivan-ES. The Project Team consisted of the following members:

1. Adam Sullivan who has over 23 years of experience in contaminated land assessment and remediation. Adam is a certified Site Contamination Specialist (CEnvP-SC) under the Certified Environmental Practitioner Scheme (www.cenvp.org) and has reviewed and approved this report in the capacity as a CEnvP-SC and Principal Scientist.
2. Sean Guenther who has over 20 years of experience in contaminated land assessment and remediation and has prepared this report in his capacity as Senior Associate.

Background Site Information

The information provided in this section is summarised from the following:

- Information provided by 30 Auburn Rd Pty Ltd.
- Previous contamination assessment reports:
 - o Sullivan Environmental Sciences Pty Ltd, Preliminary Contamination Investigation, 11 August 2017.
 - o Sullivan Environmental Sciences Pty Ltd, Remedial Action Plan, 27 February 2021.
- Fieldwork observations and sampling undertaken by Sullivan-ES.

2.1 Site Description

The site location and site layout are shown on Figure 1 and Figure 2, respectively (**Appendix A**). The following information identifies the site.

Table 2-1 Site Identification

Attribute	Details
Address	30 – 46 Auburn Road, Regents Park NSW 2143
Title Identification	Lot 1 DP 656032 (#30) Lot 2 DP 433938 (#46)
Property Area	• Approximately 21,000m²
Owner/operator	30 Auburn Road Pty Ltd
Local Government	City of Canterbury Bankstown (formerly Bankstown LGA)
Land use zone	R4 – High Density Residential (Bankstown LEP 2015)
Land uses	Past: Commercial operations and factory warehousing and storage. Current: Commercial operations including Crane hire facility, scaffold/formwork hire, furniture storage and distribution, and Sydney Construction Training School Future: mix use of high-rise apartments, ground floor commercial and associated basement carparking
Geographic Coordinates	-33.887390, 151.021942

2.1.1 Existing and Proposed Use and Surrounding Land Use

The site is currently zoned R4 – High Density Residential (Bankstown LEP 2015). No changes to the land zoning are proposed as part of the DA. A planning proposal has been lodged for Gateway determination to increase the maximum building heights and Floor Space Ratio (FSR).

The concept design for the site involves a number of multi-level residential high-rise buildings with ground level commercial activities and landscaping, with underlying basement carparking.

Land surrounding the site consists of:

North: Industrial commercial precinct of Gunya Street (zoned IN2 – Light Industrial).

South: Rail infrastructure (SP2) then Low Density Residential (R2) of the suburb, Birrong.

Background Site Information

East: Auburn Road then Low Density Residential (R2) of Regents Park suburb and Magney Reserve (RE1) parkland.

West: Rail infrastructure (SP2).

2.2 Site History

The following information is sourced from the Preliminary Contamination Assessment² (Sullivan-ES 2017). Site history information is accurate up to the time of Sullivan-ES 2017.

2.2.1 30 Auburn Rd

Email Ltd had occupied the land for approximately 40 years (prior to 1997) until the site was sold in 2001. Prior to that the site was used as an industrial facility for metal fabrication and warehousing.

The land was the main manufacturing facility for Email to manufacture filtration and ventilation products from sheet metal and filter material. Warehousing, product testing, maintenance and administration were also conducted.

Email operated two Underground Storage Tanks (USTs) and an Aboveground Storage Tank (AST) for fuel storage in separate locations of the site, which have since been removed 20 years ago.

Since land ownership transferred in 2001, the following activities have occurred on 30 Auburn Rd:

- Building 1 has been continuously occupied by a wholesaler of furniture since March 2006.
- Building 2 was leased by a paper recycling business from April 2010 to November 2010.
- Subsequent to this, Building 2 was occupied in its entirety by a construction training school.
- Since August 2017, the eastern half of Building 2 and the external awning on the eastern end has been occupied for formwork storage.
- Building 3 has been continuously occupied by a manufacturer of timber furniture since February 2006. Building 3 burnt down in recent years.
- Eastern sealed area of Building 2 was leased out as a formwork storage yard from September 2007 until April 2011, and subsequently leased out as a parking area for the construction training school.
- North of Building 2 has been utilised by the landowner as a storage yard of containers and demountable buildings since July 2016.
- The west external area of Building 2 has been utilised by a crane company since October 2007 as a storage yard, which then evolved into a construction training school. Since that time, the tenancy has grown to incorporate other areas around Building 1 and 2.

2.2.2 46 Auburn Rd

The land was owned by an ice manufacturer from 1945 to 1954, indicating the site may have been used for this purpose, however aerial images show the land was not developed during this time.

The land was owned by ABC Timbers Pty Ltd from 1960 to 1987, indicating timber yard related activities.

² Preliminary Contamination Investigation, 30-46 Auburn Rd, Regents Park, Sullivan Environmental Sciences Pty Ltd, Sullivan-ES August 2017.

Background Site Information

ABC Timber & Supplies was the occupant at the time of land ownership transfer in 2002. Since that time, the following activities have occurred on 46 Auburn Rd:

- A timber furniture manufacturer occupied the entire property from August 2005 until August 2008.
- An excavation company has occupied the entire site since January 2014 for the parking of trucks and excavation machinery.

2.3 Site Inspection and Condition

Activities and operations on the site are similar to what was reported in Sullivan-ES, 2017 albeit considerably more areas were used for storage by the formwork tenant in and around Building 2 and Building 3 was no longer present.

#30 Auburn Rd

Building 1 remains primarily used for bedroom furniture storage and warehousing. The area to the southeast corner is the former office space of Email Ltd. This area of Building 1 is in a considerable state of dilapidation and inaccessible.

The west end of Building 2 and courtyard further west remains used as office space, storage and a training yard for the construction training school.

The vent pipe from the former super UST was present attached to the northeast corner of Building 2.

A fire incident caused Building 3 to burn down since the 2017 report. The building was demolished and removed offsite as waste. No ACM sheeting was noted along the western boundary (as observed in 2017). No other buildings were affected by the fire. The area of the former Building 3 is used for storage of various materials and construction equipment. There was no evidence of chemicals stored in this area.

The former AST and bund area has not changed as observed at the southwest corner of Building 1 along with the flammable goods shed. The shed sits on a sealed concrete slab.

A groundwater monitoring well cover was again observed north of the Canteen building, which is evidence that this was the location of the former unleaded UST (WWC, Apr 1998). The well cover was rusted shut and could not be removed to access the groundwater well.

A groundwater monitoring well cover was observed in the yard area west of Building 2 indicating that this area was targeted for groundwater sampling in previous investigation and the likely location of the former wash bay (WWC, Apr 1998). The groundwater cover could be removed and this existing well was reused in this Investigation.

Building walls of all buildings are predominately suspected asbestos-cement fibro sheeting.

Down pipes are also suspected asbestos containing, while some are broken.

The detention basin was observed at the northern site boundary. Adjoining this was a soil pile likely formed from excavating the area to construct the basin.

#46 Auburn Rd

Site buildings have not changed and remain constructed of metal cladding.

The entrance forecourt and building footprints are all concrete sealed. Minor areas to the property rear (west end) are unsealed.

Background Site Information

The site usage has not changed since 2017 and used for storage of various mechanical truck parts including batteries and engines and conducting truck repairs/maintenance and overnight truck parking.

The stockpile of refuse waste materials remains on the southern boundary, while a shipping container at the rear of the site is almost full with old oil drums and containers. Some staining was noted on the unsealed ground outside the container.

There is an increased amount of vehicle spare parts and piles of motor mechanical wastes. Oil stains were prevalent towards the rear of the property on concrete surfaces and bare ground.

The central drainage grate shows complete blockage towards the western end. We could not ascertain which way surface runoff would flow.

An undercover area to the right of the entrance driveway is used to store oils in containers. There is evidence of oily stains on the concrete surfaces.

2.4 Previous Contamination Reports

The following information relating to historical contamination assessments is sourced from Sullivan-ES, 2017 noting that only extracts of former reports were supplied to Sullivan-ES in 2017 for the purpose of reviewing. Copies of completed reports with supporting results tables and figures were not supplied.

2.4.1 Woodward-Clyde, Nov 1997

Sullivan-ES was provided with a 10-page extract from this report to review. The report was specific to 30 Auburn Rd and was part of a due diligence exercise prior to divestment of the site by Email Ltd. The following information is summarised from the report extract:

- *“The Regents Park site was the main manufacturing facility for Email Ltd.*
- *Email Ltd had occupied the site for approximately 40 years (before 1997). Prior to that the site was used as an industrial facility for metal fabrication and warehousing.*
- *Three factory buildings and a smaller canteen building existed onsite. Construction materials included asbestos-containing fibro sheet walls. Roofs of the three factory buildings were replaced in 1990. The canteen building roof is suspected asbestos-cement sheeting.*
- *The northern portion of the site was vacant grassed land (approximately one third of the site).*
- *Land surrounding the site was either commercial/industrial or railway corridor land.*
- *The site was used by Email Ltd to manufacture filtration and ventilation products from sheet metal and filter material. Warehousing, product testing, maintenance and administration were also conducted.*
- *Chemicals used include commercial cleaners, paints, glues, gel sprays, carbon, polyurethane foam, and methylene chloride cleaner.*
- *A Pollution Control Licence (#002811) was held at the site issued by the EPA. Trade wastes included paint and foam which were removed from the site under EPA regulation (Certificate of Registration #P24087).*
- *The site held a Dangerous Goods licence issued by WorkCover NSW for storage of unleaded petrol, paints, argon, LPG, diesel, nitrogen, acetylene, and kerosene.*
- *A wash bay was previously operated at the western site boundary outside Building 3. Wastewater from the wash bay was pumped to two settling pits at the eastern end of Building 2 and removed by contractor.*
- *Black staining was observed on the grassed area proximal to vent pipes on the southern side of Building 3 from the vent exhaust of activated carbon.*

Background Site Information

- *Liquid wastes included paints, isocyanate foams, and waste oil. Paints and foams were removed offsite by a licenced contractor. Records of waste oil management were not reviewed.*
- *An Aboveground Storage Tank (AST) was located in a bunded area at the southern site boundary. Spillage of diesel was observed on the grassed surfaces around the AST.*
- *Spillage and chemical stains on the floor of Building 3 (gelling rigs) and along the outside gutter were noted.*
- *No dedicated storage area was noted for methylene chloride (a Class 6 Poison) used in the cleaning process of foam parts.*
- *An Underground Storage Tank (UST) with 10,000 litre capacity and bowser was located outside the main offices. The UST contained unleaded petrol for refuelling of company vehicles and had been present for greater than 10 years.*
- *Another UST and bowser had been removed approximately 4 years ago from outside the northeast corner of Building 2. The UST was used to store leaded (super) petrol. No records of tank decommissioning or validation was reviewed.*
- *A flammable goods store was located at the southern site boundary. Paints, thinners, acidic cleaner and a bag of trisodium phosphate was observed.*
- *Other chemicals identified included Corflex (di-2-ethyl hexyl phthalate), and historical used of oil in heaters, but now removed and not used for many years.*
- *A waste bin used to collect PCB-containing fluorescent light fittings was located on the grassed rear storage area. It was recommended that the bin be made liquid tight to prevent leakage of PCB material from the bin.*
- *Woodward-Clyde considered that the potential for soil and groundwater contamination was medium given the long industrial use of the site. Potential high-risk areas were considered to be unsealed waste storage areas, the diesel AST area, and the existing UST.*
- *Historical activities were also considered to pose potential contamination risks including imported fill materials.*

Woodward-Clyde concluded *"The potential for soil contamination from the existing unleaded petrol UST and the recently removed super petrol UST is the only potential materially significant issue that was identified during the walk over survey of the site."*

2.4.2 Woodward-Clyde, Apr 1998

Sullivan-ES was provided with a 3-page extract of the Executive Summary of this report to review. The report was only relevant to 30 Auburn Road. The following information was summarised from this report extract:

- *"The investigation was conducted to address recommendations made in the previous survey report (Woodward-Clyde Nov 1997) to evaluate liabilities associated with potential contamination at the site. The investigation included a sampling program of soil and groundwater targeted at locations identified as potential major issue areas.*
- *Eighteen (18) sampling locations were used to investigate the site. It was acknowledged that this number of locations did not meet the number of locations recommended by the NSW EPA to assess a site with an area of 1.9 hectares (i.e. 30 sampling locations). It was stated that the investigation was preliminary and adequate for the site given the continued use for industrial activities.*
- *Three (3) groundwater monitoring wells were installed proximal to former/existing USTs and other areas identified as groundwater risks.*

Background Site Information

- *An asbestos survey and CCTV stormwater drain inspection was also conducted by others at the time of the Phase 2.*
- *Hydrocarbon odours and staining was observed at soil sample location BH2 and analytical results confirmed detections of hydrocarbon contaminants.*
- *Concentrations of heavy metals in several soil samples located in and between Building 3 and Building 2 were below the adopted soil criteria for industrial land use.*
- *Organic contaminants were not detected in soil samples collected from identified probable high-risk site areas which indicated that organic contaminants would not be prevalent across the site.*
- *Detectable concentrations of heavy metals in groundwater samples was considered to be indicative of background quality and not caused by activities onsite.*
- *The operation of USTs onsite had not caused detrimental impacts to groundwater because no organic contaminants were detected in groundwater samples.*
- *Asbestos containing materials were present in building materials.”*

Woodward-Clyde made a number of recommendations to address various issues including:

- *“Removal of the UST and AST and validation of residual surrounding soils.*
- *Further sampling across the site should the site be rezoned for more sensitive land uses, such as residential, and at to establish baseline conditions for end of tenancy periods.*
- *Implementing an asbestos management plan in conjunction with a risk assessment of asbestos containing materials.*
- *Investigation of oil and diesel impacts to the stormwater system as well as cleaning stormwater sumps and improving stormwater pit access.*
- *An annual inspection of the site to document tenant activities pertaining to potential contamination risks.”*

2.4.3 Woodward-Clyde, Dec 1998

Sullivan-ES was provided with a covering letter and 6-page letter report to review (excluding any tables, figures or appendices). The report presents the works conducted for removal and validation of the remaining UST documented in WWC, Apr 1998 at 30 Auburn Road. The following information is summarised from this report:

- *“The work was conducted in accordance with relevant codes of practice at that time (e.g. AIP CP22 Dec 1994).*
- *The UST was pumped of 6,400 litres of fuel product prior to excavation.*
- *The UST was a 15,000-litre capacity tank and removed from the ground outside the north side of the Canteen Building.*
- *Soil validation was conducted in accordance with relevant guidelines at that time (e.g. EPA 1994).*
- *Soil validation results met relevant criteria at that time (e.g. NEHF 1996 and EPA 1994).*

Woodward-Clyde concluded that soil contaminants were below the land use criteria in both excavated areas and backfill material and considered suitable for ongoing commercial/industrial land use.”

2.4.4 Douglas Partners, Sept 2002

Sullivan-ES was provided with a 5-page letter report prepared by Douglas Partners Pty Ltd (DP) pertaining to a review of WWC, Apr 1998. The purpose of this report was to provide an independent opinion in consideration of the site to be rezoned from industrial to residential land use; as well as to

Background Site Information

identify areas of potential environmental liability and to provide actions to render the site suitable for the rezoned land. The following information is summarised from the review:

- *“DP stated that 46 Auburn Road was not covered in the Phase 2 investigation.*
- *DP stated that the Phase 2 was generally able to identify areas of concern and provided an evaluation of the suitability of the site for its intended industrial land use.*
- *DP identified a deficiency in sampling locations compared to NSW EPA (1995) recommended densities for specific land sizes, however stated that the sampling density was considered appropriate as a Phase 1 preliminary assessment to evaluate the general potential contamination risk.*
- *DP stated that the criteria values selected for assessing soil and groundwater were appropriate and adopted from relevant guidelines endorsed at that time (1998).*
- *DP identified hydrocarbon impacts at sampling location TP5 (not BH2 as reported in the Phase 2), and TP6, albeit as localised presence. DP also agreed that given the low permeable clay soils and depth to groundwater at 5.5m below ground, the risk of migration of impacts from surface layers to groundwater would be low.*
- *DP identified that methylene chloride was not analysed in the Phase 2, although identified as a target contaminant. After considering the sampling pattern followed in the Phase 2 that focussed on likely "high risk" locations and the analytical tests performed for other organic contaminants, DP concurred that potential chlorinated solvent impacts would be low.*
- *DP agreed that detection of heavy metals in the groundwater was due to background conditions.*
- *DP agreed that the operation of USTs on the site had not had a detrimental effect on groundwater quality.*
- *DP agreed that remediation of asbestos-containing materials was straight forward.*
- *DP agreed with the conclusions and recommendations of the Phase 2.*
- *In light of the proposed residential rezoning, DP conducted a review of all Phase 2 sampling results against assessment criteria for residential sites (with minimal access to soils, such as for apartment buildings), concluding that all soil results met the more sensitive land use criteria. DP noted that some metal concentrations exceeded ecologically based phytotoxic levels. DP stated that, all things considered, with the proposed development to effectively cover the site with hardstand layers, the exceedance of ecological criteria would not be a major issue.*

DP made the following conclusions from their review of the Phase 2 report:

- *Hydrocarbon impacts were generally localised and remediation of those areas would be relatively straight forward.*
- *Woodward-Clyde had identified site areas of concern requiring further investigation and/or remediation.*
- *The potential for extensive contamination of the site was low.*
- *The site could be practically remediated and rendered suitable for the proposed residential use.*
- *Further investigation may also be prudent at the time after building demolition to access soils to fully characterise the site for contamination.”*

2.4.5 Sullivan-ES, Aug 2017

Sullivan-ES was engaged by Hallmark Construction Pty Ltd to conduct a Preliminary Contamination Investigation (PCI) to assess the suitability of the site in respect of proposed high-rise residential use. The following conclusions and recommendations are drawn from the PCI (Sullivan-ES, 2017):

Background Site Information

- *“...Background searches indicate that the main activities relating to potential contamination is operation of the site by Email Ltd (on #30) and timber yard/hardware store operations (on #46).*
- *Sullivan-ES concur with the previous reports that priority high-risk areas at #30 Auburn Road have been identified and targeted for sampling. However, previous sampling should be supplemented with additional sampling under and around site buildings and filled areas to achieve sufficient site coverage and recommended sampling densities (NSW EPA, 1995). Further sampling can be conducted at a later stage once demolition of the existing buildings has occurred. Analytical tests should include general contaminants as well as asbestos impacts.*
- *Supplementary sampling on #30 should extend across the entire area of #46 to assess soil conditions at specific locations around drains and waste piles and generally across all site areas. Analytical tests should include general contaminants as well as contaminants related to timber storage or treatment. Piles of waste should be assessed for waste classification and removal offsite.*
- *We also consider that the former super UST and diesel AST areas on #30 should be targeted for sampling given that it is not known if validation sampling was conducted and no validation records were reviewed.*
- *Additional areas to target on #30 include the former wash bay and settling pits identified in the Phase 2 (Apr 1998), and general filled areas in the northern portion of the site.*
- *Supplementary groundwater sampling is recommended given the size of the site (including both #30 and #46) and limited previous sampling. Site boundary conditions should be targeted for this purpose.*
- *The proposed site redevelopment will remove the majority of the top 3m of soil across the site to construct basement parking. As such, any supplementary sampling recommended above should consider the need for removal of surplus soil offsite as a waste or otherwise as recovered resource material if proven so (e.g. Virgin Excavated Natural Material - VENM).*
- *Any site areas where existing soils are to be retaining and not subject to bulk excavations should be sampled after demolition of existing buildings and assessed against current health-based soil investigation criteria in accordance with Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM 2013).*
- *Sullivan-ES conclude that the site can be made suitable for the proposed residential use subject to the findings of previous reports, further sampling of soils and groundwater at an appropriate later stage, and if necessary; considerate of existing results and any new information; performing remediation works to remove any unacceptable human or environmental health risks..”*

2.4.6 Integrity Evaluation of Information

Information was collected from a number of sources for the purposes of this Investigation. Government information sources are considered accurate and without bias. Information sourced from previous contamination assessments provide a reasonably clear indication of the historical land use and contamination status of the site at the time of the work, which is sufficient for the purposes of this investigation. Sullivan-ES therefore consider the background information to be of an acceptable standard for evaluating contamination risk in accordance with the requirements under SEPP 55 and the SEPP 55 Guidelines.

Environmental Setting

3.1 Regional Soil and Geology

Review of the 1:100,000 Geological Series for the Sydney area (Sheet 9130 NSW Department of Minerals Resources, Edition 1 1983) shows that the site is situated on Triassic period Bringelly Shales from the Wianamatta Group. Bringelly Shales consist of shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, with rare coal.

The soil landscape map shows that the underlying soils at the site are of the Blacktown and Birrong soil landscapes³. These soil groups have the following traits:

- Blacktown Soils: shallow to moderately deep (<100 cm) Red and Brown Podzolic Soils on crests, upper slopes and well-drained areas; deep (150–300 cm) Yellow Podzolic Soils and Soloths on lower slopes and in areas of poor drainage.
- Birrong Soils: deep (>250 cm) Yellow Podzolic Soils and Yellow Solodic Soils on older alluvial terraces; deep (>250 cm) Solodic Soils and Yellow Solonetz on current floodplain.

3.2 Topography and Drainage

The site sits at approx. 30-40 metres Australian Height Datum (m AHD). Blacktown topography is typified as “Gently undulating rises on Wianamatta Shale with local relief 10–30 m and slopes generally <5%, but up to 10%. Crests and ridges are broad (200–600 m) and rounded with convex upper slopes grading into concave lower slopes. Rock outcrop is absent”.

Birrong topography is typified as “Level to gently undulating alluvial floodplains with local relief <5m and slope gradients <3%. Broad concave valleys”.

Most local drainage lines in the area have been converted to lined concrete and brick channels. Generally, site drainage is directed into the local stormwater network of Regents Park which is believed to enter the upper reaches of Duck River which flows north before entering the Parramatta River. Sullivan-ES, 2017 identified a small creek line to the north of the site from historical aerial photos (1943 – 1994) that drained west and connected with the upper reaches of Duck River. The creek was built over in the early 1990s when the properties to the north were constructed.

3.3 Regional Groundwater

A search of the NSW Office of Water Registered Groundwater Bore database (accessed 22/02/2021) indicated there are four (4) registered groundwater bores within 500m of the site. Details are presented below.

Table 3-1 Registered Groundwater Bores

Bore ID	Property	Direction from Site	Installed Date	Purpose	Depth	Standing Water
GW113057	Sefton Junction Substation	Approx. 160m W	Dec 2007	Monitoring	7m	Not recorded

³ <https://www.environment.nsw.gov.au/eSpade2WebApp#>

Environmental Setting

Bore ID	Property	Direction from Site	Installed Date	Purpose	Depth	Standing Water
GW113058	Sefton Junction Substation	Approx. 160m W	Dec 2007	Monitoring	6m	Not recorded
GW113059	Sefton Junction Substation	Approx. 160m W	Dec 2007	Monitoring	6m	Not recorded
GW113060	Sefton Junction Substation	Approx. 160m W	Dec 2007	Monitoring	6m	Not recorded

During this Investigation, depth to groundwater on the site was measured to be between approximately 3.0 m and 6.0 m, present within weathered shale and soft shale rock.

3.4 Acid Sulfate Soils

The site is not located on land that would comprise a risk from potential acid sulfate soils.

3.5 Heritage, Environmental Conservation and Terrestrial Biodiversity

The site is not located within a Heritage, Environmental Conservation or Terrestrial Biodiversity Area under the Bankstown LEP 2015.

Assessment Methodology

4.1 Data Quality Objectives

The Data Quality Objectives (DQOs) for the assessment are based on guidance presented in the ASC NEPM 2013 – Schedule B2. The DQOs establish a framework for contamination investigations, which incorporates a seven-step process that defines the problem at the site and then optimises the design of the investigation.

Step 1 - State the Problem

The problems under investigation were:

- Unknown contamination status from historical validation of former USTs and ASTs areas on #30 Auburn Rd;
- Unknown presence of contamination associated with former wash bay area and settling pits area on #30 Auburn Rd;
- Unknown presence of contamination within filled areas along the northern site boundary;
- Unknown presence of contamination associated with waste piles, drains and pits on #46 Auburn Rd;
- Unknown presence of contamination beneath building footprints and site coverage across the site;
- Unknown contamination status of groundwater across the site; and
- Unknown potential exposure pathways for human and environmental receptors for proposed development of the site.

Step 2 - Identify the Decision

The principal study questions that arise from Step 1 were:

- Has the presence and extent of contamination in the various environmental media been defined onsite?
- Are or will human and environmental receptors be exposed to contamination and is the risk posed by contamination unacceptable requiring intervention?
- Is the site suitable, in the context of land contamination, for the proposed high-density residential land use scenario?

Step 3 - Identify Inputs to the Decision

Primary inputs to making a decision are:

- Available and reliable environmental data obtained from historical reports.
- New data and observations made during field works.
- Results of chemical analyses of samples collected.
- Statistical data of new and existing data sets.
- Assessment of the suitability of new data for the purposes of environmental assessment through application of data quality indicators (DQIs).
- Assessment of the data in the context of the adopted investigation criteria.
- Characterisation of risk.

Step 4 - Define the Study Boundaries

Spatial boundaries were limited to:

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- Lateral – Defined by the site audit boundary as shown on Figure 2.
- Vertical – collection of new data will be confined to the surface and fill layer onsite in soil. Onsite groundwater data will be limited to a maximum depth of 9.0m from the existing ground level.

Previous, existing and anecdotal data would be used to supplement the study boundaries as required.

Temporal boundaries are defined within the limitations of this report.

Step 5 - Develop a Decision Rule

The decision rule for this assessment will be:

- If the concentration of any analysed contaminant in collected samples exceed adopted investigation criteria for the land use; then characterise and assess risk to relevant receptors.
- If the risk posed by contaminants is shown to be unacceptable for the land use, then make recommendations to ameliorate contaminants (remediation) such that the risk is made acceptable and the site made suitable.

A decision on the acceptance of analytical data will be made on the basis of the Data Quality Indicators (DQI) that are compliant with PARCC parameters PARCC parameters for field-based activities as follows.

Field-Based Activities

Precision: A quantitative measure of the variability (or reproducibility) of data. Intra and Inter laboratory duplicates were collected at a rate of one duplicate per 10 primary samples collected (i.e. 10% or an equivalent of 5% each). The relative percent difference (RPD) of the detected concentrations in the parent and duplicate was calculated with the following acceptable limits.

- No RPD limit <10 times LOR.
- 50% RPD limit 10-20 times LOR.
- 30% RPD limit >20 times LOR.

Accuracy: A quantitative measure of the closeness of reported data to the “true” value, applying the following acceptable limits.

- Rinsate and/or field blanks <LOR.

Representativeness: The confidence (expressed qualitatively) that data are representative of each media present on site, with the following conditions met.

- Appropriate sampling methods adopted, and media sampled, and chemicals analysed (Step 7).

Completeness: A measure of the amount of useable data from a data collection activity, with the following conditions met.

- Appropriate Standard Operating Procedures (SOPs), and experienced staff (> 2yrs experienced), and documentation collected (logs, COC, instrument calibration, water monitoring readings). Refer Step 7.

Comparability: The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event, with the following conditions met.

- Appropriate Standard Operating Procedures (SOPs), and experienced staff (> 2yrs experienced). Refer Step 7.

Assessment Methodology

- Appropriate sample handling and preservation, and field conditions (Step 7).

Analytical Laboratory-Based Activities

Analytical laboratories operating under a NATA accreditation were assessed based on their internal and accreditation performance. As standard, a suitable internal QA/QC program is employed to include analysis of method blanks, matrix spikes, surrogate spikes, laboratory control samples and laboratory duplicates. The laboratory will report on whether the QA/QC analysis meets the laboratory's adopted internal data quality objectives.

Step 6 - Specify Limits on Decision Errors

Specific limits for this project are in accordance with the appropriate guidance made or endorsed by state and national regulations, appropriate indicators of data quality, and industry standard procedures for field sampling and handling.

This step also examines the certainty of conclusive statements based on the available new site data collected. This includes the following points to quantify tolerable limits:

- A decision can be made based on a certainty assumption of 95% confidence in any given data set. A limit on the decision error will be 5% that a conclusive statement may be a false positive or false negative.

In order for decision rules to be sound, they were designed to minimise decision errors. The risk of decision error was mitigated by:

- Ensuring fieldwork tasks were undertaken by suitably experienced field staff and sub-contractors, with reference to the DQOs presented in this report;
- Ensuring laboratory analyses were undertaken by NATA accredited laboratories; and
- Ensuring interpretation of data was undertaken by suitably experienced environmental consultants and/or outsourcing interpretation to technical experts (if warranted).

Step 7 - Optimise the Design

The sampling program designed for this investigation as described in section 4.2 was aimed at obtaining the necessary data to make the decision identified in Step 2. Subsequent sections detail the sampling program employed.

4.2 Basis to Sampling

The sampling approach was based on a combined judgemental and systematic sampling pattern to target known data gap locations with a higher degree of frequency and certainty in the achieved data set. In that respect, soil and groundwater media were the primary target to understand if soil or groundwater pose a risk to future users and if required to inform site remediation and the proposed basement/building design.

The table below presents the sampling locations and rationale. All soil and groundwater sampling locations are presented on Figure 3 (**Appendix A**).

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Table 4-1 Sampling Locations and Rationale

Location ID	Rationale
Soil	
BH01 – BH05	Assess soils beneath Building #1
BH06 & BH07	Assess soils beneath former Building #3, and assess for PFAS residues after fire
BH08	Assess former AST area, and assess for PFAS residues after fire of former Building #3
BH09, BH15 & BH29	Assess former UST areas
BH10, BH11 & BH28	Assess soils beneath Building #2
BH12 & BH13	Assess assumed former wash bay area, and assess for PFAS residues
BH26 and BH27	Assess assumed settling pit(s) area, and assess for PFAS residues
BH14, BH16, BH17, BH18 & BH19	Assess filled area along northern boundary/general site coverage
BH21 & HA01	#46 - Assess soils beneath Building #4 and historic site operations
BH22, BH23	#46 - Assess soils along drains and pits
SS01, BH20, BH24, BH25	#46 – former timber yard, oil-stained unsealed areas, truck parking, equipment storage/general site coverage
SP01, SP02, SP03, and SP02A&B	Characterisation of separate stockpiled materials on #30 and #46
Groundwater	
GW01 & GW04	Contamination status of groundwater at former UST locations. GW01 assumed up gradient groundwater location
GW02 (relabelled existing well)	Contamination status of groundwater under assumed former wash bay and assess for PFAS residues
GW03, GW05 & GW06	Assess groundwater status – site boundaries, upgradient and down gradient, potential offsite to onsite impacts, and assess for PFAS residues (GW05)

4.3 Field Sampling Program

Details of the field sampling program are presented below. A Sample Register of soil and groundwater samples is presented in the results tables (**Appendix B**).

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Table 4-2 Soil Sampling Works Summary

Activity/Item	Details
Date of Field Activities	19 May (service location), and 31 May 2021 (concrete coring and site inspection). 7-9 June 2021 (soil and groundwater well drilling, soil sampling and groundwater well installation and development).
Soil Logging and Inspection of Material	Soil classifications and descriptions are based on Australian Standard AS1726-1993 Geotechnical Site Investigations. All material exposed at each sample/inspection location was thoroughly inspected for the presence of ACM. Soil descriptions for the lithology encountered during sampling are presented in the borelogs in Appendix C .
Soil Sampling	Soil samples were taken directly from push tube core sampler or the hand auger head or directly from stockpiles using single use disposable nitrile gloves.
Groundwater Monitoring Well Installation	Groundwater monitoring bores were constructed as 50 mm uPVC wells, with a 0.4 mm aperture slotted section. Wells were installed using <2 mm washed sand filter pack and bentonite pellet seal above the slotted section to isolate the groundwater. Construction of the groundwater monitoring wells included: • Bore drilling extended to a depth that intercepted the targeted groundwater system. • A length of screen was installed across the intercepted groundwater level. • The gravel pack generally extended 1 m above the top of the screened interval. • The bentonite seal extended at least 0.5 m above the gravel pack layer and was hydrated. • the bore annulus above the bentonite seal was sealed to the surface with a bentonite/concrete/grout slurry. • Groundwater wells were finished with either a flush mounted gatic cover or monument cover. The groundwater well construction logs are presented in Appendix C. Each newly installed monitoring well was developed, immediately after installation, to ensure removal of fine particles from the screened interval, to stabilise the annular filter and to maximise the hydraulic efficiency of the monitoring well. A dedicated submersible pump or bailer was used to develop the wells using a surging action. Well development continued until the turbidity of the water improved or the well became dry. The wells were allowed to stabilise for at least 2 days after development, prior to groundwater sampling.
Decontamination Procedures	Sampling tools were decontaminated between sampling locations with potable water and a solution of Liquinox. Single use disposable nitrile gloves were worn at all times and changed between each soil sample.

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Activity/Item	Details
	A rinsate sample (Rinse_HA) was collected from the hand auger at the end of the sampling day.
Sample Preservation	Samples were placed in laboratory-supplied jars containing appropriate preservatives or suitable asbestos sampling bags. Samples were stored on ice in a cooler while on-site and in transit to the laboratory.
Disposal of Soil Cuttings and Materials	Soil cuttings/spoil were used to backfill boreholes once samples had been collected. Surplus soils from groundwater bores were placed in a small mound adjacent to the bore. Single use materials used during sampling were placed into garbage bags and disposed off-site.

Table 4-3 Groundwater Sampling Works Summary

Activity/Item	Details
Date of Field Activities	11 June 2021
Water Level Gauging	Water level gauging was undertaken prior to purging/sampling of each well. The gauging point was a small notch or north point on the casing to ensure consistent measurements over time. The groundwater levels in all wells onsite were measured within a 2hr period on the same day to enable a consistent comparison of water levels for the determination of hydraulic gradients and flow directions. The following measurements were taken: • Thickness of non-aqueous phase liquids (NAPL) (if present); • Static water level relative to the top of casing; and • Total depth of well. Measurements were undertaken using an electronic interface probe, which was decontaminated between wells. The measurements were recorded on the groundwater field data sheets Appendix E.
Field Screening – Water Parameters	The water parameters and a physical description of the samples were recorded on the field data sheets (Appendix E) including: • Colour, turbidity, odour, sheen/films, thickness of phase separated liquids/non-aqueous phase liquids (NAPL), if any. The water parameters were taken in the field at the time samples were collected these included: • pH • electrical conductivity (EC) • temperature (Temp.) • dissolved oxygen (DO) • redox potential (Redox).
Well Purging and Sampling	Purging of monitoring wells was undertaken using a low flow pump. Purging was continued until stable water parameters were achieved or until the bore became dry.

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Activity/Item	Details
	A physical description of the sample was recorded on the field data sheet (Appendix E). Most of the wells purged dry with the low flow pump on very low flow rates indicating very low recharge rates. The wells were allowed to recharge back to 80% of the initial measured SWL then samples were collected with disposable biodegradable bailers. Details of purging and sampling methods are documented on field sheets. All wells were sampled as soon as practicable following well purging. Groundwater samples were transferred into the appropriate sample containers for organic and inorganic compounds. Sample bottles were filled in order of analyte sensitivity as follows; volatile compounds, semi-volatile compounds then organic compounds. Groundwater well sampling order approach was generally from least to most contaminated based on information collected on site history. All samples collected for dissolved metals analysis were field filtered with a 0.45µm filter before being placed into an appropriately preserved sample container. Once filled, all sample containers were tightly capped, then placed into a secure, ice-chilled chest.
Decontamination Procedures	Re-usable equipment, such as the water level meter and water quality meter sensors, were decontaminated before and after each use. The water level meter was rinsed in a solution of Liquinox, and then rinsed in potable water. The water quality meter sensors were rinsed in potable water, and then rinsed in a sample of water to be measured, prior to measuring water quality parameters. Some materials and equipment used for groundwater sampling were single-use and/or dedicated to individual wells. A rinsate sample (Rinse_pump) was collected from the low flow pump at the end of the sampling day.
Sample Preservation	Samples were placed in laboratory-supplied bottles containing appropriate preservatives. Samples were stored on ice in a cooler while on-site and in transit to the laboratory. Samples collected for metals analysis were filtered and put into preserved laboratory supplied bottles.
Disposal of Groundwater and Materials	Groundwater removed during the purging process was stored in buckets and was either returned back to the monitoring well of origin after samples were collected or emptied onto the unsealed ground surface proximal to the well. Single use materials used during sampling were placed into garbage bags and disposed off-site.
Groundwater Levels	All groundwater wells were surveyed to establish site groundwater level and flow gradients. The top of casing (TOC) level was measured relative to the nearest registered benchmark by a registered surveyor. Site groundwater levels and inferred flow direction are presented on Figure 5 in Appendix A. Surveyor drawings are presented in Appendix G.

Assessment Methodology

4.3.1 Sample Analyses

Samples were analysed in accordance with the table below.

Table 4-4 Sample Analysis Schedule

	TRH/TPH BTEXN	PAHs	Metals	Asbestos ID in 500g soil	Asbestos ID in Bulk	PFAS compounds	VOCs	PCBs	Phenols, OCPs and OPPs
Primary Soil Samples	44	44	44	21	1	7	12	22	4
QA/QC – Intra-lab field duplicates	6	6	6	-	-	-	1	-	-
QA/QC – Trip Blank/Trip Spike (soil)	2	-	-	-	-	-	-	-	-
QA/QC – Rinsate Blank (soil)	1	1	1	-	-	1	-	-	-
Primary Water Samples	5	5	5	-	-	2	-	-	-
QA/QC – Intra-lab field duplicates	1	1	1	-	-	-	-	-	-
QA/QC – Trip Blank/Trip Spike (water)	2	-	-	-	-	-	-	-	-
QA/QC – Rinsate blank (water)	1	1	1	-	-	1	-	-	-
Total all samples	62	58	58	21	1	11	13	22	4

Table notes: Total Petroleum/Recoverable Hydrocarbons (TPH/TRH), Benzene, Toluene, Ethylbenzene, Total Xylenes and Naphthalene (BTEXN), Polycyclic Aromatic Hydrocarbons (PAHs), Metals (As, Cd, Cr (total), Cu, Hg, Ni, Pb, Zn), Organochlorine Pesticides (OCPs), Organophosphorous pesticides (OPPs) and Polychlorinated biphenyls (PCBs).

4.4 Quality Assurance and Quality Control

Quality Assurance and Quality Control (QA/QC) was governed on the basis of the Data Quality Indicators (DQI) using PARCC parameters as listed in the DQOs (Step 5) and reproduced as follows:

- Precision: A quantitative measure of the variability (or reproducibility) of data.
- Accuracy: A quantitative measure of the closeness of reported data to the “true” value.
- Representativeness: The confidence (expressed qualitatively) that data are representative of each media present on site.
- Completeness: A measure of the amount of useable data from a data collection activity.
- Comparability: The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.

The Investigation was completed following standard operating procedures for conducting site contamination investigations. Standards followed included:

- General field documentation
- Health and safety

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- Use of Personal Protective Equipment (PPE)
- Representative sample collection and labelling
- Equipment calibration
- Chain of Custody documentation for analytical samples
- Decontamination
- Collection of quality control samples (that may include: intra laboratory, inter laboratory, rinsates, blanks, spikes).

The data validation adopted for this assessment was based on the following guidance documents:

- Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM 2013).
- Australian Standard 4482.1 Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds, 2005.
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA 540-R-10-011, dated January 2010).
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA 540/R-99/008, dated June 2008).

The data validation process involves the checking of analytical procedure compliance and the assessment of the accuracy and precision of analytical data from a range of quality control measurements generated from both field sampling and analytical programs. Specific elements that have been checked and assessed for this project include:

- preservation and storage of samples upon collection and during transport to the laboratory,
- holding times
- use of appropriate analytical procedures and required LOR
- frequency of conducting quality control measurements
- laboratory blanks & laboratory duplicates
- field duplicates
- matrix spike/matrix spike duplicates (MS/MSDs)
- surrogates (or System Monitoring Compounds)
- the occurrence of apparently unusual or anomalous results.

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Our understanding is that the proposed site development is likely to contain a mixture of ground floor commercial premises with overlying high rise residential apartments and associated underlying basement carparking. As such, access to site soils will be limited to landscaped areas being newly created from imported clean materials. Given that the final design layout of the development is not known at this stage, our adopted assessment criteria reflects the sensitive nature of human and environmental receptors as occupants and inhabitants of high-density residential land with limited access to soils.

Given the site is likely to comprise mixed-use commercial and high-density residential land use where the site will likely comprise significant site coverage by buildings and pavement hardstand, there will be minimal terrestrial ecological receptors likely to be present on the site. Therefore, soil data was not compared to the ecological criteria.

5.1 Soil Investigation Levels

ASC NEPM 2013 Health-based Investigation Levels (HILs)

The National Environment Protection (Assessment of Site Contamination) Measure 2013 (ASC NEPM 2013) Health-based Investigation Levels (HILs) in Schedule B1 provide a framework that is applicable for assessing human health risk via all relevant pathways of exposure and covers a broad range of metals and organic substances. Different levels are provided for a variety of exposure settings based on the land use scenario at a particular site. The HIL land use criteria adopted for this site were:

- **HIL B:** High density residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments.

ASC NEPM 2013 Health Screening Levels

The ASC NEPM 2013 HILs in Schedule B1 do not provide criteria for petroleum hydrocarbon chemicals, therefore the Health Screening Levels (HSLs) were developed and form part of the ASC NEPM 2013 in Schedule B1. The ASC NEPM 2013 – HSLs are designed to be protective of human health and are applicable to assessing human health risk via the inhalation pathway. The HSLs used in this report have not been adjusted for site specific parameters such as moisture content for this phase of work. HSLs are available for various depth profiles and predominant lithology (sand, silt and clay).

The HSL land use criteria adopted for the Assessment was:

- **HSL B:** High density residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments.

HSLs relevant to the top 1.0m of soil with a sandy consistency were adopted.

HSLs for direct contact were also adopted from Table 4 of CRC CARE Technical Report No. 10 by Friebe and Nadebaum (2011).

ASC NEPM 2013 Asbestos Health Screening Levels

The ASC NEPM 2013 asbestos HSLs have been developed for managing land use impacts associated with asbestos and are applicable for assessing risk to human health. The guideline has been derived

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from the Western Australian Department of Health (WA DoH 2009) guidance. The guidance covers bonded Asbestos Containing Material (bonded ACM), Fibrous Asbestos (FA) and Asbestos Fines (AF).

Visual identification and subsequent laboratory analysis were used to assess for potential asbestos containing materials (ACMs) such as fibro sheeting. The ASC NEPM 2013 Asbestos HSLs include a qualitative approach such that no visible asbestos should be at the soil surface for all forms of asbestos. This qualitative approach was adopted for this investigation. Note, the quantitative criteria (i.e. percentage of asbestos materials) were not used in this DGI given that the analysis was to determine the presence of asbestos only and not to quantify asbestos materials in soils.

PFAS National Environmental Management Plan

Human health and ecological criteria for soils were published in the PFAS National Environmental Management Plan (NEMP) Version 2.0 in January 2020 (HEPA, Jan 2020). HEPA utilised the Tolerable Daily Intake (TDI) released by FSANZ in April 2017 (FSANZ, April 2017) to develop Australian soil screening values.

ASC NEPM 2013 Management Limits

The ASC NEPM 2013 Management Limits in Schedule B1 are relevant for TRH contaminants only. The Management Limits are specific for soil types (coarse and fine) and land uses. If adopted on a site, Management Limits are intended to avoid or minimise the potential effects of the following and require consideration of site-specific factors to determine the maximum depth to which the limits should apply:

- Formation of observable light non-aqueous phase liquids (LNAPL).
- Fire and explosive hazards.
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons.

ASC NEPM 2013 Aesthetic Considerations

In accordance with the ASC NEPM 2013 in Schedule B1 the aesthetic state of sites is required to be taken into account. Aesthetic issues generally relate to the presence of materials with a negligible risk or non-hazardous inert foreign material in soil or fill resulting from human activity. Sites that have been assessed as being acceptable from a human health and environmental perspective may still contain such foreign anthropogenic material. An assessment of the site aesthetics requires consideration of the natural state of soil on any given site, and a comparison between it and the soil encountered during investigations.

In particular, soils on site should not exhibit discolouration (staining), a malodorous nature (odours), abnormal consistency (rubble and trash) or show visible evidence of industrial wastes.

5.2 Groundwater Investigation Levels

The relevant adopted groundwater investigation levels (GILs) were sourced from the ASC NEPM 2013 and supporting document, the Australia and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018 Guidelines). The section below provides information on the adopted GILs. Note the following conditions for using the adopted GILs:

- The values are selected to protect freshwater ecosystems as:

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- o the nearest receiving environment is believed to be the upper reaches and head waters of the Duck River system 370m west of the site which at this point Duck River is a concrete lined stormwater drain.
 - o Duck River ultimately discharges into the estuarine ecosystem of the Parramatta River more than 9km north of the site.
- Human health need only be protected from volatile hydrocarbons through vapour intrusion given that:
 - o The site is connected and will remain connected to supplied towns water (drinking water supply) and no known potable groundwater resource is present onsite nor proximal to the site.
- Groundwater HSLs for assessing vapour intrusion for groundwater between 2-4m below the ground surface in material exhibiting a sandy consistency have been adopted.
- Solubility limits were used as default screening values when the chemical of concern exhibits Not-Limiting characteristics, indicating potential partitioning of dissolved chemicals into a free phase and forming Non-Aqueous Phase Liquid (NAPL).

Data has not been assessed against the Drinking Water Guidelines as groundwater extraction for domestic use is not currently being undertaken onsite or in the local area and is considered not likely in the future.

ASC NEPM 2013 HSL

The ASC NEPM 2013 HSLs have been derived for groundwater in relation to the volatile petroleum hydrocarbons. The approach taken in the development of the HSLs has sought to set a reasonable maximum exposure that corresponds to common scenarios encountered with petroleum-based contamination. The HSLs consider the potential risk to human health via the inhalation pathway only.

ANZG 2018

The Australia and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018 Guidelines) provide Default Guideline Values (DGVs) for organic and inorganic chemicals for the protection of freshwater and marine aquatic ecosystems. For the purposes of this Investigation, the receiving environment of water discharge (both groundwater and surface water) is likely to be upper reaches of Duck River system 370m west of the site, therefore GILs for the protection of freshwater environments were adopted.

PFAS NEMP 2.0

Human health criteria for drinking water and recreational water uses have not been adopted for this project. There is no reasonable direct human contact to groundwater onsite, groundwater is unlikely to be used for drinking purposes onsite or offsite as there are no registered bores for that purpose, and the nearest recreational contact point is likely to be more than 9km north of the site in Paramatta River, if that is even the case.

Ecological criteria protective of freshwater organisms is reported in the PFAS NEMP (HEPA, Jan 2020). It is noted that the PFAS NEMP includes investigation levels for the protection of aquatic ecosystems based on the following levels of protection:

- 99% species protection – for high conservation value ecosystems;

Assessment Criteria

- 95% species protection – for slightly to moderately disturbed ecosystems; and
- 80% - 90% species protection – for highly disturbed ecosystems.

We consider the 90% species protection values for freshwater ecosystems are relevant to the site and immediately offsite downstream areas because receiving headwaters of Duck River would be considered a highly disturbed ecosystem.

Given that PFOS does bioconcentrate, bioaccumulate, and biomagnify in aquatic food chains, the use of the 99% species protection value is recommended in some guidance. While the PFAS NEMP does not specify which criteria (95% or 99% species protection levels) should be used, it notes that the guidelines do not account for the effects of biomagnification in air-breathing animals or in animals which prey on aquatic organisms; and also notes that the Water Quality Guidelines (ANZG 2018) advise that the 99% species protection level is generally adopted for bioaccumulate or biomagnifying chemicals. Use of the 99% species protection value for PFOS (0.00023 µg/L) is problematic as the value is close to the laboratory analytical limit of detection and presents significant challenges for sampling and analysis. The PFAS NEMP also states that the 99th percentile species protection level may be below the ambient background concentration.

Results and Discussion

6.1 Field Inspection and Observations

Representative site photos are presented in **Appendix D**. The following observations were made while conducting the Investigation:

- The soil profile was relatively thin across the majority of the site, consisting of stiff plastic natural clays overlying shallow weathered shale materials and soft shale rock in the most part.
- A thin layer of ashy slag materials underlies the concrete slab of Building #1 and part of former Building #3 as a drainage layer above natural or reworked natural stiff clay. Ashy samples subject to chemical analysis report no exceedance of contaminants of concern and the ash appears relatively inert. Given the similar age and time of construction, we can assume that similar fill and natural materials exists under the former Canteen Building on the eastern boundary which was not sampled.
- Thick fill profile was observed along the central northern site boundary from BH17 to BH19. Filling materials were generally gravelly shaley clays ranging from 1.3m depth at BH17 to 3.5m depth at BH19.
- The stockpile on the north boundary comprises gravelly shaley clays and is assumed to have been formed from excavation of a detention basin adjacent to the stockpile.
- Thick filling was also observed at BH15 and BH29 to 2.0m - 2.2m depth – assumed to be the backfilled UST pit in this area.
- Soft shale rock was encountered while drilling groundwater wells at most locations, becoming very hard at depths from 7.0m. GW06 refused with solid stem augers at 10.0m below ground.
- No prominent odours of any nature were observed other than at BH13 where notable hydrocarbon odours and staining were observed in fill and immediately underlying natural clay underneath the slab of the assumed former Wash Bay area. Faint odours were observed at:
 - o BH07 beneath the slab of former Building #3
 - o BH12 beneath the slab of the assumed former wash bay area
 - o BH15 within fill clay to 2.2m depth (assumed backfilled former UST pit)
- Oil staining was observed at SS01 on the unsealed ground outside the shipping container used to store waste oil containers.
- PID readings report values relatively consistent with ambient levels from <1.0ppm to the highest reading of 1.6ppm at BH16 in surface soils.
- The soil/waste stockpile located on #46 contains various amounts of waste and refuse. Sampling was only conducted on the stockpile surface by grab sampling given the difficult access to the pile. It is likely this material would contain waste sheets of fibro potentially containing asbestos.
- There was no evidence of stockpiled fibro sheets adjacent to the former Building #3 (as observed in Sullivan-ES 2017) and therefore no sampling was conducted in the immediate area.

6.2 Soil Results

Soil analytical results are presented in Table 1 (**Appendix B**) and in laboratory reports provided in **Appendix F**. The soil results show the following:

- **Lead** was detected in fill surface soils at BH08 at 2,800 mg/kg, above the adopted health-based criterion (1,200 mg/kg). The lead concentration at BH08 is not considered a contamination hotspot.
- **TRH (>C₁₀-C₁₆) NEPM F2 fraction** was detected at BH08 in deeper natural soils (0.8-1.0m bgl) at 190 mg/kg, above the adopted health-based criterion (110 mg/kg). The TRH concentration at BH08 is not considered a contamination hotspot.

Results and Discussion

The TRH impacted soils at BH08 appear to be associated with the use of an AST historically located in this area. The source of lead impacts could not be determined but likely linked to surface fill material perhaps added from an offsite source. The TRH impacts at BH08 also corroborate with the area of diesel spills observed by Woodward-Clyde (1997).

- Three fragments of fibro cement sheeting collected from BH28 were confirmed to contain asbestos (Amosite, Chrysotile & Crocidolite asbestos types). The asbestos was present in a bonded form.

The ACM fragments were observed in a 0.2 m thick coarse ballast gravels/crushed rock layer beneath Building #2 concrete foundation slab. The horizontal extent of ACM impact appears localised. Ballast/road-base gravel layers were observed in surrounding boreholes BH10 located beneath Building #2; and boreholes BH26 and BH27 adjacent to Building #2. Fibro fragments were not observed in these surrounding bores and asbestos was not detected in any soil samples submitted for laboratory analysis from any bore onsite.

Surface soils at SS01 show aesthetic impacts from discolouration and staining.

Detection of PFOS in surface soils at BH08 is considered to represent ambient levels of this chemical in the environment given the very low detection equivalent to the laboratory limit of reporting (LOR).

All other results for Metals, TRH, BTEX, PAHs, VOCs, PFAS, speciated Phenols, Organochlorine and Organophosphorous Pesticides and PCBs were reported well below the adopted soil criteria or below the LOR.

The soils associated with the lead, TRH and asbestos impacts are presented on Figure 4 (**Appendix A**).

6.2.1 Stockpile Soil Results

Stockpile analytical results are presented in Table 3 (**Appendix B**) and in laboratory reports provided in **Appendix F**. The soil results show the following:

- **TRH (>C₁₀-C₁₆)** NEPM F2 fraction was detected in stockpile sample SP02_A at 120 mg/kg, above the adopted health-based criterion (110 mg/kg).
- **TRH (>C₁₆-C₃₄)** NEPM F3 fraction was observed in stockpile sample SP02_A at 8,000 mg/kg, above the adopted CRC Care direct contact criterion (4,500 mg/kg) and management limits criterion (2,500 mg/kg).

The stockpile location associated with the TRH impact is presented on Figure 4 (**Appendix A**).

6.3 Groundwater

6.3.1 Field Observations and Quality Parameters

The following observations were made while sampling groundwater:

- Groundwater yield was very low.
- Groundwater showed no signs of contamination by hydrocarbons (no odours, sheen or staining).
- Electrical conductivity was generally non-potable (brackish/marine) given the high readings however potable (freshwater) levels were observed at GW05 in north-eastern corner of the site. Variable EC is characteristic of groundwater embodied in shale formation, which was encountered across the site.
- pH readings show generally slightly to moderately acidic conditions across the site.

Results and Discussion

Groundwater field parameters are summarised in Table 6-1 below. Field sheets are presented in **Appendix E**.

Table 6-1 Groundwater Field Parameters Summary

Well	SWL (mBTOC)	Bore Depth (mbgl)	Standpipe (m)	Electrical Conductivity (EC) (uS/cm)	pH	Temperature (°C)	Redox (mV)	Dissolved Oxygen (mg/L)	Comments
GW01	5.05	9.45	--	25,443	6.11	20.5	128.8	2.19	Brown, turbid, no odours or sheens
GW02	5.20	11.39	--	1,001	6.92	20.4	84.9	0.38	Brown, very turbid, no odours or sheens
GW03	5.37	8.00	--	21,174	6.75	18.7	127.1	4.3	Brown/grey, turbid, no odours or sheens
GW04	5.89	7.96	--	22,763	5.49	19.0	132	4.59	Brown, very turbid, no odours or sheens
GW05	3.45	8.77	0.7	3,126	4.88	18.0	210	3.58	Fairly clear, no odours or sheens
GW06	Groundwater well was dry to depth of bore at 9.00 mBTOC – no parameters or sample collected								

Table notes: Standing Water Level (SWL), metres below top of casing (mBTOC), metres below ground level (mbgl), micro Siemens per centimetre (uS/cm), milli Volts (mV), milligrams per litre (mg/L), parts per million (ppm)

6.3.2 Inferred Groundwater Flow Gradient

Groundwater wells were surveyed to m AHD to calculate reduced groundwater levels using the SWL values above as follows:

- GW01 – 27.29m AHD
- GW02 – 26.89m AHD
- GW03 – 26.00m AHD)
- GW04 – 26.09m AHD
- GW05 – 27.86m AHD
- GW06 – Dry (26.81m AHD at base of well)

Based on the measured groundwater levels, there is an inferred moderate hydraulic gradient migrating to the west from the east boundary then toward the northwest and offsite as shown on Figure 5 (**Appendix A**).

GW06 was dry to the installed depth of 9.0m below ground. The adjoining rail corridor cutting to the south is relatively deep and may cause a lowering of groundwater levels along the southern site boundary. As such, there is likely a localised groundwater gradient migrating to the south or southwest

Results and Discussion

from #46 Auburn Road. Note that representative groundwater levels are indicative given only one round of groundwater levels were collected and the limited spatial coverage across the site.

6.3.3 Groundwater Results

Groundwater analytical results are presented in Table 2 (**Appendix B**) and in the laboratory reports provided in **Appendix F**.

Human Health

The groundwater results reported no exceedances of the adopted health screening levels for low and high density residential for vapour intrusion or NEMP (HEPA, Jan 2020) human health - recreational use for Per- and Polyfluoroalkyl (PFAS) compounds.

Ecological Health

Groundwater results reported several heavy metal concentrations above the adopted GILs. Samples with exceedances are presented below.

Table 6-2 ANZG (2018) Freshwater 95%Protection Exceedances - Heavy Metal

Analyte (µg/L)	Cadmium	Chromium	Copper	Nickel	Zinc
GW01	0.8	3	2	24	59
QC01	0.9	4	3	24	65
GW02	0.2	6	1	15	15
GW03	0.2	6	2	15	18
GW04	0.3	14	1	7	19
GW05	<0.1	1	6	54	180
ANZG 2018 Eco (Fresh) 95% Protection	0.2	1	1.4	11	8

The exceedances of the adopted GILs for heavy metals above are considered inconsequential at these locations and do not represent a health risk to receiving waters of Duck Creek some 370 m west of the site. Further consideration to groundwater not presenting a health risk is:

- The heavy metal concentrations in groundwater do not indicate a potential point sources is present onsite (i.e. similar levels are observed both up and down-hydraulic gradient). There is no corresponding heavy metal exceedances in soil onsite contributing to a potential source of groundwater contamination suggesting impacts, particularly cadmium and chromium, are likely to be endemic to groundwater in the local area.
- WWC, Apr 1998 detected heavy metals in groundwater and came to the same conclusion that the levels are indicative of background and not caused by onsite activities.
- The site is situated above Bringelly Shales, within the Wianamatta Group, where it is not uncommon for groundwater to show elevated background concentrations of copper, nickel and zinc within urbanised areas.
- The adopted GIL criterion for Chromium relates to its hexavalent form, whereas results are for Total Cr and therefore there is negligible risk regardless.

Results and Discussion

The groundwater results did not report PFAS compounds⁴ at concentrations above the adopted GILs for Ecological - Freshwater 90% or 95% species protection values, also PFOA was not detected onsite above the 99% species protection values. However, PFOS was detected in GW02 (0.0006 µg/L) and GW05 (0.0003 µg/L) marginally exceeding the draft NEMP freshwater 99% species protection value (0.00023 µg/L).

The sum of PFAS concentration constituents is at its greatest (0.0419 µg/L) at the up-gradient boundary at GW05 suggesting an offsite source of PFAS migrating onto the site.

The site history review did not identify a current or historical credible source or activity which may have contributed to the presence of PFOS in the groundwater onsite and both wells where PFAS was detected are located on site boundaries indicative of up (GW05) and down (GW02) hydraulic gradient groundwater conditions in an industrial setting which suggests the detected levels are likely ambient background concentrations.

Overall, groundwater is not used onsite and is unlikely to be used in future as the site will remain connected to town mains water, as such there appears to be no apparent exposure links to onsite human or ecological receptors.

Groundwater impacts recorded are presented on Figure 4 (**Appendix A**).

6.4 Conceptual Site Model

A Conceptual Site Model (CSM) has been developed in consideration of the current results and field observations under this Investigation only. The CSM takes into account the future use of the land as a mixture of ground floor commercial premises with high rise residential apartments and associated basement carparking.

6.4.1 Contamination Sources, Media and Contaminants of Concern

Overall, the main sources and contaminants of concern within the site are as follows:

- Former USTs and the AST on #30 – Hydrocarbons (petroleum), PAHs and Lead.
- Former wash bay and settling pits on #30 – Hydrocarbons (petroleum and chlorinated), PAHs, PFAS and heavy metals.
- Waste piles and drains on #46 – hydrocarbons (petroleum and chlorinated), heavy metals, PAHs and asbestos.
- Former use as a timber yard on #46 – timber treatment chemicals – hydrocarbons, phenols, pesticides, metals and CCA.
- General fill areas along northern boundary and under site Buildings on #30 and #46 and stockpiles – hydrocarbons, heavy metals, PAHs, PCBs, pesticides, asbestos and PFAS (specific to under and near former Building #3 that burnt down in recent times).

6.4.2 Receptors and Exposure Pathway

Potential Receptors and Exposure pathways are considered to be as follows:

- Future construction/site worker related to site redevelopment – acute exposure

⁴ PFHxS – Perfluorohexane sulfonic acid, PFOS -Perfluorooctane sulfonic acid, PFOA – Perfluorooctanoic acid.

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- o direct contact/ingestion of soil.
 - o vapour inhalation in excavation pit from contaminated soil or groundwater.
 - o direct contact/ingestion of potentially contaminated groundwater.
 - o inhalation of asbestos dust.
- Future residents/space users – Chronic exposure
 - o direct contact/ingestion of soil.
 - o inhalation of asbestos dust.
 - o vapour intrusion/inhalation in basement(s) from contaminated groundwater.
 - o Aesthetic impact at ground surface.
- Terrestrial organisms – Chronic exposure
 - o Soil - Not assessed as part of this investigation as there will be limited ecosystems to protect.
 - o Contact with groundwater.

6.4.3 Source-Pathway-Receptor Linkages

The following Source-Pathway-Receptor linkages are considered to exist:

- plausible link between Lead and TRH contaminated soils in and around the former AST area (at BH08) and future human receptors (ingestion and vapour inhalation risks) which requires intervention.
- potential link between bonded ACM fragments beneath Building #2 at BH28 and asbestos fibre inhalation risk to future human receptors which requires intervention.
- plausible link between anthropogenic waste/soil stockpile SP02_A on #46 Auburn Road and future human receptors (ingestion and direct contact risks) which requires intervention.

There is an aesthetic issue at SS01 caused by oil spillage that requires rectification during site development.

There is no apparent linkage between current/future users and potential contamination from the former USTs, wash bay, settling pits, former use as a timber yard or general filling onsite as contamination associated with these activities was not identified in those areas onsite.

There is no apparent linkage between current/future users and metal impacted groundwater directly beneath the site because as the site will remain connected to town mains water.

Groundwater is relatively deep and is not proposed to be used at the ground surface onsite. Groundwater reports elevated levels of metals that poses a risk to aquatic receptors offsite, therefore consideration for management of impacted groundwater during the proposed development will be necessary as it will likely to be encountered during basement carpark construction.

6.4.4 Delineation of Impacted Areas

Sufficient data was gathered to address the outstanding data gaps identified in Sullivan-ES, 2017 and Sullivan, Feb 2021; however, the extent of the identified impacted areas requires delineation for the purpose of remediation. The following areas should be delineated and/or further assessed during site redevelopment:

- The extent of Lead and TRH impacts in surface soils and at depth in and around the former AST at BH08.

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- The extent of bonded ACM impacted fill materials beneath Building #2 in and around BH28.

Quality of Analytical Data

Analytical data validation is the process of assessing whether the data is in compliance with method requirements and project specifications. The primary objective of this process is to ensure that data of known quality are reported, and to identify if data can be used to fulfil the overall project objectives.

On the basis of the analytical data validation procedure employed, the overall quality of the analytical data produced is considered to be of an acceptable standard for interpretive use. The table below provides a summary of the data validation.

Table 7-1 Data Quality

Requirement	Compliance	Comments
Field Duplicates	Yes	Intra-laboratory duplicate samples were collected by splitting a sample into the primary and duplicate sample containers. A combined total of: • 6x soil intra-laboratory duplicates were collected for 44 primary samples • 1x groundwater intra-laboratory duplicate was collected for 5 primary samples Resulting in greater than 1 duplicate per 10 primary samples analysed (i.e. >10%) in accordance with AS4482.1: 2005. Inter-laboratory duplicate samples were not collected as part of this assessment. Refer Tables 4, 5, 6 and 7 (Appendix B).
RPDs	Yes	All calculated RPDs fall within the acceptable limits of <30% to <50% with the exception of the following soil RPDs: • BH09_0.4-0.5 and QA02 - Cu 72% (>30%) when conc. > 20x LOR; • BH13_1.0-1.2 and QA03 - Ni 61% and Zn 48% (>30%) when conc. > 20x LOR; and • BH18_1.3-1.5 and QA04 – Cr 95% and Pb 100% % (50%) when conc. between 10-20x LOR and Zn 46% (>30%) when conc. > 20x LOR. • BH21_0.4-0.6 and QA05 – Cr 52% and Zn 32% (>30%) when conc. > 20x LOR. • BH29_1.8-2.0 and QA06 – Cr 52% (50%) when conc. between 10-20x LOR and Zn 32% (>30%) when conc. > 20x LOR. The resultant RPDs of the samples above are not significantly excessive. Minor heterogeneity of samples could be the cause. Given the large data set and very minor number of non-compliance, we do not see that it would impact the veracity of the data quality in this instance.

Quality of Analytical Data

Requirement	Compliance	Comments
		Where concentrations of either sample is <LOR or <10 times the LOR, then no RPD was calculated. This evaluation is in accordance with section 8 of AS4482.1: 2005. Refer Tables 4, 5 and 6 (Appendix B).
Trip Blanks and Trip Spikes	Yes	Trip blanks and trip spikes were collected as part of the DGI. All soil and groundwater trip blanks were non detect indicating no cross contamination occurred during field sampling and transport to the laboratory i.e. false positive results. All soil and groundwater trip spike results were within acceptable limits (i.e. 70-130%) indicating negligible loss of volatiles occurred during field sampling and transport to the laboratory i.e. false negative results. Refer Tables 4, 5, 6 and 7 (Appendix B).
Sampling equipment properly decontaminated	Yes	Disposable equipment used (bailer, nitrile gloves). Any sampling tools were decontaminated between sampling locations with a solution of Liquinox and rinsed with potable water.
Rinsate Blanks	Yes	The rinsate blank samples were collected from the submersible pump and hand auger used during the investigation using bottled tap water. The rinsate blank results of all organic analyses were below the laboratory detection limits verifying decontamination protocols were effective. Low levels of copper, nickel and zinc were detected in "Rinse_Pump" attributed to using bottled tap water for the rinsate water. This minor non-conformance is not considered to impact the veracity of the data collected. Refer Tables 4, 5, 6 and 7 (Appendix B).
Sample Preservation	Yes	Samples were properly preserved. Samples were compliant with required storage temperature.
Samples delivered to laboratory within sample holding times.	Yes	Confirmed from COCs and laboratory reports.
Equipment Calibration	Yes	Refer to Appendix E .
Analytical procedures	Yes	All NATA accredited. All analyses meet compliance requirements. Soil Review Primary laboratory used for the soil analysis was SGS. - SE220506 - All Data Quality Objectives were met with the exception of the following: 5x PFAS surrogate recoveries outside criteria

Quality of Analytical Data

Requirement	Compliance	Comments
		- o 1x heavy metal duplicate and 1x TRH matrix spike exceedance due to matrix interference. • SE220534 - All Data Quality Objectives were met with the exception of the following: - o 4x PFAS surrogate recoveries outside criteria - o 1x VOCs in soil matrix spike exceedance. • SE220604 - All Data Quality Objectives were met with the exception of the following: - o 4x PFAS surrogate recoveries outside criteria - o 13x VOCs and TRH surrogate recoveries outside criteria - o 1x VOCs in soil matrix spike exceedance. The data set overall is considered suitable and representative of the conditions encountered during the investigation. The minor number of non-conformances noted above are not expected to affect data quality as PFAS and VOCs in soil all less than detection or multiple orders of magnitude less than the adopted criteria therefore the likelihood of false negative results is negligible. Groundwater Review Primary laboratory used for the groundwater analysis was SGS. SE220656 - All Data Quality Objectives were met with the exception of the following: - o 5x PFAS surrogate recoveries outside criteria - o The extraction date for the trip spike and trip blank were 7 days late for volatile analysis. The late extraction dates for the trip blank and trip spike analysis unaffected the results, the blanks were non-detect and spike recovery was within acceptable limits. Overall, these outliers are considered do not impact the laboratories overall quality objectives. On this basis the data set is deemed be acceptable for evaluating data to meet the project objectives.
SOPs and competent field personnel	Yes	Sampling procedures follow industry standards, and field staff (Adam Sullivan – more than 23 years' experience. Sean Guenther – 20 years' experience) are competent in sampling methods and QA/QC protocols.

Conclusions and Recommendations

The following conclusions are made based on the findings of this Phase 2 investigation, and subject to the limitations presented in Section 10:

- Soils at the former AST area, represented by results for BH08, are impacted by lead and TRH ($>C_{10}-C_{16}$) above human health criteria. The impacted soils are consistent with diesel spills observed by Woodward-Clyde at TP6 (WWC, 1998 & DP, 2002).
- While there is no health risks to current site users, there is a potential risk to future site users by contaminated soils at BH08 that requires remediation during site redevelopment.
- Asbestos containing fibre cement fragments were observed in ballast gravels/crushed rock beneath Building #2 foundation slab at BH28. Similar gravel layers were also observed elsewhere beneath and adjacent to Building #2 however no further ACM was observed. As such the extent of ACM impact is considered localised.
- While there is no health risks to current site users, there is a potential risk to future site users by the ACM impacted gravel fill beneath the east side of Building #2 that requires remediation during site redevelopment.
- A soil/waste stockpile (SP02_A) located on #46 Auburn Rd is impacted by TRH ($>C_{10}-C_{16}$ and $>C_{16}-C_{34}$) fractions above the adopted site criteria. While the waste pile causes no risk to current site users, the stockpile is not suitable to remain onsite for the future redevelopment and therefore requires remediation or management.
- Surface soils proximal to SS01 on #46 Auburn Rd show oily stains and discolouration that should be ameliorated to address the aesthetic impacts in this localised area of the site.
- Groundwater onsite is of relatively good quality with no exceedances of the adopted human health screening levels.
- Heavy metals were recorded above the adopted GILs for ecological receptors. The exceedances are considered inconsequential at these locations and do not represent a health risk to the nearest receiving water (Duck Creek). No corresponding heavy metal impacts in soil were identified onsite suggesting impacts, particularly cadmium and chromium, are likely to be endemic in the local area.
- PFAS in groundwater was not reported above the adopted GILs for Ecological Freshwater 90% or 95% species protection values and PFOA was not detected onsite above the 99% species protection value representing a negligible risk to offsite ecological receptors.
- PFOS was detected marginally exceeding the draft NEMP freshwater 99% species protection value however site history, in an industrial setting and similar PFOS concentrations recorded at opposite site boundaries suggests levels are most likely ambient background concentrations in the area.

Sullivan-ES conclude that the site poses a relatively low contamination risk and can be made suitable for the proposed high density residential use subject to performing remediation works in localised areas of the site.

8.1 Recommendations

We recommend that the existing RAP (Sullivan, Feb 2021) is revised to document the current contamination status of the site and evaluate the most suitable method/s to remediate contamination identified in this Phase 2 investigation in consideration of the proposed mixed-use high-rise residential development. The revised RAP should consider the follow items as a minimum:

- During site demolition stage - Additional sampling in and around the former AST to refine localised remediation extent within impacted surface soils and soils at depth for lead and TRH.

Conclusions and Recommendations

- During site demolition stage - Additional sampling to delineate beneath Building #2 to obtain a better understanding of the presence of buried asbestos fragments within impacted ballast/gravel fill materials.
- During site demolition stage - Characterisation and waste management of stockpiled soils associated with SP02_A.
- During site demolition stage - Removal of oil impacted surface soils in and around SS01 at the rear of #46 Auburn Rd.
- Materials management, classification and handling requirements and disposal.
- Unexpected finds protocol.

We also recommend, if not already completed, a hazardous building materials survey covering the entire site, meeting the requirements of the WH&S (Regulation) 2017, is carried out on all built structures and any recommendations complied with prior to demolishing site buildings.

References

- Australian Standard 4482.1 Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds, 2005.
- Bankstown Local Environmental Plan (LEP) 2015.
- Bankstown Development Control Plan (DCP) 2015.
- Contaminated Land Management Act 1997 (NSW).
- Environmental Planning and Assessment Act 1979.
- NSW EPA Guidelines for the NSW Site Auditor Scheme (3rd Edition), 2017.
- National Environment Protection (Assessment of Site Contamination) Measure 2013.
- NSW EPA 2014. Waste Classification Guidelines – Part 1: Classifying Waste.
- NSW EPA Contaminated Land Guidelines: Consultants Reporting on Contaminated Land, 2020.
- NSW EPA, Sampling Design Guidelines, 1995.
- NSW DECCW, Guidelines for Implementing Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008,.
- Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019.
- Protection of the Environment Operations Act 1997.
- Protection of the Environment Operations (Waste) Regulations 2014.
- State Environmental Planning Policy No.55 – Remediation of Land 1998 (SEPP55).
- Sullivan Environmental Sciences Pty Ltd, Preliminary Contamination Investigation, 11 August 2017.
- Sullivan Environmental Sciences Pty Ltd, Remedial Action Plan, 27 February 2021.
- Work Health and Safety Act 2011.
- Work Health and Safety Regulation 2017.

Limitations

Sullivan Environmental Sciences Pty Ltd, (Sullivan-ES) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of 30 Auburn Road Pty Ltd and only those third parties who have been authorised in writing by Sullivan-ES to rely on this Report.

It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Report.

Where this Report indicates that information has been provided to Sullivan-ES by third parties, Sullivan-ES has made no independent verification of this information except as expressly stated in the Report. Sullivan-ES assumes no liability for any inaccuracies in or omissions to that information.

This Report was prepared between 24 May 2021 and 28 June 2021 and is based on the conditions encountered and information reviewed at the time of preparation. Sullivan-ES disclaims responsibility for any changes that may have occurred after this time.

Investigations undertaken in respect of this Report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and contamination may have been identified in this Report.

Subsurface conditions can vary across a particular site and cannot be exhaustively defined by the investigations described in this Report.

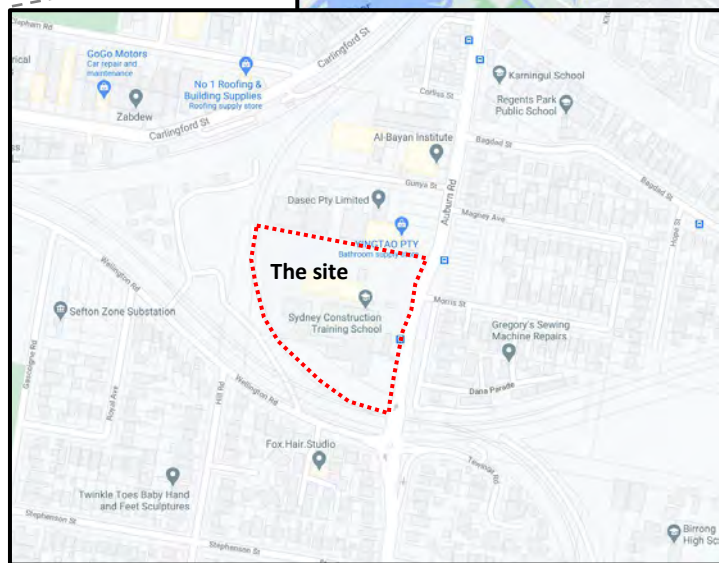
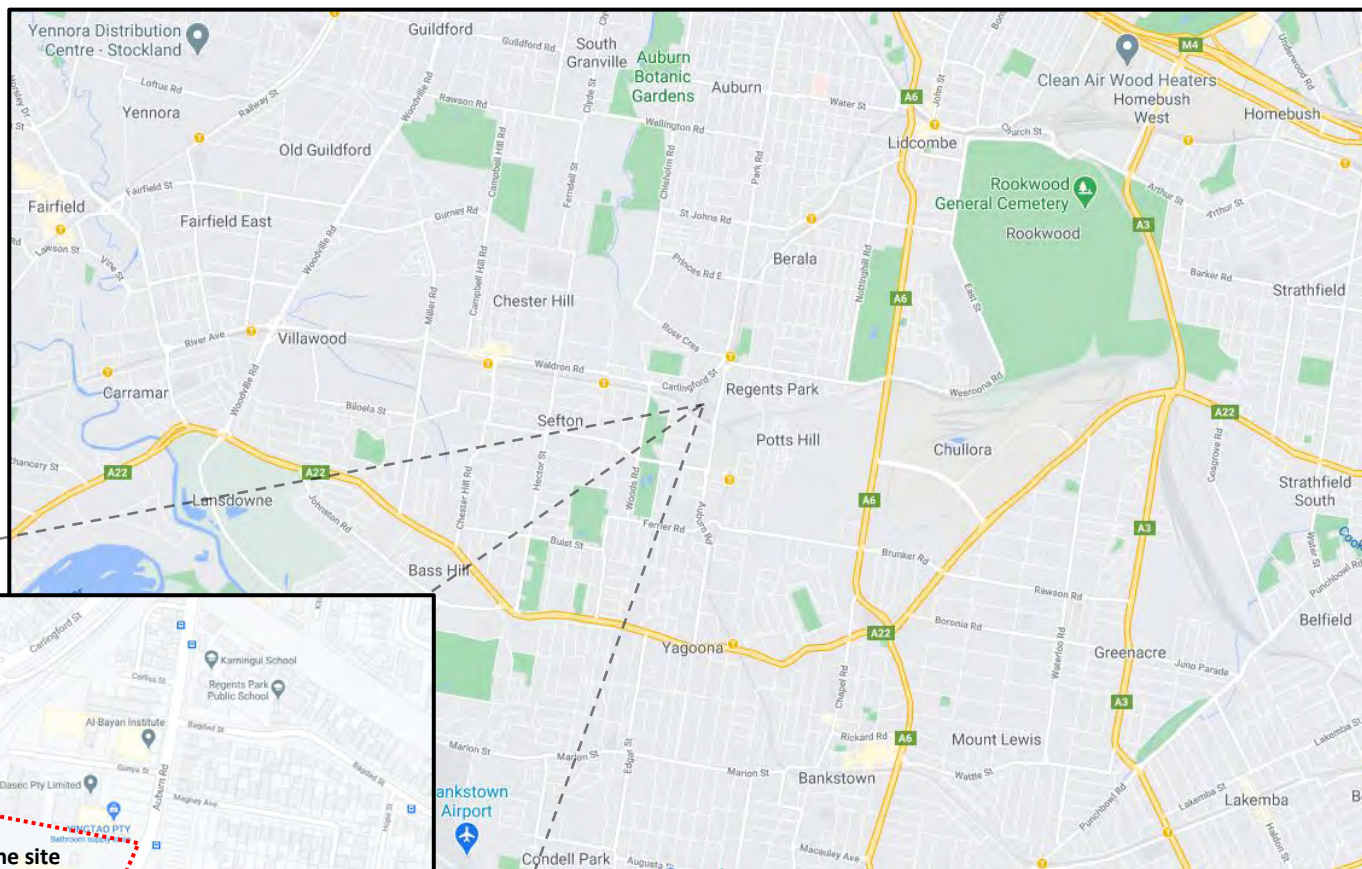
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It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

Appendix A Figures



Not to scale

Date: 17/06/2021

Source: Google Maps 2021



Project #: **SES_590**

Title: **Detailed Phase 2 Contamination Investigation**

Figure 1: **Site Location**

Address: **30 - 46 Auburn Road, Regents Park NSW**



Site boundary

Added locations are approximate
Not to scale Date: 18/02/2021

Source: Sixmaps™ 2021

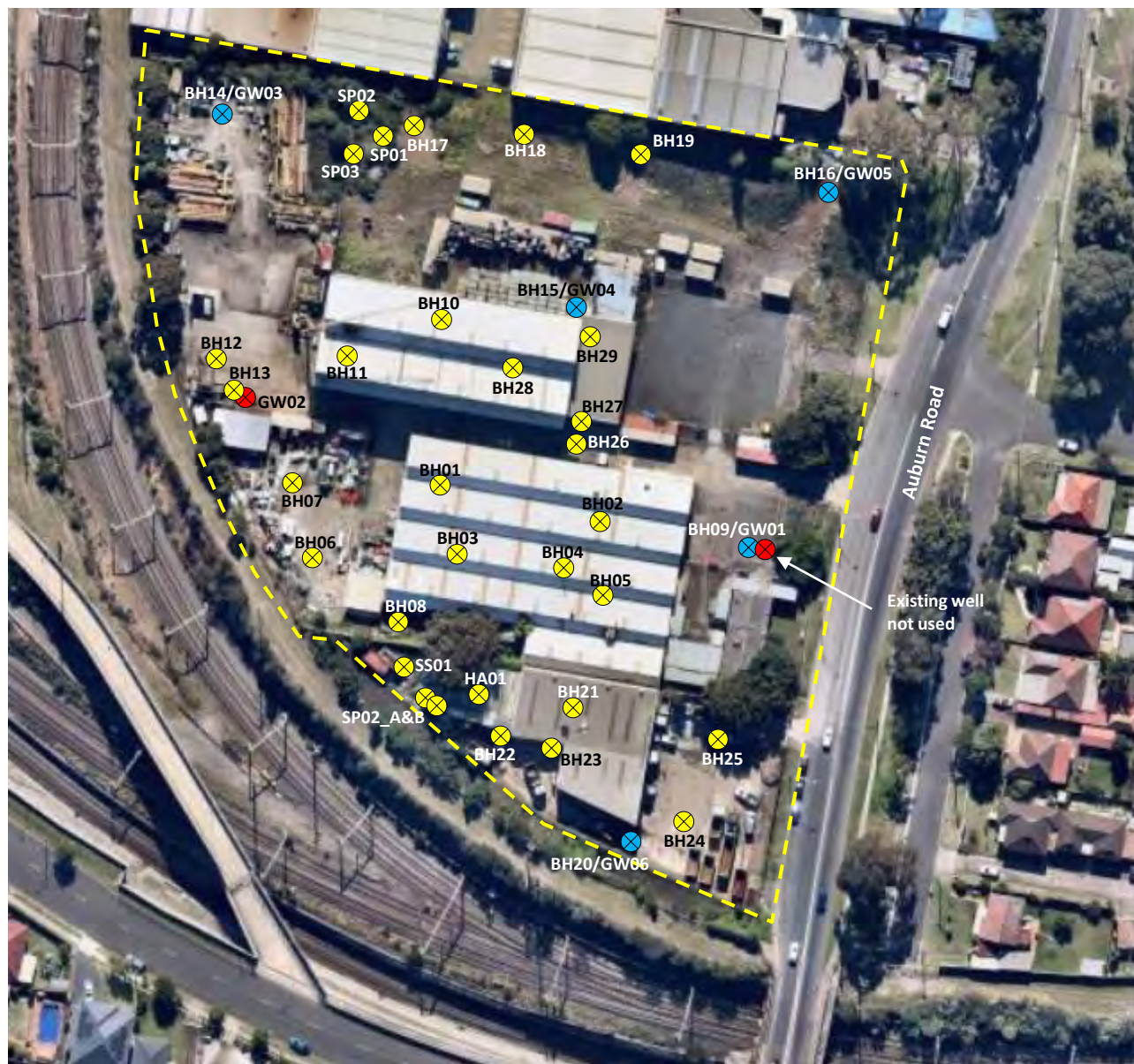


Project #: **SES_590**

Figure 2: **Site Layout**

Title: **Detailed Phase 2 Contamination Investigation**

Address: **30 - 46 Auburn Road, Regents Park NSW**



- Site boundary
- X New groundwater monitoring well
- X Existing groundwater monitoring well
- X Soil sample location

Added locations are approximate
 Not to scale Date: 17/06/2021

Source: Nearmaps™ 2021



Project #: **SES_590**

Figure 3: **Sampling Locations**

Title: **Detailed Phase 2 Contamination Investigation**

Address: **30 - 46 Auburn Road, Regents Park NSW**



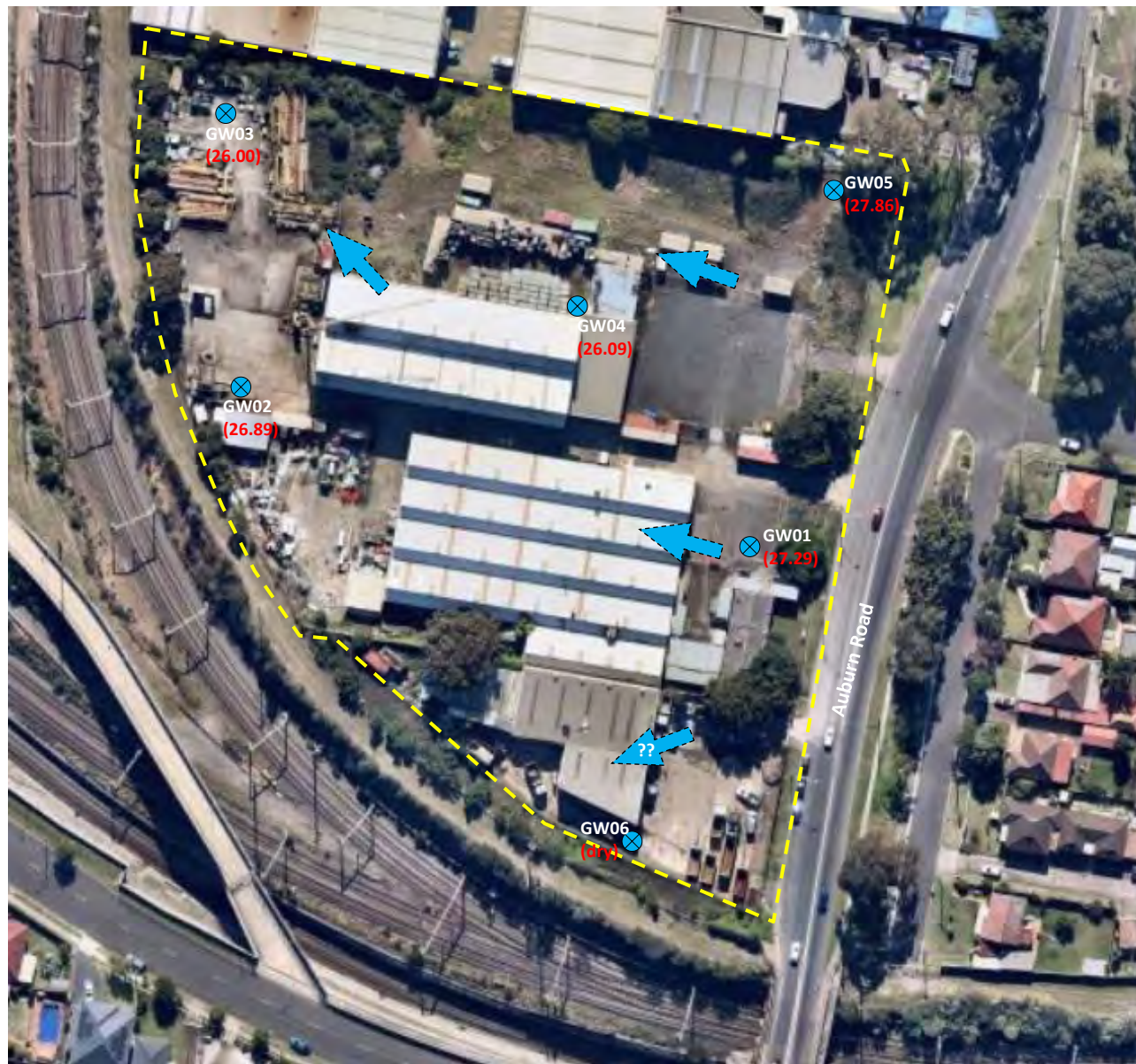
Sample ID	Depth	Date	Asbestos (Bulk)	Lead	TRH >C ₁₀ -C ₁₆ (F2)	TRH >C ₁₆ -C ₃₄ (F3)
BH08_0.0-0.2	0.0-0.2	7/6/2021	-	2,800	<25	290
BH08_0.8-1.0	0.8-1.0	7/6/2021	-	6	190	250
BH28_F01	-	9/6/2021	Yes	-	-	-
SP02_A	-	9/6/2021	-	58	120	8,000
HIL B			Detect	1,200	-	-
HSL-A&B for VI			-	-	110	-
CRC Care Direct Contact HSL			-	-	3,300	4,500
Management Limits			-	-	-	2,500

Analyte (µg/L)		Cadmium	Chromium	Copper	Nickel	Zinc
GW01	11/6/2021	0.8	3	2	24	59
QC01	11/6/2021	0.9	4	3	24	65
GW02	11/6/2021	0.2	6	1	15	15
GW03	11/6/2021	0.2	6	2	15	18
GW04	11/6/2021	0.3	14	1	7	19
GW05	11/6/2021	<0.1	1	6	54	180
ANZG 2018 Eco (Fresh) 95% Protection		0.2	1	1.4	11	8

Analyte (µg/L)		PFOA	PFH ₅ S	PFOS	Sum of PFH ₅ S and PFOS
GW02	11/6/2021	0.0009	0.0012	0.0006	0.0018
GW05	11/6/2021	0.0044	0.0079	0.0003	0.0082
NEMP Human Health - Recreational		10	2	2	2
NEMP Eco - freshwater		220	0.13	0.13	-
NEMP Eco - freshwater		19	0.0002	0.0002	-

- Site boundary
- X New groundwater monitoring well
- X Existing groundwater monitoring well
- X Soil sample location
- Added locations are approximate
- Not to scale
- Date: 17/06/2021
- Source: Nearmaps™ 2021





- [] Site boundary
- ⊗ Groundwater monitoring well
- ➔ Inferred groundwater flow direction

(27.29) Groundwater level in mAHD

Added locations are approximate

Not to scale

Date: 17/06/2021

Source: Nearmaps™ 2021



Project #: **SES_590**

Title: **Detailed Phase 2 Contamination Investigation**

Figure 5: **Inferred Groundwater Flow Direction**

Address: **30 - 46 Auburn Road, Regents Park NSW**

Appendix B Results Tables

Table 1
SES_590 - Soil Analytical Results
Regents Park - Phase 2 Data Gap Investigation

[illegible]

Notes

NEMP 2013 Table 1A(1) - Human Investigation Levels HIL-B for High Density Residential
NEMP 2013 Table 1A(3) Residentials A/B Soil HSL for Vapour Intrusion
CRC Care Direct Contact Health Screening Levels for Direct Contact HSL-B (High Density Residential)
NEMP 2013 Table 1 B(7) - Management Limits for TPH fractions in soil - Residential
NEMP (HEPA, Jan 2018) Human Health - Residential (with minimal opportunity for access to soil)
NEMP (HEPA, Jan 2018) Ecological Direct Toxicity - all uses
NEMP (HEPA, Jan 2018) Ecological Indirect Toxicity - residential
NL - Derived soil HSL exceeds soil saturation concentration
To obtain F2 subtract naphthalene from the >C10 - C16 fraction.
To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
ERRATA Updated 30 April 2014. Naphthalene should not be subtracted.
Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (ref to BaP ref Schedule 7)
#2 Total PAHs: Based on sum of 16 most common reported (WHO 98)
#3 Elemental mercury: HIL does not address elemental mercury.
#4 Lead: HILs A,B,C based on blood lead models
#5 Arsenic: HIL assumes 70% oral bioavailability.
* Combined value for Aldrin & Dieldrin
** Combine value for DDT, DDE and DDD
* Combined value for Endosulfan
combined value for Chlordane

[illegible]

[illegible]

Organophosphorous Pesticides									
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.2	0.2	0.2	0.2	0.5	0.2	1.7
HIL B - High Density Residential			-	340	-	-	-	-	-
HSL-A&B Residential for VI (Sand, <1m)			-	-	-	-	-	-	-
HSL-A&B Residential for VI (Sand, 1-2m)			-	-	-	-	-	-	-
CRC Care Direct Contact HSL-B			-	-	-	-	-	-	-
Management Limits - Residential			-	-	-	-	-	-	-
P Human Health - Residential (minimal access soil)			-	-	-	-	-	-	-
Sample ID	Depth	Date							
BH01_ 0.2-0.3	0.2-0.3	7/6/2021	-	-	-	-	-	-	-
QA01	-	7/6/2021	-	-	-	-	-	-	-
% RPD			-	-	-	-	-	-	-
BH02_ 0.3-0.4	0.3-0.4	7/6/2021	-	-	-	-	-	-	-
BH03_ 0.15-0.25	0.15-0.25	7/6/2021	-	-	-	-	-	-	-
BH04_ 0.1-0.2	0.1-0.2	7/6/2021	-	-	-	-	-	-	-
BH05_ 0.2-0.3	0.2-0.3	7/6/2021	-	-	-	-	-	-	-
BH06_ 0.2-0.3	0.2-0.3	7/6/2021	-	-	-	-	-	-	-
BH07_ 0.3-0.4	0.3-0.4	7/6/2021	-	-	-	-	-	-	-
BH08_ 0.0-0.2	0.0-0.2	7/6/2021	-	-	-	-	-	-	-
BH08_ 0.8-1.0	0.8-1.0	7/6/2021	-	-	-	-	-	-	-
BH09_ 0.4-0.5	0.4-0.5	7/6/2021	-	-	-	-	-	-	-
QA02	-	7/6/2021	-	-	-	-	-	-	-
% RPD			-	-	-	-	-	-	-
BH09_ 1.7-1.8	1.7-1.8	7/6/2021	-	-	-	-	-	-	-
BH10_ 0.5-0.6	0.5-0.6	7/6/2021	-	-	-	-	-	-	-
BH11_ 0.6-0.7	0.6-0.7	7/6/2021	-	-	-	-	-	-	-
Trip Spike	-	2/6/2021	-	-	-	-	-	-	-
BH12_ 0.5-0.6	0.5-0.6	8/6/2021	-	-	-	-	-	-	-
BH12_ 1.3-1.4	1.3-1.4	8/6/2021	-	-	-	-	-	-	-
BH13_ 0.2-0.4	0.2-0.4	8/6/2021	-	-	-	-	-	-	-
BH13_ 1.0-1.2	1.0-1.2	8/6/2021	-	-	-	-	-	-	-
QA03	-	8/6/2021	-	-	-	-	-	-	-
% RPD			-	-	-	-	-	-	-
BH14_ 0.3-0.5	0.3-0.5	8/6/2021	-	-	-	-	-	-	-
BH15_ 1.0-1.2	1.0-1.2	8/6/2021	-	-	-	-	-	-	-
BH15_ 2.2-2.3	2.2-2.3	8/6/2021	-	-	-	-	-	-	-
BH16_ 0.0-0.2	0.0-0.2	8/6/2021	-	-	-	-	-	-	-
BH17_ 1.0-1.2	1.0-1.2	8/6/2021	-	-	-	-	-	-	-
BH18_ 1.3-1.5	1.3-1.5	8/6/2021	-	-	-	-	-	-	-
QA04	-	8/6/2021	-	-	-	-	-	-	-
% RPD			-	-	-	-	-	-	-
BH19_ 2.1-2.3	2.1-2.3	8/6/2021	-	-	-	-	-	-	-
Trip Blank	-	2/6/2021	-	-	-	-	-	-	-
BH20_ 0.3-0.4	0.3-0.4	9/6/2021	-	-	-	-	-	-	-
BH21_ 0.4-0.6	0.4-0.6	9/6/2021	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.7
QA05	-	9/6/2021	-	-	-	-	-	-	-
BH22_ 0.2-0.4	0.2-0.4	9/6/2021	-	-	-	-	-	-	-
BH23_ 0.4-0.5	0.4-0.5	9/6/2021	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.7
BH24_ 0.5-0.7	0.5-0.7	9/6/2021	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.7
BH25_ 0.5-0.7	0.5-0.7	9/6/2021	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.7
BH26_ 0.3-0.5	0.3-0.5	9/6/2021	-	-	-	-	-	-	-
BH27_ 0.4-0.5	0.4-0.5	9/6/2021	-	-	-	-	-	-	-
BH27_ 0.7-0.8	0.7-0.8	9/6/2021	-	-	-	-	-	-	-
BH28_ F01	0.2-0.3	9/6/2021	-	-	-	-	-	-	-
BH28_ 0.5-0.6	0.5-0.6	9/6/2021	-	-	-	-	-	-	-
BH28_ 0.7-0.8	0.7-0.8	9/6/2021	-	-	-	-	-	-	-
BH29_ 1.0-1.1	1.0-1.1	9/6/2021	-	-	-	-	-	-	-
BH29_ 1.8-2.0	1.8-2.0	9/6/2021	-	-	-	-	-	-	-
QA06	-	9/6/2021	-	-	-	-	-	-	-
HA01_ 0.5-0.6	0.5-0.6	9/6/2021	-	-	-	-	-	-	-
SS01	-	9/6/2021	-	-	-	-	-	-	-

Table 2
SES_590 - Groundwater Analytical Results
Regents Park - Phase 2 Data Gap Investigation

	Analyte	Heavy Metals								Total Petroleum Hydrocarbons						Total Recoverable Hydrocarbons - ASC NEPM							BTEXN						
		Arsenic, As	Cadmium, Cd	Chromium, Cr	Copper, Cu	Lead, Pb	Nickel, Ni	Zinc, Zn	Mercury, Hg	Benzene (F0)	C6 - C9 Fraction	TRH C10-C14	TRH C15-C28	TRH C29-C36	TRH C37-C40	C6 - C10 Fraction	TRH C6-C10 minus BTEX (F1)	TRH >C10-C16	TRH >C10-C16 - Naphthalene (F2)	TRH >C16-C34 (F3)	TRH >C34-C40 (F4)	TRH C10-C40	Benzene	Toluene	Ethylbenzene	m/p-xylene	o-xylene	Total Xylenes	Total BTEX
		Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		LOR	1	0.1	1	1	1	1	5	0.1	0.5	40	50	200	200	200	50	50	50	60	500	500	320	0.5	0.5	0.5	1	0.5	1.5
HSL-A&B Residential for VI (Sand)		-	-	-	-	-	-	-	800	-	-	-	-	-	-	1,000	-	1,000	-	-	-	800	NL(61,000)	NL(3,900)	-	-	NL(21,000)	-	
ANZG 2018 Eco (Fresh) 95% Protection		13	0.2	1	1.4	3.4	11	8	0.06	950	-	-	-	-	-	-	-	-	-	-	-	950	-	-	200	350	-	-	
NEMP Human Health - Recreational Use		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEMP Ecological - freshwater 95% species protection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Draft NEMP Ecological - freshwater 99% species protection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample ID	Date																												
GW01	11/6/2021	1	0.8	3	2	<1	24	59	<0.0001	<0.5	<40	<50	<200	<200	<200	<50	<50	<60	<60	<500	<500	<320	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
QC01	11/6/2021	1	0.9	4	3	<1	24	65	<0.0001	<0.5	<40	<50	<200	<200	<200	<50	<50	<60	<60	<500	<500	<320	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
GW02	11/6/2021	<1	0.2	6	1	<1	15	15	<0.0001	<5	<400	<50	360	220	<200	<500	<500	<60	<60	530	<500	570	<5	<5	<50	<10	<5	<15	<30
GW03	11/6/2021	<1	0.2	6	2	<1	15	18	<0.0001	<0.5	<40	<50	<200	<200	<200	<50	<50	<60	<60	<500	<500	<320	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
GW04	11/6/2021	<1	0.3	14	1	<1	7	19	<0.0001	<0.5	<40	<50	<200	<200	<200	<50	<50	<60	<60	<500	<500	<320	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
GW05	11/6/2021	<1	<0.1	1	6	<1	54	180	0.0005	<0.5	<40	<50	<200	<200	<200	<50	<50	<60	<60	<500	<500	<320	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Rinse_HA	11/6/2021	<1	<0.1	<1	<1	<1	<1	<5	<0.0001	<0.5	<40	<50	<200	<200	<200	<50	<50	<60	<60	<500	<500	<320	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Rinse_Pump	11/6/2021	<1	<0.1	<1	2	<1	5	17	<0.0001	<0.5	<40	<50	<200	<200	<200	<50	<50	<60	<60	<500	<500	<320	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3
Trip Blank	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<1	<0.5	<1.5	<3	
Trip Spike	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	[105%]	[104%]	[105%]	[104%]	[106%]	-	-	

Notes
NEPM 2013 Table 1A(41) - Health Screening Level HSL for Low and High Density Residential for Vapour Intrusion (Sand)
Australian and New Zealand Water quality guidelines 2018 Freshwater Ecological 95% Protection Values
NEMP (HEPA, Jan 2020) Human Health - Recreational Use
Draft NEMP (HEPA, Jan 2020) Ecological - freshwater 99% species protection
NEMP (HEPA, Jan 2020) Ecological - freshwater 95% species protection

Table 2
SES_590 - Groundwater Analytical Results
Regents Park - Phase 2 Data Gap Investigation

	Analyte	Polycyclic Aromatic Hydrocarbons																																	
		Naphthalene	Naphthalene	2-methylnaphthalene	1-methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b&j)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(ah)anthracene	Benzo(ghi)perylene	Total PAH (18)	Dichlorodifluoromethane (CFC-12)	Chloromethane	Vinyl chloride (Chloroethene)	Bromomethane	Chloroethane	Trichlorofluoromethane	Acetone (2-propanone)	Iodomethane	1,1-dichloroethene	Acrylonitrile	Dichloromethane (Methylene chloride)	Allyl chloride	Carbon disulfide	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
		LOR	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	5	5	0.3	10	5	1	10	5	0.5	0.5	5	2
HSL-A&B Residential for VI (Sand)		NL(170)	NL(170)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANZG 2018 Eco (Fresh) 95% Protection		16	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEMP Human Health - Recreational Use		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEMP Ecological - freshwater 95% species protection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Draft NEMP Ecological - freshwater 99% species protection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample ID	Date																																		
GW01	11/6/2021	<0.5	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	
QC01	11/6/2021	<0.5	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GW02	11/6/2021	<5	<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	0.2	<0.1	<0.1	<0.1	<0.1	1	<50	<50	<3	<100	<50	<10	<100	<50	<5	<5	<50	<20	<20	
GW03	11/6/2021	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<5	<5	<0.3	<10	<5	<1	<10	<5	<0.5	<0.5	<5	<2	<2	
GW04	11/6/2021	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<5	<5	<0.3	<10	<5	<1	<10	<5	<0.5	<0.5	<5	<2	<2	
GW05	11/6/2021	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<5	<5	<0.3	<10	<5	<1	<10	<5	<0.5	<0.5	<5	<2	<2	
Rinse_HA	11/6/2021	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rinse_Pump	11/6/2021	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trip Blank	11/6/2021	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trip Spike	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes

NEPM 2013 Table 1A(41) - Health Screening Level HSL for Low and High Density Residential for Vapour Intrusion (Sand)

Australian and New Zealand Water quality guidelines 2018 Freshwater Ecological 95% Protection Values

NEMP (HEPA, Jan 2020) Human Health - Recreational Use

Draft NEMP (HEPA, Jan 2020) Ecological - freshwater 99% species protection

NEMP (HEPA, Jan 2020) Ecological - freshwater 95% species protection

Table 2
SES_590 - Groundwater Analytical Results
Regents Park - Phase 2 Data Gap Investigation

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		trans-1,2-dichloroethene	MtBE (Methyl-tert-butyl ether)						1,1-dichloroethane		Vinyl acetate	MEK (2-butanone)		cis-1,2-dichloroethene		Bromochloromethane		Chloroform (THM)		2,2-dichloropropane		1,2-dichloroethane		1,1,1-trichloroethane		1,1-dichloropropene		Carbon tetrachloride		Dibromomethane		1,2-dichloropropane		Trichloroethene (Trichloroethylene, TCE)		2-nitropropane		Bromodichloromethane (THM)		MIBK (4-methyl-2-pentanone)		cis-1,3-dichloropropene		trans-1,3-dichloropropene		1,1,2-trichloroethane		1,3-dichloropropane		Dibromochloromethane (THM)		2-hexanone (MBK)		1,2-dibromoethane (EDB)		Tetrachloroethene (Perchloroethylene, PCE)		1,1,1,2-tetrachloroethane		Chlorobenzene		Bromoform (THM)		cis-1,4-dichloro-2-butene		Styrene (Vinyl benzene)		1,1,2,2-tetrachloroethane		1,2,3-trichloropropane																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L</

Notes
NEPM 2013 Table 1A(41) - Health Screening Level HSL for Low and High Density Residential for Vapour Intrusion (Sand)
Australian and New Zealand Water quality guidelines 2018 Freshwater Ecological 95% Protection Values
NEMP (HEPA, Jan 2020) Human Health - Recreational Use
Draft NEMP (HEPA, Jan 2020) Ecological - freshwater 99% species protection
NEMP (HEPA, Jan 2020) Ecological - freshwater 95% species protection

Table 2
SES_590 - Groundwater Analytical Results
Regents Park - Phase 2 Data Gap Investigation

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Table 2
SES_590 - Groundwater Analytical Results
Regents Park - Phase 2 Data Gap Investigation

		Analyte	Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level																					
			Perfluorotetradecanoic acid (PFTeDA)	Perfluorohexadecanoic acid (PFHxDA)	Perfluorobutane sulfonate (PFBS)	Perfluoropentane sulfonate (PFPeS)	Perfluorohexane sulfonate (PFHxS)	Perfluoroheptane sulfonate (PFHpS)	Perfluorooctane sulfonate (PFOS)	Sum of PFHxS and PFOS	Perfluorononane sulfonate (PFNS)	Perfluorodecane sulfonate (PFDS)	Perfluorododecane sulfonate (PFDoS)	1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	Perfluorooctane sulfonamide (PFOSA)	N-Methylperfluorooctane sulfonamide (N-MeFOSA)	N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			LOR	0.001	0.002	0.001	0.001	0.0002	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.002	0.0025	0.0025	0.0025	0.0025	0.0025
HSL-A&B Residential for VI (Sand)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANZG 2018 Eco (Fresh) 95% Protection		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEMP Human Health - Recreational Use		-	-	-	-	2	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEMP Ecological - freshwater 95% species protection		-	-	-	-	-	-	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Draft NEMP Ecological - freshwater 99% species protection		-	-	-	-	-	-	0.00023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample ID	Date																							
GW01	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
QC01	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GW02	11/6/2021	<0.001	<0.002	0.002	<0.001	0.0012	<0.0002	0.0006	0.0018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	
GW03	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GW04	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GW05	11/6/2021	<0.001	<0.002	0.003	0.003	0.0079	<0.0002	0.0003	0.0082	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	
Rinse_HA	11/6/2021	<0.001	<0.002	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	
Rinse_Pump	11/6/2021	<0.001	<0.002	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	
Trip Blank	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trip Spike	11/6/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

013 Table 1A(41) - Health Screening Level HSL for Low and High Density Residential for Vapour Intrusion (Sand)
an and New Zealand Water quality guidelines 2018 Freshwater Ecological 95% Protection Values
+EPA, Jan 2020) Human Health - Recreational Use
:MP (HEPA, Jan 2020) Ecological - freshwater 99% species protection
+EPA, Jan 2020) Ecological - freshwater 95% species protection

Table 3
SES_590 - Stockpile Analytical Results
Regents Park - Phase 2 Data Gap Investigation

			Moisture	Asbestos		Total Recoverable Elements										
				Asbestos Detected Soil	Estimated Fibres	Arsenic, As ^{#5}	Cadmium, Cd	Chromium, Cr	Copper, Cu	Lead, Pb ^{#4}	Nickel, Ni	Zinc, Zn	Mercury, Hg ^{#3}	Benzene	Toluene	
Units			%w/w	No unit	%w/w	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL			1	-	0.01	1	0.3	0.5	0.5	1	0.5	2	0.05	0.1	0.1	
HIL B - High Density Residential			-	Detect	Detect	500	150	500	30,000	1,200	1,200	60,000	120	-	-	
HSL-A&B Residential for VI (Sand, <1m)			-	-	-	-	-	-	-	-	-	-	-	1	160	
HSL-A&B Residential for VI (Sand, 1-2m)			-	-	-	-	-	-	-	-	-	-	-	1	220	
CRC Care Direct Contact HSL-B			-	-	-	-	-	-	-	-	-	-	-	140	21,000	
Management Limits - Residential			-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample ID		Depth	Date													
SP01_0.5		0.5	8/6/2021	9.4	No	<0.01	3	<0.3	8.7	31	14	14	72	<0.05	<0.1	<0.1
SP02_0.5		0.5	8/6/2021	17.3	No	<0.01	7	<0.3	13	23	21	9.5	53	<0.05	<0.1	<0.1
SP03_0.5		0.5	8/6/2021	15.5	No	<0.01	5	<0.3	9.0	25	13	11	46	<0.05	<0.1	<0.1
SP02_A		-	9/6/2021	26.0	No	<0.01	9	3.5	42	250	58	21	1300	<0.05	<0.1	<0.1
SP02_B		-	9/6/2021	33.1	No	<0.01	15	0.6	19	62	220	21	1600	0.10	<0.1	<0.1

Notes

NEPM 2013 Table 1A(1) - Human Investigation Levels HIL-B for High Density Residential

NEPM 2013 Table 1A(3) Residentials A/B Soil HSL for Vapour Intrusion

CRC Care Direct Contact Health Screening Levels for Direct Contact HSL-B (High Density Residential)

NEPM 2013 Table 1 B(7) - Management Limits for TPH fractions in soil - Residential

NEMP (HEPA, Jan 2018) Human Health - Residential (with minimal opportunity for access to soil)

NEMP (HEPA, Jan 2018) Ecological Direct Toxicity - all uses

NEMP (HEPA, Jan 2018) Ecological Indirect Toxicity - residential

NL - Derived soil HSL exceeds soil saturation concentraton

To obtain F2 subtract naphthalene from the >C10 - C16 fraction.

To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.

Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2

#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7)

#2 Total PAHs: Based on sum of 16 most common reported (WHO 98)

#3 Elemental mercury: HIL does not address elemental mercury.

#4 Lead: HILs A,B,C based on blood lead models

#5 Arsenic: HIL assumes 70% oral bioavailability.

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			BTEXN					Volatile Hydrocarbons				
			Ethylbenzene	m/p-xylene	o-xylene	Total Xylenes	Total BTEX	Naphthalene	Benzene (F0)	TRH C6-C9	TRH C6-C10	TRH C6-C10 minus BTEX (F1)
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.2	0.1	0.3	0.6	0.1	0.1	20	25	25
HIL B - High Density Residential			-	-	-	-	-	-	-	-	-	-
HSL-A&B Residential for VI (Sand, <1m)			55	-	-	40	-	3	1	-	-	45
HSL-A&B Residential for VI (Sand, 1-2m)			NL(64)	-	-	60	-	NL(9)	1	-	-	70
CRC Care Direct Contact HSL-B			5,900	-	-	17,000	-	2,200	140	-	-	4,400
Management Limits - Residential			-	-	-	-	-	-	-	-	700	-
Sample ID	Depth	Date										
SP01_0.5	0.5	8/6/2021	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<0.1	<20	<25	<25
SP02_0.5	0.5	8/6/2021	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<0.1	<20	<25	<25
SP03_0.5	0.5	8/6/2021	<0.1	<0.2	<0.1	<0.3	<0.6	<0.1	<0.1	<20	<25	<25
SP02_A	-	9/6/2021	<0.1	<0.2	<0.1	<0.1	<0.3	<0.6	<0.1	<20	<25	<25
SP02_B	-	9/6/2021	<0.1	<0.2	<0.1	<0.1	<0.3	<0.6	<0.1	<20	<25	<25

Table 3
SES_590 - Stockpile Analytical Results
Regents Park - Phase 2 Data Gap Investigation

			Total Recoverable Hydrocarbons														
			TRH C10-C14	TRH C15-C28	TRH C29-C36	TRH C37-C40	TRH >C10-C16	TRH >C10-C16 - Naphthalene (F2)	TRH >C16-C34 (F3)	TRH >C34-C40 (F4)	TRH C10-C36 Total	TRH >C10-C40 Total (F bands)	Naphthalene	2-methylnaphthalene	1-methylnaphthalene	Acenaphthylene	Acenaphthene
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			20	45	45	100	25	25	90	120	110	210	0.1	0.1	0.1	0.1	0.1
HIL B - High Density Residential			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HSL-A&B Residential for VI (Sand, <1m)			-	-	-	-	-	110	-	-	-	-	3	-	-	-	-
HSL-A&B Residential for VI (Sand, 1-2m)			-	-	-	-	-	240	-	-	-	-	NL(9)	-	-	-	-
CRC Care Direct Contact HSL-B			-	-	-	-	-	3,300	4,500	6,300	-	-	2,200	-	-	-	-
Management Limits - Residential			-	-	-	-	1,000	-	2,500	10,000	-	-	-	-	-	-	-
Sample ID	Depth	Date															
SP01_0.5	0.5	8/6/2021	<20	<45	<45	<100	<25	<25	<90	<120	<110	<210	<0.1	<0.1	<0.1	<0.1	<0.1
SP02_0.5	0.5	8/6/2021	<20	<45	<45	<100	<25	<25	<90	<120	<110	<210	<0.1	<0.1	<0.1	<0.1	<0.1
SP03_0.5	0.5	8/6/2021	<20	<45	<45	<100	<25	<25	<90	<120	<110	<210	<0.1	<0.1	<0.1	<0.1	<0.1
SP02_A	-	9/6/2021	41	4800	4400	1400	120	120	8,000	2600	9200	11000	0.4	0.3	0.2	<0.1	<0.1
SP02_B	-	9/6/2021	<20	210	310	180	<25	<25	400	310	530	710	<0.1	<0.1	<0.1	<0.1	<0.1

Notes
NEPM 2013 Table 1A(1) - Human Investigation Levels HIL-B for High Density Residential
NEPM 2013 Table 1A(3) Residentials A/B Soil HSL for Vapour Intrusion
CRC Care Direct Contact Health Screening Levels for Direct Contact HSL-B (High Density Residential)
NEPM 2013 Table 1 B(7) - Management Limits for TPH fractions in soil - Residential
NEMP (HEPA, Jan 2018) Human Health - Residential (with minimal opportunity for access to soil)
NEMP (HEPA, Jan 2018) Ecological Direct Toxicity - all uses
NEMP (HEPA, Jan 2018) Ecological Indirect Toxicity - residential
NL - Derived soil HSL exceeds soil saturation concentraton
To obtain F2 subtract naphthalene from the >C10 - C16 fraction.
To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7)
#2 Total PAHs: Based on sum of 16 most common reported (WHO 98)
#3 Elemental mercury: HIL does not address elemental mercury.
#4 Lead: HILs A,B,C based on blood lead models
#5 Arsenic: HIL assumes 70% oral bioavailability.

Table 3
SES_590 - Stockpile Analytical Results
Regents Park - Phase 2 Data Gap Investigation

			Polynuclear Aromatic Hydrocarbons #1 #2																	Polychlorinated Biphenyls							
			Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b&j)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(ah)anthracene	Benzo(ghi)perylene	Carcinogenic PAHs, BaP TEQ <LOR=0	Carcinogenic PAHs, BaP TEQ <LOR=LOR	Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	Total PAH (18)	Total PAH (NEPM/WHO 16)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.8	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2
HIL B - High Density Residential			-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	-	400	-	-	-	-	-	-	-	-
HSL-A&B Residential for VI (Sand, <1m)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HSL-A&B Residential for VI (Sand, 1-2m)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRC Care Direct Contact HSL-B			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits - Residential			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample ID	Depth	Date																									
SP01_0.5	0.5	8/6/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	<0.8	-	-	-	-	-	-	-
SP02_0.5	0.5	8/6/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	<0.8	-	-	-	-	-	-	-
SP03_0.5	0.5	8/6/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	<0.8	-	-	-	-	-	-	-
SP02_A	-	9/6/2021	<0.1	0.3	<0.1	0.3	0.8	0.1	0.2	0.4	0.2	0.1	0.2	<0.1	0.2	0.2	0.3	0.3	3.5	3.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SP02_B	-	9/6/2021	<0.1	0.2	<0.1	0.5	0.6	0.2	0.3	0.4	0.2	0.3	0.2	<0.1	0.2	0.4	0.5	0.4	3.0	3.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Notes

NEPM 2013 Table 1A(1) - Human Investigation Levels HIL-B for High Density Residential
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CRC Care Direct Contact Health Screening Levels for Direct Contact HSL-B (High Density Residential)
NEPM 2013 Table 1 B(7) - Management Limits for TPH fractions in soil - Residential
NEMP (HEPA, Jan 2018) Human Health - Residential (with minimal opportunity for access to soil)
NEMP (HEPA, Jan 2018) Ecological Direct Toxicity - all uses
NEMP (HEPA, Jan 2018) Ecological Indirect Toxicity - residential
NL - Derived soil HSL exceeds soil saturation concentraton
To obtain F2 subtract naphthalene from the >C10 - C16 fraction.
To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEQs (rel to BaP ref Schedule 7)
#2 Total PAHs: Based on sum of 16 most common reported (WHO 98)
#3 Elemental mercury: HIL does not address elemental mercury.
#4 Lead: HILs A,B,C based on blood lead models
#5 Arsenic: HIL assumes 70% oral bioavailability.

Table 3
SES_590 - Stockpile Analytical Results
Regents Park - Phase 2 Data Gap Investigation

			Arochlor 1262	Arochlor 1268	Total PCBs (Arochlors)
Units			mg/kg	mg/kg	mg/kg
EQL			0.2	0.2	1
HIL B - High Density Residential			-	-	1
HSL-A&B Residential for VI (Sand, <1m)			-	-	-
HSL-A&B Residential for VI (Sand, 1-2m)			-	-	-
CRC Care Direct Contact HSL-B			-	-	-
Management Limits - Residential			-	-	-
Sample ID	Depth	Date			
SP01_0.5	0.5	8/6/2021	-	-	-
SP02_0.5	0.5	8/6/2021	-	-	-
SP03_0.5	0.5	8/6/2021	-	-	-
SP02_A	-	9/6/2021	<0.2	<0.2	<1
SP02_B	-	9/6/2021	<0.2	<0.2	<1

relevant fractions to obtain F1 & F2

Table 4
SES_590 - DQI Tables
Regents Park - Phase 2 Data Gap Investigation

Soil %RPD	Units	Sample ID	BH13_1.0-1.2	QA03	% RPD	BH18_1.3-1.5	QA04	% RPD	BH21_0.4-0.6	QA05	% RPD	BH29_1.8-2.0	QA06	% RPD
		EQL	8/6/21	8/6/21		8/6/21	8/6/21		9/6/21	9/6/21		9/6/21	9/6/21	
Moisture	%w/w	1	17.2	14.6	16	15.7	16.1	3	15.7	20.3	26	22.1	21.4	3
Arsenic, As	mg/kg	1	3	5	50	5	6	18	6	7	15	7	14	67
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	-	0.4	<0.3	-	<0.3	<0.3	-	<0.3	0.4	-
Chromium, Cr	mg/kg	0.5	7.7	9.2	18	18	6.4	95	12	11	9	7.6	13	52
Copper, Cu	mg/kg	0.5	21	27	25	34	37	8	13	19	38	33	29	13
Lead, Pb	mg/kg	1	10	10	0	42	14	100	10	9	11	16	19	17
Nickel, Ni	mg/kg	0.5	26	49	61	15	19	24	2.9	2.1	32	8.0	4.8	50
Zinc, Zn	mg/kg	2	310	190	48	110	69	46	18	19	5	49	68	32
Mercury, Hg	mg/kg	0.05	<0.05	<0.05	-	<0.05	0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Benzene	mg/kg	0.1	<0.1	<0.1	-	<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	<0.1	-	<0.1	<0.1	-
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	-	<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	<0.2	-	<0.2	<0.2	-
o-xylene	mg/kg	0.1	<0.1	<0.1	-	<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	-	<0.1	<0.1	-	<0.1	<0.1	-
Total BTEX	mg/kg	0.6	<0.6	<0.6	-	<0.6	<0.6	-	<0.3	<0.3	-	<0.3	<0.3	-
Naphthalene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.6	<0.6	-	<0.6	<0.6	-
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-
TRH C6-C9	mg/kg	20	<20	<20	-	<20	<20	-	<20	<20	-	<20	<20	-
TRH C6-C10	mg/kg	25	<25	<25	-	<25	<25	-	<25	<25	-	<25	<25	-
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	-	<25	<25	-	<25	<25	-	<25	<25	-
TRH C10-C14	mg/kg	20	<20	<20	-	<20	<20	-	<20	<20	-	<20	<20	-
TRH C15-C28	mg/kg	45	<45	<45	-	<45	<45	-	<45	<45	-	<45	<45	-
TRH C29-C36	mg/kg	45	<45	<45	-	<45	<45	-	<45	<45	-	<45	<45	-
TRH C37-C40	mg/kg	100	<100	<100	-	<100	<100	-	<100	<100	-	<100	<100	-
TRH >C10-C16	mg/kg	25	<25	<25	-	<25	<25	-	<25	<25	-	<25	<25	-
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	-	<25	<25	-	<25	<25	-	<25	<25	-
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	-	<90	<90	-	<90	<90	-	<90	<90	-
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	<120	<120	-	<120	<120	-	<120	<120	-
TRH C10-C36 Total	mg/kg	110	<110	<110	-	<110	<110	-	<110	<110	-	<110	<110	-
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	<210	<210	-	<210	<210	-	<210	<210	-
Naphthalene	mg/kg	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	-
1-methylnaphthalene	mg/kg	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	-
Acenaphthene	mg/kg	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	-
Phenanthrene	mg/kg	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	-
Fluoranthene	mg/kg	0.1	<0.1	<0.1	-	<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	<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	-
Chrysene	mg/kg	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	-
Benzo(k)fluoranthene	mg/kg	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	-
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	-
Dibenzo(ah)anthracene	mg/kg	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	-
Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	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	<0.8	<0.8	-	<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	<0.8	-	<0.8	<0.8	-
Arochlor 1016	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1221	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1232	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1242	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1248	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1254	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1260	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1262	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Arochlor 1268	mg/kg	0.2	-	-	-	<0.2	-	-	<0.2	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	1	-	-	-	<1	-	-	<1	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
(PFTeDA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
(PFHxDA)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
(PFPeS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
(PFHpS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
(PFDoS)	mg/kg	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-

Table 4
SES_590 - DQI Tables
Regents Park - Phase 2 Data Gap Investigation

Soil %RPD	Units	Sample ID	BH13_1.0-1.2	QA03	% RPD	BH18_1.3-1.5	QA04	% RPD	BH21_0.4-0.6	QA05	% RPD	BH29_1.8-2.0	QA06	% RPD
		EQL	8/6/21	8/6/21		8/6/21	8/6/21		9/6/21	9/6/21		9/6/21	9/6/21	
sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
(PFOSA)	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
(N-EtFOSA)	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
sulfonamido)-ethanol (N-MeFOSE)	mg/kg	0.002	-	-	-	-	-	-	-	-	-	-	-	-
sulfonamido)-ethanol (N-EtFOSE)	mg/kg	0.002	-	-	-	-	-	-	-	-	-	-	-	-
Methylperfluorooctanesulfonamido	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
Ethylperfluorooctanesulfonamidoa	mg/kg	0.001	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
Chloromethane	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Bromomethane	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
Chloroethane	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
Trichlorofluoromethane	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
Acetone (2-propanone)	mg/kg	10	<10	-	-	-	-	-	-	-	-	<10	<10	-
Iodomethane	mg/kg	5	<5	-	-	-	-	-	-	-	-	<5	<5	-
1,1-dichloroethene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Acrylonitrile	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
chloride)	mg/kg	0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-
Allyl chloride	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Carbon disulfide	mg/kg	0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,1-dichloroethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Vinyl acetate	mg/kg	10	<10	-	-	-	-	-	-	-	-	<10	<10	-
MEK (2-butanone)	mg/kg	10	<10	-	-	-	-	-	-	-	-	<10	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Bromochloromethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Chloroform	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
2,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2-dichloroethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,1-dichloropropene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Carbon tetrachloride	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Dibromomethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
TCE)	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
2-nitropropane	mg/kg	10	<10	-	-	-	-	-	-	-	-	<10	<10	-
Bromodichloromethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,3-dichloropropane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Chlorodibromomethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
2-hexanone (MBK)	mg/kg	5	<5	-	-	-	-	-	-	-	-	<5	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
(Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Chlorobenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Bromoform	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-	-	-	-	-	-	<1	<1	-
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Bromobenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
n-propylbenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
2-chlorotoluene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
4-chlorotoluene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
tert-butylbenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
sec-butylbenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
p-isopropyltoluene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
n-butylbenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-
Total VOC	mg/kg	24	<24	-	-	-	-	-	-	-	-	<24	<24	-
Hydrocarbons	mg/kg	3	<3	-	-	-	-	-	-	-	-	<3	<3	-
VIC EPA	mg/kg	1.8	<1.8	-	-	-	-	-	-	-	-	<1.8	<1.8	-
Hydrocarbons VIC EPA	mg/kg	1.8	<1.8	-	-	-	-	-	-	-	-	<1.8	<1.8	-
Phenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
2-methyl phenol (o-cresol)	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
3/4-methyl phenol (m/p-cresol)	mg/kg	1	-	-	-	-	-	-	<1	-	-	-	-	-
Total Cresol	mg/kg	1.5	-	-	-	-	-	-	<1.5	-	-	-	-	-
2-chlorophenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
2,4-dimethylphenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-

Table 4
SES_590 - DQI Tables
Regents Park - Phase 2 Data Gap Investigation

Soil %RPD	Units	Sample ID	BH13_1.0-1.2	QA03	% RPD	BH18_1.3-1.5	QA04	% RPD	BH21_0.4-0.6	QA05	% RPD	BH29_1.8-2.0	QA06	% RPD
		EQL	8/6/21	8/6/21		8/6/21	8/6/21		9/6/21	9/6/21		9/6/21	9/6/21	
2,6-dichlorophenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
2,4-dichlorophenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
2,4,6-trichlorophenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
2-nitrophenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
4-nitrophenol	mg/kg	1	-	-	-	-	-	-	<1	-	-	-	-	-
2,4,5-trichlorophenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	-	-	-	-	-	-	<1	-	-	-	-	-
Pentachlorophenol	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
2,4-dinitrophenol	mg/kg	2	-	-	-	-	-	-	<2	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	2	-	-	-	-	-	-	<2	-	-	-	-	-
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Dieldrin	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Isodrin	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Mirex	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-
Total CLP OC Pesticides	mg/kg	1	-	-	-	-	-	-	<1	-	-	-	-	-
Dichlorvos	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
Dimethoate	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
Diazinon (Dimpylate)	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
Fenitrothion	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Malathion	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Parathion-ethyl (Parathion)	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Bromophos Ethyl	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Methidathion	mg/kg	0.5	-	-	-	-	-	-	<0.5	-	-	-	-	-
Ethion	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Azinphos-methyl (Guthion)	mg/kg	0.2	-	-	-	-	-	-	<0.2	-	-	-	-	-
Total OP Pesticides	mg/kg	1.7	-	-	-	-	-	-	<1.7	-	-	-	-	-

Table 5

SES_590 - DQI Tables

Regents Park - Phase 2 Data Gap Investigation

Groundwater %RPD	Units	Sample ID	GW01	QC01	% RPD
		LOR	11/6/2021	11/6/2021	
Arsenic, As	µg/L	1	1	1	0
Cadmium, Cd	µg/L	0.1	0.8	0.9	12
Chromium, Cr	µg/L	1	3	4	29
Copper, Cu	µg/L	1	2	3	40
Lead, Pb	µg/L	1	<1	<1	-
Nickel, Ni	µg/L	1	24	24	0
Zinc, Zn	µg/L	5	59	65	10
Mercury, Hg	µg/L	0.1	<0.0001	<0.0001	-
Benzene (F0)	µg/L	0.5	<0.5	<0.5	-
C6 - C9 Fraction	µg/L	40	<40	<40	-
TRH C10-C14	µg/L	50	<50	<50	-
TRH C15-C28	µg/L	200	<200	<200	-
TRH C29-C36	µg/L	200	<200	<200	-
TRH C37-C40	µg/L	200	<200	<200	-
C6 - C10 Fraction	µg/L	50	<50	<50	-
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	-
TRH >C10-C16	µg/L	50	<60	<60	-
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	-
TRH >C16-C34 (F3)	µg/L	500	<500	<500	-
TRH >C34-C40 (F4)	µg/L	500	<500	<500	-
TRH C10-C40	µg/L	320	<320	<320	-
Benzene	µg/L	0.5	<0.5	<0.5	-
Toluene	µg/L	0.5	<0.5	<0.5	-
Ethylbenzene	µg/L	0.5	<0.5	<0.5	-
m/p-xylene	µg/L	1	<1	<1	-
o-xylene	µg/L	0.5	<0.5	<0.5	-
Total Xylenes	µg/L	1.5	<1.5	<1.5	-
Total BTEX	µg/L	3	<3	<3	-
Naphthalene	µg/L	0.5	<0.5	<0.5	-
Naphthalene	µg/L	0.1	<0.1	<0.1	-
2-methylnaphthalene	µg/L	0.1	0.1	0.1	0
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	-
Acenaphthylene	µg/L	0.1	<0.1	<0.1	-
Acenaphthene	µg/L	0.1	<0.1	<0.1	-
Fluorene	µg/L	0.1	<0.1	<0.1	-
Phenanthrene	µg/L	0.1	<0.1	<0.1	-
Anthracene	µg/L	0.1	<0.1	<0.1	-
Fluoranthene	µg/L	0.1	<0.1	<0.1	-
Pyrene	µg/L	0.1	<0.1	<0.1	-
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	-
Chrysene	µg/L	0.1	<0.1	<0.1	-
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	-
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	-
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	-
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	-
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	-
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	-

Table 5

SES_590 - DQI Tables

Regents Park - Phase 2 Data Gap Investigation

Groundwater %RPD	Units	Sample ID	GW01	QC01	% RPD
		LOR	11/6/2021	11/6/2021	
Total PAH (18)	µg/L	1	<1	<1	-

Table 5

SES_590 - DQI Tables

Regents Park - Phase 2 Data Gap Investigation

Groundwater %RPD	Units	Sample ID	GW01	QC01	% RPD
		LOR	11/6/2021	11/6/2021	
Dichlorodifluoromethane (CFC-12)	µg/L	5	-	-	-
Chloromethane	µg/L	5	-	-	-
Vinyl chloride (Chloroethene)	µg/L	0.3	-	-	-
Bromomethane	µg/L	10	-	-	-
Chloroethane	µg/L	5	-	-	-
Trichlorofluoromethane	µg/L	1	-	-	-
Acetone (2-propanone)	µg/L	10	-	-	-
Iodomethane	µg/L	5	-	-	-
1,1-dichloroethene	µg/L	0.5	-	-	-
Acrylonitrile	µg/L	0.5	-	-	-
Dichloromethane (Methylene chloride)	µg/L	5	-	-	-
Allyl chloride	µg/L	2	-	-	-
Carbon disulfide	µg/L	2	-	-	-
trans-1,2-dichloroethene	µg/L	0.5	-	-	-
MtBE (Methyl-tert-butyl ether)	µg/L	2	-	-	-
1,1-dichloroethane	µg/L	0.5	-	-	-
Vinyl acetate	µg/L	10	-	-	-
MEK (2-butanone)	µg/L	10	-	-	-
cis-1,2-dichloroethene	µg/L	0.5	-	-	-
Bromochloromethane	µg/L	0.5	-	-	-
Chloroform (THM)	µg/L	0.5	-	-	-
2,2-dichloropropane	µg/L	0.5	-	-	-
1,2-dichloroethane	µg/L	0.5	-	-	-
1,1,1-trichloroethane	µg/L	0.5	-	-	-
1,1-dichloropropene	µg/L	0.5	-	-	-
Carbon tetrachloride	µg/L	0.5	-	-	-
Dibromomethane	µg/L	0.5	-	-	-
1,2-dichloropropane	µg/L	0.5	-	-	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	-	-	-
2-nitropropane	µg/L	100	-	-	-
Bromodichloromethane (THM)	µg/L	0.5	-	-	-
MIBK (4-methyl-2-pentanone)	µg/L	5	-	-	-
cis-1,3-dichloropropene	µg/L	0.5	-	-	-
trans-1,3-dichloropropene	µg/L	0.5	-	-	-
1,1,2-trichloroethane	µg/L	0.5	-	-	-
1,3-dichloropropane	µg/L	0.5	-	-	-
Dibromochloromethane (THM)	µg/L	0.5	-	-	-
2-hexanone (MBK)	µg/L	5	-	-	-
1,2-dibromoethane (EDB)	µg/L	0.5	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	-	-	-
1,1,1,2-tetrachloroethane	µg/L	0.5	-	-	-
Chlorobenzene	µg/L	0.5	-	-	-
Bromoform (THM)	µg/L	0.5	-	-	-
cis-1,4-dichloro-2-butene	µg/L	1	-	-	-
Styrene (Vinyl benzene)	µg/L	0.5	-	-	-
1,1,2,2-tetrachloroethane	µg/L	0.5	-	-	-
1,2,3-trichloropropane	µg/L	0.5	-	-	-

Table 5

SES_590 - DQI Tables

Regents Park - Phase 2 Data Gap Investigation

Groundwater %RPD	Units	Sample ID	GW01	QC01	% RPD
		LOR	11/6/2021	11/6/2021	
trans-1,4-dichloro-2-butene	µg/L	1	-	-	-
Isopropylbenzene (Cumene)	µg/L	0.5	-	-	-
Bromobenzene	µg/L	0.5	-	-	-
n-propylbenzene	µg/L	0.5	-	-	-
2-chlorotoluene	µg/L	0.5	-	-	-
4-chlorotoluene	µg/L	0.5	-	-	-
1,3,5-trimethylbenzene	µg/L	0.5	-	-	-
tert-butylbenzene	µg/L	0.5	-	-	-
1,2,4-trimethylbenzene	µg/L	0.5	-	-	-
sec-butylbenzene	µg/L	0.5	-	-	-
1,3-dichlorobenzene	µg/L	0.5	-	-	-
1,4-dichlorobenzene	µg/L	0.3	-	-	-
p-isopropyltoluene	µg/L	0.5	-	-	-
1,2-dichlorobenzene	µg/L	0.5	-	-	-
n-butylbenzene	µg/L	0.5	-	-	-
1,2-dibromo-3-chloropropane	µg/L	0.5	-	-	-
1,2,4-trichlorobenzene	µg/L	0.5	-	-	-
Hexachlorobutadiene	µg/L	0.5	-	-	-
1,2,3-trichlorobenzene	µg/L	0.5	-	-	-
Total VOC	µg/L	10	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	-	-
Perfluorooctanoic Acid (PFOA)	µg/L	0.0005	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	-	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-	-	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-	-	-
Perfluorotridecanoic acid (PFTTrDA)	µg/L	0.001	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	-	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-	-	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-	-	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-	-	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-	-	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-	-	-
Sum of PFHxS and PFOS	µg/L	0.0002	-	-	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-	-	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-	-	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-	-	-

Table 5

SES_590 - DQI Tables

Regents Park - Phase 2 Data Gap Investigation

Groundwater %RPD	Units	Sample ID	GW01	QC01	% RPD
		LOR	11/6/2021	11/6/2021	
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-	-	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	µg/L	0.0025	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	µg/L	0.0025	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	µg/L	0.0025	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	µg/L	0.0025	-	-	-

Table 6 7

SES_590 - DQI Tables

Regents Park - Phase 2 Data Gap Investigation

Table 6 - Soil DQIs	Units	Sample ID	Trip Blank	Trip Spike
		EQL	2/6/2021	2/6/2021
Moisture	%w/w	1	<1	-
Benzene	mg/kg	0.1	<0.1	[93%]
Toluene	mg/kg	0.1	<0.1	[94%]
Ethylbenzene	mg/kg	0.1	<0.1	[96%]
m/p-xylene	mg/kg	0.2	<0.2	[96%]
o-xylene	mg/kg	0.1	<0.1	[96%]
Total Xylenes	mg/kg	0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	-

Table 7 - Groundwater DQIs	Units	Sample ID	Rinse_HA	Rinse_Pump	Trip Blank	Trip Spike
		LOR	11/6/2021	11/6/2021	11/6/2021	11/6/2021
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	[105%]
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	[104%]
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	[105%]
m/p-xylene	µg/L	1	<1	<1	<1	[104%]
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	[106%]
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	-
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	-
Total BTEX	µg/L	3	<3	<3	<3	-

Appendix C Borehole and Groundwater Logs

PROJECT NUMBER SES_590

DRILLING DATE 07/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

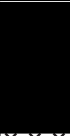
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

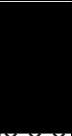
CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.15m)	
		1.3	BH01_0.2-0.3 (QA01)				FILL: Reworked Clay, medium plasticity, brown and grey, firm to stiff, very moist	No odours observed No staining observed No ACM observed
0.5				PT			Natural CLAY: high plasticity, brown and grey, stiff, moist	
1							Grading to, Weathered zone clay/soft shale rock, dry	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590	DRILLING DATE 07/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 1.5m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			Concrete (0.15m)	No odours observed No staining observed No ACM observed
		1.2	BH02_0.3-0.4				FILL: Very thin layer of ashy gravels then; Reworked Clay, medium plasticity, brown and grey, firm to stiff, very moist	
				PT			Natural CLAY: high plasticity, brown and grey, stiff, moist	
1							Grading to, Weathered zone clay/soft shale rock, dry	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590

DRILLING DATE 07/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

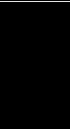
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.15m)	
		0.8	BH03_0.15-0.25				FILL: Ash gravels, black coarse	No odours observed No staining observed No ACM observed
0.5				PT			Natural CLAY: high plasticity, brown and grey, stiff, moist	
1							Grading to, Weathered zone clay/soft shale rock, dry	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590

DRILLING DATE 07/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

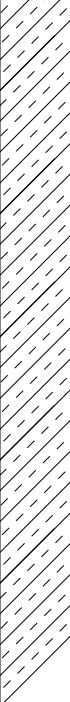
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.1m)	No odours observed No staining observed No ACM observed
		0.9	BH04_0.1-0.2				FILL: Ash gravels, black coarse	
0.5				PT			Natural CLAY: high plasticity, red brown and grey, very stiff, moist	
1							Grading to, Weathered zone clay/soft shale rock, dry	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590	DRILLING DATE 07/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 1.5m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			Concrete (0.1m)	No odours observed No staining observed No ACM observed
							FILL: Ash gravels, black coarse	
		0.8	BH05_0.2-0.3				Natural CLAY: high plasticity, red brown and grey, very stiff, moist	
1				PT			Grading to, Weathered zone clay/soft shale rock, dry	
1.5							End of borehole at 1.5m	

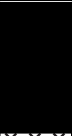
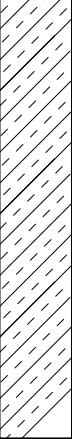
PROJECT NUMBER SES_590	DRILLING DATE 07/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 1.3m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5		1.2	BH06_0.2-0.3	HA			Concrete (0.1m)	No odours observed No staining observed No ACM observed
							FILL: Very thin layer of ash gravels, black coarse	
							Natural CLAY: high plasticity, red brown and grey, very stiff, moist	
1				PT			Grading to, Weathered zone clay/soft shale rock, dry	
								
1.5							End of borehole at 1.3m	

PROJECT NUMBER SES_590	DRILLING DATE 07/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 1.2m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5		1.3	BH07_0.3-0.4	HA			Concrete (0.15m)	Very faint hydrocarbon odours observed No staining observed No ACM observed
							FILL: Very thin layer of crushed rock roadbase	
							Natural CLAY: high plasticity, red brown and grey, very stiff, moist	
1				PT			Grading to, Weathered zone clay/soft shale rock, dry	
1.5							Refusal - End of borehole at 1.2m	

PROJECT NUMBER SES_590

DRILLING DATE 07/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

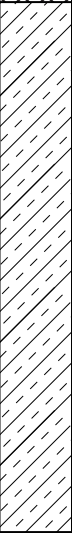
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
		0.8	BH08_0.0-0.2	HA			Ballast gravels and fines, dry	No odours observed No staining observed No ACM observed
0.5				PT			Natural CLAY: high plasticity, predominantly grey, stiff, moist	
1		-	BH08_0.8-1.0				Grading to, Weathered zone clay/soft shale rock, dry	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590	TOTAL DEPTH 10.0m	COORDINATES
CLIENT 30 Auburn Rd Pty Ltd	DIAMETER 50mm	COORD SYS m AHD
ADDRESS 30-46 Auburn Rd, Regents Park NSW	CASING uPVC	SURFACE ELEVATION
PROJECT NAME Data Gap Investigation	SCREEN uPVC Factory Slotted	WELL TOC
LICENCE NO.	DATE 07/06/2021	

COMMENTS HA = Hand Auger, SS = Solid Auger, PT = Push Tube	LOGGED BY A.S.
	CHECKED BY S.G.

Depth (m)	PID	Samples	Drilling Method	Graphic Log	Moisture	Material Description	Well Diagram	Additional Observations
0.5	0.9	BH09 0.4-0.5 (QA02)	HA		M	Asphalt (50mm) Roadbase gravels (150mm)		
1			PT		M	FILL: Silty gravelly Clay; high plasticity, brown, firm to stiff		
1.5						Natural CLAY: high plasticity, red brown and grey, very stiff		
2	0.8	BH09 1.7-1.8	SS			Grading to weathered zone SHALE; soft shale rock, light brown		
2.5								
3								
3.5								
4								
4.5						Dark brown, soft		
5						Black colours, soft		
5.5								
6								
6.5						Various bands coloured shale, soft, easy drilling conditions		
7								
7.5								
8								
8.5						Signs of moisture		
9								
9.5						Signs of moisture		
10						End of borehole at 10.0m		

PROJECT NUMBER SES_590

DRILLING DATE 07/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

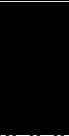
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5		0.9	BH10_0.5-0.6	HA			Concrete (0.15m)	No odours observed No staining observed No ACM observed
				PT			FILL: Roadbase gravels	
							FILL: Gravelly Clay; brownish, firm, high gravel content, moist	
1							Natural CLAY: high plasticity, predominantly grey, stiff, moist	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590

DRILLING DATE 07/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

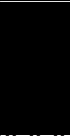
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.15m)	
0.5				PT			FILL: Gravelly Clay; high plasticity, brown with some greeny hues, firm, moist to wet	No odours observed No staining observed No ACM observed
		1.3	BH11_0.6-0.7					
1							Natural CLAY: high plasticity, grey and red browns, very stiff, moist.	
							Grading into weathered zones of soft shale rock	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590

DRILLING DATE 08/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.4m

LOCATION 30-46 Auburn Rd, Regents Park NSW

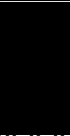
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

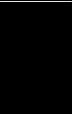
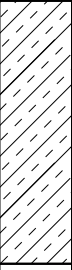
CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5		1.2	BH12_0.5-0.6	HA			Concrete (0.15m)	Slight hydrocarbon odours observed No staining observed No ACM observed
							FILL: SAND; uniform, brown tan, wet, loose	
							Seepage water entering borehole	
				PT			Natural CLAY: high plasticity, red/grey mottles, very stiff, moist.	
1			BH12_1.3-1.4				Grading into weathered zones of soft shale rock	
1.5							End of borehole at 1.4m	

PROJECT NUMBER SES_590	DRILLING DATE 08/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 1.9m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

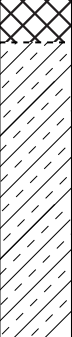
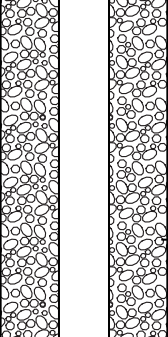
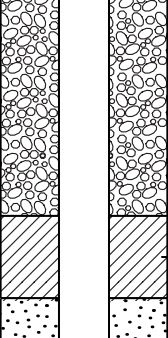
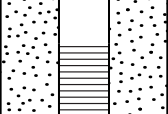
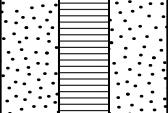
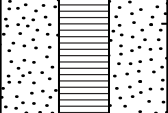
COMMENTS HA = Hand Auger, PT = Push Tube, SS = Solid Auger

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			Concrete (0.15m)	No ACM observed
		1.4	BH13_0.2-0.4				FILL: SAND; uniform with coarse gravels, grey green colours, loose, wet. Strong hydrocarbon odours with black staining	
				PT			Natural CLAY: high plasticity, red/grey mottles, very stiff, moist. Hydrocarbon odours and black staining in top 10cm of layer.	
1							Grading into weathered zones of soft shale rock	No groundwater well installed. Broke open adjacent existing groundwater well installed (c) mid 1990's.
		-	BH13_1.0-1.2 (QA03)					
1.5				SS			Hard shale rock with ironstone noted at 1.2m - Push tube refusal changed to Solid Augers	Measured: SWL at 5.54mbtoc Depth at 11.5mbtoc Re-labelled existing groundwater well as GW02
							End of borehole at 1.9m	

BOREHOLE & GROUNDWATER LOG BH14/GW03

PROJECT NUMBER SES_590	TOTAL DEPTH 8.5m	COORDINATES
CLIENT 30 Auburn Rd Pty Ltd	DIAMETER 50mm	COORD SYS m AHD
ADDRESS 30-46 Auburn Rd, Regents Park NSW	CASING uPVC	SURFACE ELEVATION
PROJECT NAME Data Gap Investigation	SCREEN uPVC Factory Slotted	WELL TOC
LICENCE NO.	DATE 08/06/2021	

COMMENTS HA = Hand Auger, SS = Solid Auger, PT = Push Tube	LOGGED BY A.S.
	CHECKED BY S.G.

Depth (m)	PID	Samples	Drilling Method	Graphic Log	Moisture	Material Description	Well Diagram	Additional Observations
0.5	1.0	BH14_0.3-0.5	HA		M / W	Concrete rubble over FILL: Silty gravelly Clay; low plasticity, dark brown, firm, moist, large shaley gravels with wet plastic pockets		No odours observed No staining observed No ACM observed
1			PT		M	Natural CLAY: high plasticity, red grey mottling with some yellowing very stiff Grey colours dominant CLAY, low to medium plasticity, grey, moist		
3			SS		D	Grading to weathered zone SHALE; soft shale rock, light brown with harder layer bands Brown, soft Darker brown shales Brown shales Positive signs of moisture in cuttings		
4.5								
5.5								
6.5								
8.5						End of borehole at 8.5m		

BOREHOLE & GROUNDWATER LOG BH15/GW04

PROJECT NUMBER SES_590	TOTAL DEPTH 8.5m	COORDINATES
CLIENT 30 Auburn Rd Pty Ltd	DIAMETER 50mm	COORD SYS m AHD
ADDRESS 30-46 Auburn Rd, Regents Park NSW	CASING uPVC	SURFACE ELEVATION
PROJECT NAME Data Gap Investigation	SCREEN uPVC Factory Slotted	WELL TOC
LICENCE NO.	DATE 08/06/2021	

COMMENTS HA = Hand Auger, SS = Solid Auger, PT = Push Tube	LOGGED BY A.S.
	CHECKED BY S.G.

Depth (m)	PID	Samples	Drilling Method	Graphic Log	Moisture	Material Description	Well Diagram	Additional Observations
0.5			HA		M	Surface ballast and crushed rock over FILL: Gravelly Clay; low plasticity, brown grey, firm, moist.		
1	1.1	BH15_1.0-1.2	SS			Slight hydrocarbon odour Clay fill, faint hydrocarbon odours		No staining observed No ACM observed
1.5								
2	1.3	BH15_2.2-2.3			M	Natural CLAY: high plasticity, red grey mottling with some yellowing, very stiff, moist.		
2.5								
3								
3.5								
4								
4.5						Grading to weathered zone SHALE; soft shale rock, grey with harder layer bands		
5					D	SHALE: brown		
5.5						Positive signs of moisture in cuttings		
6								
6.5								
7								
7.5								
8								
8.5						End of borehole at 8.5m		

PROJECT NUMBER SES_590	TOTAL DEPTH 8.5m	COORDINATES
CLIENT 30 Auburn Rd Pty Ltd	DIAMETER 50mm	COORD SYS m AHD
ADDRESS 30-46 Auburn Rd, Regents Park NSW	CASING uPVC	SURFACE ELEVATION
PROJECT NAME Data Gap Investigation	SCREEN uPVC Factory Slotted	WELL TOC
LICENCE NO.	DATE 08/06/2021	

COMMENTS HA = Hand Auger, SS = Solid Auger, PT = Push Tube	LOGGED BY A.S.
	CHECKED BY S.G.

Depth (m)	PID	Samples	Drilling Method	Graphic Log	Moisture	Material Description	Well Diagram	Additional Observations
-0.5								
0	1.6	BH16_0.0-0.2	HA		M	Surface ballast and crushed rock over FILL: Gravelly Silty Clay; low plasticity, dark brown, firm, moist.		
0.5			SS			Natural CLAY: high plasticity, red grey mottling with some yellowing, very stiff, moist.		
1								No staining observed No ACM observed
1.5								
2					M			
2.5						Evidence of water at 2.5m		
3								
3.5								
4						Dry cuttings at 4m		
4.5						Moist cuttings at 4.8m		
5					D			
5.5						Clay with minor gravels		
6								
6.5						Grading to weathered zone SHALE; soft shale rock, grey with harder layer bands		
7						SHALE: brown		
7.5								
8								
8.5						End of borehole at 8.5m		
9								

PROJECT NUMBER SES_590

DRILLING DATE 08/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 2.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			FILL: Silty Clay and gravel mixture, brown, dense material, dry to moist.	No odours observed No staining observed No ACM observed
				PT			Layer of crushed shale rock	
1		-	BH17_1.0-1.2					
1.5							Natural CLAY: high plasticity, red/grey mottles, very stiff, moist.	
2								
2.5							End of borehole at 2.5m	

PROJECT NUMBER SES_590

DRILLING DATE 08/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 2.7m

LOCATION 30-46 Auburn Rd, Regents Park NSW

DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			FILL: Silty Clay and gravel mixture, brown, dense material, dry to moist.	No odours observed No staining observed No ACM observed
1				PT				
1.5		-	BH18_1.3-1.5 (QA04)					
2							Natural CLAY: high plasticity, red/grey mottles, very stiff, moist.	
2.5								
							End of borehole at 2.7m	

PROJECT NUMBER SES_590	DRILLING DATE 08/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 3.9m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			FILL: Gravelly Silty Clay mixture, brown, dense material, dry to moist with some rock and layers of plastic clays.	No odours observed No staining observed No ACM observed
1				PT				
1.5								
2							Varying layers of clay and gravel mixture	
2.5		-	BH19_2.1-2.3					
3								
3.5							Natural? Former topsoil - silty material, wet layer Natural CLAY: high plasticity, red/grey mottles, very stiff, moist.	
							End of borehole at 3.9m	

PROJECT NUMBER SES_590	TOTAL DEPTH 10m	COORDINATES
CLIENT 30 Auburn Rd Pty Ltd	DIAMETER 50mm	COORD SYS m AHD
ADDRESS 30-46 Auburn Rd, Regents Park NSW	CASING uPVC	SURFACE ELEVATION
PROJECT NAME Data Gap Investigation	SCREEN uPVC Factory Slotted	WELL TOC
LICENCE NO.	DATE 09/06/2021	

COMMENTS HA = Hand Auger, SS = Solid Auger, PT = Push Tube	LOGGED BY A.S.
	CHECKED BY S.G.

Depth (m)	PID	Samples	Drilling Method	Graphic Log	Moisture	Material Description	Well Diagram	Additional Observations
0.2		BH20_0.3-0.4	HA			Concrete (0.2m)		
0.5			SS		M	FILL: Gravel Clay mixture		
1.0						Natural CLAY: high plasticity, red grey mottling, very stiff, moist.		No staining observed No ACM observed
2.0								
2.5					D	Grading to weathered zone SHALE; soft shale rock, brown		
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5								
8.0						Dark grey/black shale		
8.5								
9.0						Hard drilling conditions		
9.5								
10.0						End of borehole at 10.0m - Refusal		

PROJECT NUMBER SES_590

DRILLING DATE 09/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

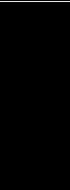
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.18m) with 2x plastic underlay	
							FILL: Sandy Gravels over clay	
0.5		-	BH21_0.4-0.6 (QA05)	PT			Natural CLAY: high plasticity, red/grey mottles, very stiff, moist.	No odours observed No staining observed No ACM observed
1								
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590

DRILLING DATE 09/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

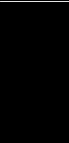
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.15m)	
		-	BH22_0.2-0.4				FILL: Gravelly Clay; with some coarse gravel	
0.5				PT			Natural CLAY: high plasticity, red/grey mottles, very stiff, moist.	No odours observed No staining observed No ACM observed
1								
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590

DRILLING DATE 09/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

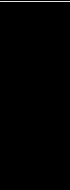
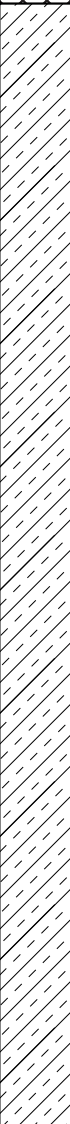
DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5			BH23_0.4-0.5	HA			Concrete (0.2m)	No odours observed No staining observed No ACM observed
							FILL: Gravelly Clay; with some coarse gravel	
							Natural CLAY: high plasticity, red/grey mottles, very stiff, moist.	
1				PT				
1.5							Some weathered layers evident	
							End of borehole at 1.5m	

PROJECT NUMBER SES_590

DRILLING DATE 09/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.1m)	No odours observed No staining observed No ACM observed
							FILL: Gravel roadbase, coarse	
0.5		-	BH24_0.5-0.7	PT			Natural: Thin Silty CLAY layer then CLAY: high plasticity, red/grey mottles, very stiff, moist.	
1							Some weathered layers evident	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590	DRILLING DATE 09/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 1.15m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5		1.0	BH25_0.5-0.7	HA			Concrete (0.19m)	No odours observed No staining observed No ACM observed
							FILL: Base course underlay, very coarse gravels	
							FILL: Silty Clay and gravel mixture, soft, dark brown to black, wet	
1				PT				
1.5							End of borehole at 1.15m - Refusal on metallic object, assumed to be water pipe approx 1 Inch diameter	

PROJECT NUMBER SES_590 CLIENT 30 Auburn Rd. Pty Ltd LOCATION 30-46 Auburn Rd, Regents Park NSW PROJECT NAME Data Gap Investigation	DRILLING DATE 09/06/2021 DRILLING COMPANY Epoca Environmental P/L DRILLING METHOD Hand Auger & Geoprobe	BORE SIZE 100mm TOTAL DEPTH 0.55m LOGGED BY A.S. CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5		-	BH26_0.3-0.5	HA			Concrete (0.2m)	No odours observed No staining observed No ACM observed
							FILL: Blue metal base course gravels	
				PT			FILL: Gravelly clay mixture	
1							End of borehole at 0.55m - Refusal on concrete (pipe?)	
1.5								

PROJECT NUMBER SES_590	DRILLING DATE 09/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 0.9m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			Concrete (0.18m)	No odours observed No staining observed No ACM observed
							Roadbase Gravels then FILL: Gravelly Clay mixture	
		0.9	BH27_0.4-0.5				0.4m Concrete pipe encountered	
				PT				
		-	BH27_0.7-0.8				CLAY: high plasticity, red/grey mottles, very stiff, moist.	
1							End of borehole at 0.9m	
1.5								

PROJECT NUMBER SES_590

DRILLING DATE 09/06/2021

BORE SIZE 100mm

CLIENT 30 Auburn Rd. Pty Ltd

DRILLING COMPANY Epoca Environmental P/L

TOTAL DEPTH 1.5m

LOCATION 30-46 Auburn Rd, Regents Park NSW

DRILLING METHOD Hand Auger & Geoprobe

LOGGED BY A.S.

PROJECT NAME Data Gap Investigation

CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
				HA			Concrete (0.2m)	
			F01				Ballast and crushed rock, 3x fibre cement fragments observed	
0.5		-	BH28_0.5-0.6				FILL: Gravelly Clay and rock mixture	No staining observed
		0.9	BH28_0.7-0.8	PT			Unknown odour observed at 0.7m	
1							CLAY: high plasticity, red/grey mottles, very stiff, moist.	
1.5							End of borehole at 1.5m	

PROJECT NUMBER SES_590	DRILLING DATE 09/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY Epoca Environmental P/L	TOTAL DEPTH 2.7m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger & Geoprobe	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5				HA			Concrete (0.15m)	No odours observed No staining observed No ACM observed
							FILL: Gravel and Clay mixture, some layers of re-worked natural clays (Potentially old UST pit?)	
1		1.0	BH29_1.0-1.1	PT				
1.5								
		1.0	BH29_1.8-2.0 (QA06)					
2							CLAY: high plasticity, red/grey mottles, very stiff, moist.	
2.5								
							End of borehole at 2.7m	

PROJECT NUMBER SES_590	DRILLING DATE 09/06/2021	BORE SIZE 100mm
CLIENT 30 Auburn Rd. Pty Ltd	DRILLING COMPANY N/A	TOTAL DEPTH 0.6m
LOCATION 30-46 Auburn Rd, Regents Park NSW	DRILLING METHOD Hand Auger	LOGGED BY A.S.
PROJECT NAME Data Gap Investigation		CHECKED BY S.G.

COMMENTS HA = Hand Auger, PT = Push Tube

Depth (m)	Penetration Resistance	PID	Samples	Method	Graphic Log	USCS	Material Description	Additional Observations
0.5		-	HA01_0.5-0.6	HA			Concrete (0.15m)	No odours observed No staining observed No ACM observed
							FILL: Road base gravels, some black gravels	
							Silty CLAY: medium plasticity, reddish brown, firm, dry.	
1							End of borehole at 0.6m	

Appendix D Site Photos



Photo 1: Drilling BH15/GW04 near former UST

Photo 2: Vent pipe present near former UST at BH15/GW04
(image from 2017)



Project #: **SES_590**

Appendix D

Title: **Detailed Phase 2 Contamination Investigation– Site Photographs**

Address: **30 – 46 Auburn Road, Regents Park NSW**



Photo 3: Former AST and bund (image from 2017). Unknown pipe visible.

Photo 4: Former AST (2021)



SULLIVAN environmental sciences	Project #: SES_590	Title: Detailed Phase 2 Contamination Investigation– Site Photographs
	Appendix D	Address: 30 – 46 Auburn Road, Regents Park NSW



Photo 5: Filling area along northern boundary.



Photo 6: Assumed former settling pits area of Building #2. BH26 located over major stormwater or sewer pipe. Unknown layout of pipe network.



Project #: **SES_590**

Appendix D

Title: **Detailed Phase 2 Contamination Investigation– Site Photographs**

Address: **30 – 46 Auburn Road, Regents Park NSW**



Photo 7: Waste pile on #46 and drainage with waste vehicle parts and oily staining on concrete.



Photo 8: #46 waste pile and oil stains.

	Project #:	SES_590	Title:	Detailed Phase 2 Contamination Investigation– Site Photographs
		Appendix D	Address:	30 – 46 Auburn Road, Regents Park NSW



Photo 9: Central drainage network on #46.



Photo 10: Oil container stockpile and oily stained grounds at rear of #46.



Project #: **SES_590**

Appendix D

Title: **Detailed Phase 2 Contamination Investigation– Site Photographs**

Address: **30 – 46 Auburn Road, Regents Park NSW**

Appendix E Field Sheets and Calibration Certificates

PURGING AND GROUNDWATER SAMPLING DATA SHEET

BORE No: Gw01

Project No SES-590 Project Name Data trap Invest.

Date 8/6/21 Sampled by: A.S.

Development 8/6/21

Development Method Boiler/12V
 Time Started — SWL (start) 5.2 m b/c Volume Removed 30 L Bore Depth (start) —
 Time Stopped — SWL (end) — Discharge Rate — Bore Depth (end) —
 Comments Removed 15 L boiler + 15 L 12V. okay recharge for micropurg. very sticky at bore. NAPL Present —
 (If yes thickness) N/A

Purging - 11/6/21

Purge Method Micro Purge Depth 7-7.5 m b/c Bore Volume — Bore Depth (start) 9.45 m b/c
 Time Started — SWL (start) 5.05 m b/c Volume Removed — Bore Depth (end) —
 Time Stopped — SWL (end) 5.65 m " NAPL Present —
 Comments Flow set at 0.25 L/min. Borehead stable @ 5.36 m b/c. (If yes thickness) —
After 20 min drawdown 5.55 m b/c.

Sampling

OVA Monitoring

Sampling Method — Sampling Depth —
 Time Started — SWL (start) —
 Time Stopped — SWL (end) —
 Comments —

Time	Ambient	Bore Head	Discharge

Field Analyses

Time	Vol Removed (L)	EC (uS/cm)	pH	T (C)	Redox (mV)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Comments (Color, turbidity)
5 min	1 L	25707	6.32	21.1	103.2	1.72	2.13	Brown turbid, no odors
10 "	2 L	25805	6.25	21.2	110.9	2.13	2.15	"
20 "	3-4 L	25855	6.22	21.4	117.0	2.15	2.15	"
25 min	4-5 L	25779	6.21	21.3	119.8	2.15	2.15	"
35 "	6-7 L	25443	6.11	20.5	128.8	2.19	2.19	"

Sample

PURGING AND GROUNDWATER SAMPLING DATA SHEET

BORE No: EW02

Project No SES 590 Project Name Data Cap Invest.

Date 11/6/21 Sampled by: A.S.

Development

Development Method	SWL (start)	Volume Removed	Bore Depth (start)
Time Started	SWL (end)	Discharge Rate	Bore Depth (end)
Time Stopped			NAPL Present
Comments			(If yes thickness)

Purging - 11/6/21

Purge Method	Purge Depth	Bore Volume	Bore Depth (start)
Time Started	SWL (start)	Volume Removed	Bore Depth (end)
Time Stopped	SWL (end)		NAPL Present
Comments			(If yes thickness)

Sampling

Sampling Method	Sampling Depth
Time Started	SWL (start)
Time Stopped	SWL (end)
Comments	

OVA Monitoring

Time	Ambient	Bore Head	Discharge

Field Analyses

Time	Vol Removed (L)	EC (uS/cm)	pH	T (C)	Redox (mV)	Dissolved Oxygen (%)	Oxygen (mg/L)	Comments (Color, turbidity)
5 min	1-2L	896	6.98	20.8	73.1	0.88	0.68	Green, turbid, no odors
10 min	4-5L	997	6.94	20.9	78.4	0.68	0.39	"
20 min	6-7L	1063	6.96	20.7	82.5	0.39	0.34	"
25 mins	7-8L	1070	6.94	20.7	83.9	0.34	0.38	"
30 mins		1001	6.92	20.4	84.9	0.38		"

sample

PURGING AND GROUNDWATER SAMPLING DATA SHEET

BORE No: GW03

Project No SES-590 Project Name Data Cap Invest.

Date 9/6/21 Sampled by: A.S.

Development

Development Method	<u>12V</u>	SWL (start)	<u>5.4m bgl</u>	Volume Removed	<u>~10L</u>	Bore Depth (start)	<u>—</u>
Time Started	<u>—</u>	SWL (end)	<u>dry</u>	Discharge Rate		Bore Depth (end)	<u>—</u>
Time Stopped						NAPL Present	<u>N/A</u>
Comments	<u>slow recharge. okay for micro purge.</u>					(if yes thickness)	

Purging — 11/6/21

Purge Method	<u>Micro</u>	Purge Depth	<u>~7-7.5m bgl</u>	Bore Volume		Bore Depth (start)	<u>8.00m bgl</u>
Time Started	<u>—</u>	SWL (start)	<u>5.37m bgl</u>	Volume Removed		Bore Depth (end)	<u>—</u>
Time Stopped	<u>—</u>	SWL (end)	<u>7.37 " "</u>			NAPL Present	<u>—</u>
Comments	<u>Drawdown @ 15 mins 6.37m bgl. Flow rate ~ 0.4L/min</u>						
	<u>@ 20 mins drawdown below top of pump. Stop pump allow to recharge.</u>						
	<u>Recharge very slow.</u>						

Sampling

Sampling Method		Sampling Depth	
Time Started		SWL (start)	
Time Stopped		SWL (end)	
Comments	<u>Removed pump & used bailer (aispocade)</u>		

OVA Monitoring

Time	Ambient	Bore Head	Discharge

Field Analyses

Time	Vol Removed (L)	EC (uS/cm)	pH	T (C)	Redox (mV)	Dissolved Oxygen (%)	Oxygen (mg/L)	Comments (Color, turbidity)
<u>5 min</u>	<u>1-2L</u>	<u>19,913</u>	<u>6.31</u>	<u>18.9</u>	<u>134.4</u>		<u>4.85</u>	<u>Brown/grey, turbid, no odors</u>
<u>15 min</u>	<u>3-4L</u>	<u>20,560</u>	<u>6.33</u>	<u>18.9</u>	<u>135.7</u>		<u>4.57</u>	<u>"</u>
<u>20 min</u>	<u>5-6L</u>	<u>6,243</u>	<u>6.34</u>	<u>18.8</u>	<u>136.5</u>		<u>5.45</u>	<u>"</u>
<u>1 hr</u>	<u>—</u>	<u>21,174</u>	<u>6.75</u>	<u>18.7</u>	<u>127.1</u>		<u>4.30</u>	<u>✓ turbid brown.</u>

PURGING AND GROUNDWATER SAMPLING DATA SHEET

BORE No: GW04

Project No SES-590 Project Name Data Gap Invest.

Date 9/6/21 Sampled by: A.S.

Development

Development Method Bailer (disposable) SWL (start) 6.0m bgl Bore Depth (start) —
 Time Started — SWL (end) any Bore Depth (end) —
 Time Stopped — Volume Removed 35L Bore Depth (end) —
 Comments ✓ slow recharge. After then very turbid dark brown. Discharge Rate — NAPL Present —
Not suitable for micropurge. (If yes thickness) N/A

Purging - 11/6/21

Purge Method Bailer (disposable) Purge Depth 5.89m bgl Bore Depth (start) 7.96m bgl
 Time Started — SWL (start) — Bore Depth (end) —
 Time Stopped — SWL (end) — Volume Removed — NAPL Present —
 Comments Bailed dry @ 7.5L. (If yes thickness) —

Sampling

Sampling Method — Sampling Depth —
 Time Started — SWL (start) —
 Time Stopped — SWL (end) —
 Comments —

OVA Monitoring

Time	Ambient	Bore Head	Discharge

Field Analyses

Time	Vol Removed (L)	EC (uS/cm)	pH	T (C)	Redox (mV)	Dissolved Oxygen (%)	Oxygen (mg/L)	Comments (Color, turbidity)
	2L	22,763	5.49	19.0	132.0		4.59	Green, ✓ turbid no odors

PURGING AND GROUNDWATER SAMPLING DATA SHEET

BORE No: GW05

Project No SES 590 Project Name Data Cap Inv

Date 9/6/21 Sampled by: A.S

Development

Development Method 12V SWL (start) 2.8mgl Volume Removed 25L to dry Bore Depth (start) —
 Time Started — SWL (end) dry Discharge Rate — Bore Depth (end) —
 Time Stopped — Comments Minimal sludge @ base. okay recharge & good for micro purge. NAPL Present —
 (If yes thickness) N/A

Purging — 11/6/21

Purge Method Micro Purge Depth ≈ 5.0mgl Bore Volume — Bore Depth (start) 8.7m lbc
 Time Started — SWL (start) 3.45m lbc Bore Removed — Bore Depth (end) —
 Time Stopped — SWL (end) 5.09m " Volume Removed — NAPL Present —
 Comments Monument stick up 0.7m, drawdown falling slowly. Drawdown stabilised @ ≈ 4.5m lbc. Pump rate @ ≈ 35ml/min. Recharge too slow. Drawdown to top of pump. Hold pump for 5min then sample, to allow SWL to stabilise do approx 80% OVA Monitoring

Sampling

Sampling Method — Sampling Depth —
 Time Started — SWL (start) —
 Time Stopped — SWL (end) —
 Comments Recharge back to 4.7m lbc after 60mins

Time	Ambient	Bore Head	Discharge

Field Analyses

Time	Vol Removed (L)	EC (uS/cm)	pH	T (C)	Redox (mV)	Dissolved Oxygen (%)	Oxygen (mg/L)	Comments (Color, turbidity)
5 min	1-2L	1646	5.08	18.1	155.1	2.5%	2.5%	Fairly clear, no ods
12 min	2-3L	1648	4.96	18.0	169.9	3.2%	3.2%	" "
30 min	5-6L	1762	4.93	17.7	184.9	4.1%	4.1%	" "
1.5 hrs	—	3126	4.88	18.0	210.0	3.5%	3.5%	" "

PURGING AND GROUNDWATER SAMPLING DATA SHEET

BORE No: GW06

Project No SES-590 Project Name Data Corp Invest. Date 9/6/21 Sampled by: A.S.

Development

Development Method — SWL (start) — Volume Removed — Bore Depth (start) —
 Time Started — SWL (end) — Discharge Rate — Bore Depth (end) —
 Comments Bore is dry. NAPL Present — (If yes thickness) —

Purging — 11/6/21

Purge Method — Purge Depth — Bore Volume — Bore Depth (start) —
 Time Started — SWL (start) — Volume Removed — Bore Depth (end) —
 Time Stopped — SWL (end) — Comments Bore is dry. NAPL Present — (If yes thickness) —

Sampling

Sampling Method — Sampling Depth —
 Time Started — SWL (start) —
 Time Stopped — SWL (end) —
 Comments —

OVA Monitoring

Time	Ambient	Bore Head	Discharge

Field Analyses

Time	Vol Removed (L)	EC (uS/cm)	pH	T (C)	Redox (mV)	Dissolved Oxygen (%)	Oxygen (mg/L)	Comments (Color, turbidity)

PID Calibration Certificate

Instrument **PhoCheck Tiger**
 Serial No. **T-111100**



Air-Met Scientific Pty Ltd
 1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	Low	High	TWA	STEL
	Settings	✓	50ppm	100ppm		
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:						

Post sampling results

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		93ppm Isobutylene	NATA	SY361		89.7 ppm

Calibrated by: Kylie Rawlings

Calibration date: **3/06/2021**

Next calibration due: **3/07/2021**



Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

This is to certify that the above instrument has been cleaned and tested.

Calibration date: 10/06/2021

Next calibration due: 9/08/2021

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **18J104314**



airmet

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 10.00		pH 10.00		363695	pH 9.50
2. pH 7.00		pH 7.00		364212	pH 6.78
3. pH 4.00		pH 4.00		366070	pH 4.01
4. mV		240.6mV		365755/364219	240.9mV
5. EC		2.76mS		350510	2.75mS
6. D.O		0.00ppm		10959	0.00ppm
7. Temp		16.7°C		MultiTherm	16.6°C

Calibrated by:

Kylie Rawlings

Calibration date:

10/06/2021

Next calibration due:

11/07/2021

Appendix F Laboratory Analytical Certificates

CLIENT DETAILS

Contact ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU
Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 16

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 **SE220506 R0**
Date Received 8/6/2021
Date Reported 16/6/2021

COMMENTS

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

No respirable fibres detected in soil samples using trace analysis technique.

Sample #7-8: A portion of the soil sample supplied has been sub-sampled for asbestos according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. For identification of asbestos in soil samples, Industries & environment recommends supplying approximately 50-100g of sample in a separate container.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

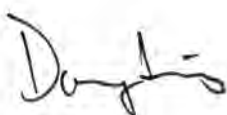
PFAS subcontracted to SGS Melbourne, Unit 10/585 Blackburn Road Notting Hill VIC 3168, NATA Accreditation Number 2562, Site number 14420. Report Number ME320926

MA-1523 Majority of surrogates are within acceptance criteria.

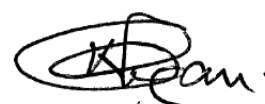
SIGNATORIES



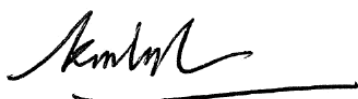
Akheeque BENIAEMEEN
Chemist



Dong LIANG
Metals/Inorganics Team Leader



Kamrul AHSAN
Senior Chemist



Ly Kim HA
Organic Section Head



Shane MCDERMOTT
Inorganic/Metals Chemist



Teresa NGUYEN
Organic Chemist



ANALYTICAL RESULTS

SE220506 R0

VOC's in Soil [AN433] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH01_0.2-0.3	QA01	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.001	7/6/2021 SE220506.002	7/6/2021 SE220506.003	7/6/2021 SE220506.004	7/6/2021 SE220506.005
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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH05_0.2-0.3	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2	BH08_0.8-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.006	7/6/2021 SE220506.007	7/6/2021 SE220506.008	7/6/2021 SE220506.009	7/6/2021 SE220506.010
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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH09_0.4-0.5	QA02	BH09_1.7-1.8	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.011	7/6/2021 SE220506.012	7/6/2021 SE220506.013	7/6/2021 SE220506.014	7/6/2021 SE220506.015
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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	Trip Spike
			SOIL
			2/6/2021 SE220506.016
Benzene	mg/kg	0.1	[93%]
Toluene	mg/kg	0.1	[94%]
Ethylbenzene	mg/kg	0.1	[96%]
m/p-xylene	mg/kg	0.2	[96%]
o-xylene	mg/kg	0.1	[96%]
Total Xylenes	mg/kg	0.3	-
Total BTEX	mg/kg	0.6	-
Naphthalene	mg/kg	0.1	-



ANALYTICAL RESULTS

SE220506 R0

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH01_0.2-0.3	QA01	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021 SE220506.001	7/6/2021 SE220506.002	7/6/2021 SE220506.003	7/6/2021 SE220506.004	7/6/2021 SE220506.005
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	BH05_0.2-0.3	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2	BH08_0.8-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021 SE220506.006	7/6/2021 SE220506.007	7/6/2021 SE220506.008	7/6/2021 SE220506.009	7/6/2021 SE220506.010
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	BH09_0.4-0.5	QA02	BH09_1.7-1.8	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021 SE220506.011	7/6/2021 SE220506.012	7/6/2021 SE220506.013	7/6/2021 SE220506.014	7/6/2021 SE220506.015
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

SE220506 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH01_0.2-0.3	QA01	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.001	7/6/2021 SE220506.002	7/6/2021 SE220506.003	7/6/2021 SE220506.004	7/6/2021 SE220506.005
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	BH05_0.2-0.3	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2	BH08_0.8-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.006	7/6/2021 SE220506.007	7/6/2021 SE220506.008	7/6/2021 SE220506.009	7/6/2021 SE220506.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	98
TRH C15-C28	mg/kg	45	<45	<45	<45	170	320
TRH C29-C36	mg/kg	45	<45	<45	<45	170	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	190
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	190
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	290	250
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	340	420
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	290	440

PARAMETER	UOM	LOR	BH09_0.4-0.5	QA02	BH09_1.7-1.8	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.011	7/6/2021 SE220506.012	7/6/2021 SE220506.013	7/6/2021 SE220506.014	7/6/2021 SE220506.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	550
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	280
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	750
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	820
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	750



ANALYTICAL RESULTS

SE220506 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH01_0.2-0.3	QA01	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.001	7/6/2021 SE220506.002	7/6/2021 SE220506.003	7/6/2021 SE220506.004	7/6/2021 SE220506.005
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	0.2
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.2
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	BH05_0.2-0.3	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2	BH08_0.8-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.006	7/6/2021 SE220506.007	7/6/2021 SE220506.008	7/6/2021 SE220506.009	7/6/2021 SE220506.010
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



ANALYTICAL RESULTS

SE220506 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	BH09_0.4-0.5	QA02	BH09_1.7-1.8	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			7/6/2021 SE220506.011	7/6/2021 SE220506.012	7/6/2021 SE220506.013	7/6/2021 SE220506.014	7/6/2021 SE220506.015
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	0.2	<0.1
Pyrene	mg/kg	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
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



ANALYTICAL RESULTS

SE220506 R0

PCBs in Soil [AN420] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH01_0.2-0.3	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2	BH06_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021 SE220506.001	7/6/2021 SE220506.003	7/6/2021 SE220506.004	7/6/2021 SE220506.005	7/6/2021 SE220506.007
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH07_0.3-0.4	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL
			-	-	-
			7/6/2021 SE220506.008	7/6/2021 SE220506.014	7/6/2021 SE220506.015
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1



ANALYTICAL RESULTS

SE220506 R0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH01_0.2-0.3	QA01	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021 SE220506.001	7/6/2021 SE220506.002	7/6/2021 SE220506.003	7/6/2021 SE220506.004	7/6/2021 SE220506.005
Arsenic, As	mg/kg	1	4	6	6	7	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	15	14	11	15	4.2
Copper, Cu	mg/kg	0.5	15	17	18	45	26
Lead, Pb	mg/kg	1	16	16	12	32	24
Nickel, Ni	mg/kg	0.5	5.2	5.1	2.5	3.4	11
Zinc, Zn	mg/kg	2	36	39	20	38	50

PARAMETER	UOM	LOR	BH05_0.2-0.3	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2	BH08_0.8-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021 SE220506.006	7/6/2021 SE220506.007	7/6/2021 SE220506.008	7/6/2021 SE220506.009	7/6/2021 SE220506.010
Arsenic, As	mg/kg	1	3	15	10	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	1.6	<0.3
Chromium, Cr	mg/kg	0.5	8.2	12	15	74	9.4
Copper, Cu	mg/kg	0.5	14	21	24	72	28
Lead, Pb	mg/kg	1	28	10	14	2800	6
Nickel, Ni	mg/kg	0.5	1.0	3.1	8.7	32	7.9
Zinc, Zn	mg/kg	2	12	26	53	410	61

PARAMETER	UOM	LOR	BH09_0.4-0.5	QA02	BH09_1.7-1.8	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021 SE220506.011	7/6/2021 SE220506.012	7/6/2021 SE220506.013	7/6/2021 SE220506.014	7/6/2021 SE220506.015
Arsenic, As	mg/kg	1	5	5	<1	5	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	14	6.9	11	8.4
Copper, Cu	mg/kg	0.5	32	15	24	25	38
Lead, Pb	mg/kg	1	12	12	9	15	13
Nickel, Ni	mg/kg	0.5	19	3.5	31	16	5.7
Zinc, Zn	mg/kg	2	31	28	160	70	63



ANALYTICAL RESULTS

SE220506 R0

Mercury in Soil [AN312] Tested: 15/6/2021

			BH01_0.2-0.3	QA01	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.001	SE220506.002	SE220506.003	SE220506.004	SE220506.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			BH05_0.2-0.3	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2	BH08_0.8-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.006	SE220506.007	SE220506.008	SE220506.009	SE220506.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			BH09_0.4-0.5	QA02	BH09_1.7-1.8	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.011	SE220506.012	SE220506.013	SE220506.014	SE220506.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	0.05	<0.05



ANALYTICAL RESULTS

SE220506 R0

Moisture Content [AN002] Tested: 11/6/2021

			BH01_0.2-0.3	QA01	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.001	SE220506.002	SE220506.003	SE220506.004	SE220506.005
% Moisture	%w/w	1	20.7	21.5	22.1	27.4	18.3

			BH05_0.2-0.3	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2	BH08_0.8-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.006	SE220506.007	SE220506.008	SE220506.009	SE220506.010
% Moisture	%w/w	1	19.9	21.7	19.9	9.9	12.8

			BH09_0.4-0.5	QA02	BH09_1.7-1.8	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.011	SE220506.012	SE220506.013	SE220506.014	SE220506.015
% Moisture	%w/w	1	17.7	19.4	10.3	14.3	19.4



ANALYTICAL RESULTS

SE220506 R0

Fibre Identification in soil [AN602] Tested: 11/6/2021

			BH01_0.2-0.3	BH02_0.3-0.4	BH03_0.15-0.25	BH04_0.1-0.2	BH06_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.001	SE220506.003	SE220506.004	SE220506.005	SE220506.007
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

			BH07_0.3-0.4	BH08_0.0-0.2	BH10_0.5-0.6	BH11_0.6-0.7
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			7/6/2021	7/6/2021	7/6/2021	7/6/2021
PARAMETER	UOM	LOR	SE220506.008	SE220506.009	SE220506.014	SE220506.015
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL RESULTS

SE220506 R0

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level [MA-1523] Tested: 16/6/2021

PARAMETER	UOM	LOR	BH06_0.2-0.3	BH07_0.3-0.4	BH08_0.0-0.2
			SOIL	SOIL	SOIL
			-	-	-
			7/6/2021 SE220506.007	7/6/2021 SE220506.008	7/6/2021 SE220506.009
Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001	<0.0001	0.0003
Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001	<0.0001	0.0003
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001	<0.001

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 ASS 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).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
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	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	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	AS4964.2004 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	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.

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

SE220506 R0

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Order Number (Not specified)
Samples 16

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SGS Reference **SE220506 R0**
Date Received 08 Jun 2021
Date Reported 16 Jun 2021

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- Low level	5 items
Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	1 item

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice
Samples received in correct containers	Yes	Sample counts by matrix	16 Soil
Date documentation received	8/6/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	14°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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)-ENVJAN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226652	07 Jun 2021	08 Jun 2021	07 Jun 2022	11 Jun 2021	07 Jun 2022	16 Jun 2021

Mercury in Soil

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
QA01	SE220506.002	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
QA02	SE220506.012	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226744	07 Jun 2021	08 Jun 2021	05 Jul 2021	15 Jun 2021	05 Jul 2021	16 Jun 2021

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
QA01	SE220506.002	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
QA02	SE220506.012	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226636	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	16 Jun 2021	15 Jun 2021

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
QA01	SE220506.002	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
QA02	SE220506.012	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021



HOLDING TIME SUMMARY

SE220506 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

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
BH10_0.5-0.6	SE220506.014	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
QA01	SE220506.002	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
QA02	SE220506.012	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021

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
BH01_0.2-0.3	SE220506.001	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
QA01	SE220506.002	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
QA02	SE220506.012	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226734	07 Jun 2021	08 Jun 2021	04 Dec 2021	15 Jun 2021	04 Dec 2021	16 Jun 2021

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN430

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
QA01	SE220506.002	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
QA02	SE220506.012	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226632	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	16 Jun 2021

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
QA01	SE220506.002	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021



HOLDING TIME SUMMARY

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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
BH03_0.15-0.25	SE220506.004	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
QA02	SE220506.012	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
Trip Spike	SE220506.016	LB226634	02 Jun 2021	08 Jun 2021	16 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH01_0.2-0.3	SE220506.001	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
QA01	SE220506.002	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH02_0.3-0.4	SE220506.003	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH03_0.15-0.25	SE220506.004	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH04_0.1-0.2	SE220506.005	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH05_0.2-0.3	SE220506.006	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH06_0.2-0.3	SE220506.007	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH07_0.3-0.4	SE220506.008	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH08_0.0-0.2	SE220506.009	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH08_0.8-1.0	SE220506.010	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH09_0.4-0.5	SE220506.011	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
QA02	SE220506.012	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH09_1.7-1.8	SE220506.013	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH10_0.5-0.6	SE220506.014	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
BH11_0.6-0.7	SE220506.015	LB226634	07 Jun 2021	08 Jun 2021	21 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021
Trip Spike	SE220506.016	LB226634	02 Jun 2021	08 Jun 2021	16 Jun 2021	11 Jun 2021	21 Jul 2021	15 Jun 2021

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)	BH01_0.2-0.3	SE220506.001	%	70 - 130%	90
	QA01	SE220506.002	%	70 - 130%	90
	BH02_0.3-0.4	SE220506.003	%	70 - 130%	92
	BH03_0.15-0.25	SE220506.004	%	70 - 130%	90
	BH04_0.1-0.2	SE220506.005	%	70 - 130%	88
	BH05_0.2-0.3	SE220506.006	%	70 - 130%	90
	BH06_0.2-0.3	SE220506.007	%	70 - 130%	90
	BH07_0.3-0.4	SE220506.008	%	70 - 130%	90
	BH08_0.0-0.2	SE220506.009	%	70 - 130%	92
	BH08_0.8-1.0	SE220506.010	%	70 - 130%	86
	BH09_0.4-0.5	SE220506.011	%	70 - 130%	92
	QA02	SE220506.012	%	70 - 130%	88
	BH09_1.7-1.8	SE220506.013	%	70 - 130%	88
	BH10_0.5-0.6	SE220506.014	%	70 - 130%	92
	BH11_0.6-0.7	SE220506.015	%	70 - 130%	94
d14-p-terphenyl (Surrogate)	BH01_0.2-0.3	SE220506.001	%	70 - 130%	90
	QA01	SE220506.002	%	70 - 130%	92
	BH02_0.3-0.4	SE220506.003	%	70 - 130%	90
	BH03_0.15-0.25	SE220506.004	%	70 - 130%	88
	BH04_0.1-0.2	SE220506.005	%	70 - 130%	86
	BH05_0.2-0.3	SE220506.006	%	70 - 130%	92
	BH06_0.2-0.3	SE220506.007	%	70 - 130%	94
	BH07_0.3-0.4	SE220506.008	%	70 - 130%	90
	BH08_0.0-0.2	SE220506.009	%	70 - 130%	84
	BH08_0.8-1.0	SE220506.010	%	70 - 130%	88
	BH09_0.4-0.5	SE220506.011	%	70 - 130%	96
	QA02	SE220506.012	%	70 - 130%	92
	BH09_1.7-1.8	SE220506.013	%	70 - 130%	96
	BH10_0.5-0.6	SE220506.014	%	70 - 130%	92
	BH11_0.6-0.7	SE220506.015	%	70 - 130%	84
d5-nitrobenzene (Surrogate)	BH01_0.2-0.3	SE220506.001	%	70 - 130%	86
	QA01	SE220506.002	%	70 - 130%	88
	BH02_0.3-0.4	SE220506.003	%	70 - 130%	92
	BH03_0.15-0.25	SE220506.004	%	70 - 130%	90
	BH04_0.1-0.2	SE220506.005	%	70 - 130%	82
	BH05_0.2-0.3	SE220506.006	%	70 - 130%	90
	BH06_0.2-0.3	SE220506.007	%	70 - 130%	94
	BH07_0.3-0.4	SE220506.008	%	70 - 130%	84
	BH08_0.0-0.2	SE220506.009	%	70 - 130%	92
	BH08_0.8-1.0	SE220506.010	%	70 - 130%	92
	BH09_0.4-0.5	SE220506.011	%	70 - 130%	94
	QA02	SE220506.012	%	70 - 130%	92
	BH09_1.7-1.8	SE220506.013	%	70 - 130%	94
	BH10_0.5-0.6	SE220506.014	%	70 - 130%	92
	BH11_0.6-0.7	SE220506.015	%	70 - 130%	76

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH01_0.2-0.3	SE220506.001	%	60 - 130%	95
	BH02_0.3-0.4	SE220506.003	%	60 - 130%	95
	BH03_0.15-0.25	SE220506.004	%	60 - 130%	94
	BH04_0.1-0.2	SE220506.005	%	60 - 130%	99
	BH06_0.2-0.3	SE220506.007	%	60 - 130%	98
	BH07_0.3-0.4	SE220506.008	%	60 - 130%	104
	BH10_0.5-0.6	SE220506.014	%	60 - 130%	97
	BH11_0.6-0.7	SE220506.015	%	60 - 130%	109

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 130%	16
	BH07_0.3-0.4	SE220506.008	%	10 - 130%	15
	BH08_0.0-0.2	SE220506.009	%	10 - 130%	51



SURROGATES

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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- Low level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	91
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	90
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	64
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	94
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	98
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	74
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	133
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	124
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	140
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	70
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	68
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	94
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	1 ↑
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	2 ↑
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	9 ↑
(13C3-PFBs) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	168 ↑
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	166 ↑
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	132
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	110
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	113
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	110
(13C4-PFOA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	117
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	120
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	108
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	109
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	112
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	112
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	117
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	126
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	107
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	130
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	147
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	115
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	101
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	104
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	107
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	149
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	143
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	139
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	93
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	95
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	102
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	150
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	114
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	108
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	77
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	58
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	56
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	105
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	114
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	111
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	39
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	61
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	34
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	80
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	90
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	82
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	22
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	33
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	33
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	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.

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

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	BH07_0.3-0.4	SE220506.008	%	10 - 150%	80
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	82
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	41
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	39
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	41
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	BH06_0.2-0.3	SE220506.007	%	10 - 150%	46
	BH07_0.3-0.4	SE220506.008	%	10 - 150%	33
	BH08_0.0-0.2	SE220506.009	%	10 - 150%	34

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH01_0.2-0.3	SE220506.001	%	60 - 130%	98
	QA01	SE220506.002	%	60 - 130%	102
	BH02_0.3-0.4	SE220506.003	%	60 - 130%	104
	BH03_0.15-0.25	SE220506.004	%	60 - 130%	93
	BH04_0.1-0.2	SE220506.005	%	60 - 130%	88
	BH05_0.2-0.3	SE220506.006	%	60 - 130%	103
	BH06_0.2-0.3	SE220506.007	%	60 - 130%	100
	BH07_0.3-0.4	SE220506.008	%	60 - 130%	100
	BH08_0.0-0.2	SE220506.009	%	60 - 130%	100
	BH08_0.8-1.0	SE220506.010	%	60 - 130%	104
	BH09_0.4-0.5	SE220506.011	%	60 - 130%	102
	QA02	SE220506.012	%	60 - 130%	108
	BH09_1.7-1.8	SE220506.013	%	60 - 130%	104
	BH10_0.5-0.6	SE220506.014	%	60 - 130%	100
	BH11_0.6-0.7	SE220506.015	%	60 - 130%	96
	Trip Spike	SE220506.016	%	60 - 130%	97
d4-1,2-dichloroethane (Surrogate)	BH01_0.2-0.3	SE220506.001	%	60 - 130%	100
	QA01	SE220506.002	%	60 - 130%	106
	BH02_0.3-0.4	SE220506.003	%	60 - 130%	111
	BH03_0.15-0.25	SE220506.004	%	60 - 130%	95
	BH04_0.1-0.2	SE220506.005	%	60 - 130%	102
	BH05_0.2-0.3	SE220506.006	%	60 - 130%	106
	BH06_0.2-0.3	SE220506.007	%	60 - 130%	105
	BH07_0.3-0.4	SE220506.008	%	60 - 130%	106
	BH08_0.0-0.2	SE220506.009	%	60 - 130%	106
	BH08_0.8-1.0	SE220506.010	%	60 - 130%	109
	BH09_0.4-0.5	SE220506.011	%	60 - 130%	105
	QA02	SE220506.012	%	60 - 130%	110
	BH09_1.7-1.8	SE220506.013	%	60 - 130%	106
	BH10_0.5-0.6	SE220506.014	%	60 - 130%	103
	BH11_0.6-0.7	SE220506.015	%	60 - 130%	101
	Trip Spike	SE220506.016	%	60 - 130%	101
d8-toluene (Surrogate)	BH01_0.2-0.3	SE220506.001	%	60 - 130%	99
	QA01	SE220506.002	%	60 - 130%	108
	BH02_0.3-0.4	SE220506.003	%	60 - 130%	112
	BH03_0.15-0.25	SE220506.004	%	60 - 130%	93
	BH04_0.1-0.2	SE220506.005	%	60 - 130%	98
	BH05_0.2-0.3	SE220506.006	%	60 - 130%	106
	BH06_0.2-0.3	SE220506.007	%	60 - 130%	105
	BH07_0.3-0.4	SE220506.008	%	60 - 130%	105
	BH08_0.0-0.2	SE220506.009	%	60 - 130%	106
	BH08_0.8-1.0	SE220506.010	%	60 - 130%	109
	BH09_0.4-0.5	SE220506.011	%	60 - 130%	106
	QA02	SE220506.012	%	60 - 130%	112
	BH09_1.7-1.8	SE220506.013	%	60 - 130%	106
	BH10_0.5-0.6	SE220506.014	%	60 - 130%	104
	BH11_0.6-0.7	SE220506.015	%	60 - 130%	102
	Trip Spike	SE220506.016	%	60 - 130%	101

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units

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)	BH01_0.2-0.3	SE220506.001	%	60 - 130%	98
	QA01	SE220506.002	%	60 - 130%	102
	BH02_0.3-0.4	SE220506.003	%	60 - 130%	104
	BH03_0.15-0.25	SE220506.004	%	60 - 130%	93
	BH04_0.1-0.2	SE220506.005	%	60 - 130%	88
	BH05_0.2-0.3	SE220506.006	%	60 - 130%	103
	BH06_0.2-0.3	SE220506.007	%	60 - 130%	100
	BH07_0.3-0.4	SE220506.008	%	60 - 130%	100
	BH08_0.0-0.2	SE220506.009	%	60 - 130%	100
	BH08_0.8-1.0	SE220506.010	%	60 - 130%	104
	BH09_0.4-0.5	SE220506.011	%	60 - 130%	102
	QA02	SE220506.012	%	60 - 130%	108
	BH09_1.7-1.8	SE220506.013	%	60 - 130%	104
	BH10_0.5-0.6	SE220506.014	%	60 - 130%	100
	BH11_0.6-0.7	SE220506.015	%	60 - 130%	96
d4-1,2-dichloroethane (Surrogate)	BH01_0.2-0.3	SE220506.001	%	60 - 130%	100
	QA01	SE220506.002	%	60 - 130%	106
	BH02_0.3-0.4	SE220506.003	%	60 - 130%	111
	BH03_0.15-0.25	SE220506.004	%	60 - 130%	95
	BH04_0.1-0.2	SE220506.005	%	60 - 130%	102
	BH05_0.2-0.3	SE220506.006	%	60 - 130%	106
	BH06_0.2-0.3	SE220506.007	%	60 - 130%	105
	BH07_0.3-0.4	SE220506.008	%	60 - 130%	106
	BH08_0.0-0.2	SE220506.009	%	60 - 130%	106
	BH08_0.8-1.0	SE220506.010	%	60 - 130%	109
	BH09_0.4-0.5	SE220506.011	%	60 - 130%	105
	QA02	SE220506.012	%	60 - 130%	110
	BH09_1.7-1.8	SE220506.013	%	60 - 130%	106
	BH10_0.5-0.6	SE220506.014	%	60 - 130%	103
	BH11_0.6-0.7	SE220506.015	%	60 - 130%	101
d8-toluene (Surrogate)	BH01_0.2-0.3	SE220506.001	%	60 - 130%	99
	QA01	SE220506.002	%	60 - 130%	108
	BH02_0.3-0.4	SE220506.003	%	60 - 130%	112
	BH03_0.15-0.25	SE220506.004	%	60 - 130%	93
	BH04_0.1-0.2	SE220506.005	%	60 - 130%	98
	BH05_0.2-0.3	SE220506.006	%	60 - 130%	106
	BH06_0.2-0.3	SE220506.007	%	60 - 130%	105
	BH07_0.3-0.4	SE220506.008	%	60 - 130%	105
	BH08_0.0-0.2	SE220506.009	%	60 - 130%	106
	BH08_0.8-1.0	SE220506.010	%	60 - 130%	109
	BH09_0.4-0.5	SE220506.011	%	60 - 130%	106
	QA02	SE220506.012	%	60 - 130%	112
	BH09_1.7-1.8	SE220506.013	%	60 - 130%	106
	BH10_0.5-0.6	SE220506.014	%	60 - 130%	104
	BH11_0.6-0.7	SE220506.015	%	60 - 130%	102



METHOD BLANKS

SE220506 R0

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
LB226744.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB226632.001	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)	%	-	90
	2-fluorobiphenyl (Surrogate)	%	-	88
	d14-p-terphenyl (Surrogate)	%	-	86

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB226632.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	80

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

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

Sample Number	Parameter	Units	LOR	Result
LB226734.001	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
LB226632.001	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



METHOD BLANKS

SE220506 R0

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.

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB226634.001	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	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	112
		d8-toluene (Surrogate)	%	-	111
		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
LB226634.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	112

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 %
SE220506.006	LB226744.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE220506.015	LB226744.024	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 %
SE220506.006	LB226636.011	% Moisture	%w/w	1	19.9	19.5	35	2
SE220506.015	LB226636.021	% Moisture	%w/w	1	19.4	21.0	35	8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220506.015	LB226632.024	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	197	0
		Benzo(b&i)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	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	5
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	11
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
SE220613.024	LB226632.026	Naphthalene	mg/kg	0.1	<0.1	<0.1	197	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	0.2	0.1	101	43
		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	0.4	0.3	59	51
		Anthracene	mg/kg	0.1	0.2	0.1	99	48
		Fluoranthene	mg/kg	0.1	1.0	0.9	41	13
		Pyrene	mg/kg	0.1	1.1	1.1	39	6
		Benzo(a)anthracene	mg/kg	0.1	0.6	0.5	49	19
		Chrysene	mg/kg	0.1	0.5	0.5	50	14
		Benzo(b&i)fluoranthene	mg/kg	0.1	0.7	0.6	46	13
		Benzo(k)fluoranthene	mg/kg	0.1	0.3	0.3	64	10
		Benzo(a)pyrene	mg/kg	0.1	0.6	0.5	48	22
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	0.3	62	6
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	0.3	0.3	62	3
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	0.8	0.7	37	20
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	0.9	0.8	46	17
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.9	0.7	35	18
		Total PAH (18)	mg/kg	0.8	6.2	5.3	44	16
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	2
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	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]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220613.024	LB226632.026	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30

PCBs in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220506.015	LB226632.024	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)		mg/kg	-	0	0	30	2
SE220613.024	LB226632.027	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)		mg/kg	-	0	0	30	1

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

Method: ME-(AU)-[ENV]AN40/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220506.006	LB226734.014	Arsenic, As	mg/kg	1	3	4	59	9
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	8.2	10	35	22
		Copper, Cu	mg/kg	0.5	14	13	34	7
		Nickel, Ni	mg/kg	0.5	1.0	1.3	73	25
		Lead, Pb	mg/kg	1	28	28	34	1
		Zinc, Zn	mg/kg	2	12	14	46	17
SE220506.015	LB226734.024	Arsenic, As	mg/kg	1	6	8	44	24
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	8.4	10	35	20
		Copper, Cu	mg/kg	0.5	38	43	31	12
		Nickel, Ni	mg/kg	0.5	5.7	6.2	38	10
		Lead, Pb	mg/kg	1	13	13	38	6
		Zinc, Zn	mg/kg	2	63	100	32	47 @

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220506.015	LB226632.024	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	550	690	37	24
		TRH C29-C36	mg/kg	45	280	290	46	5
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	820	980	42	18
		TRH >C10-C40 Total (F bands)	mg/kg	210	750	910	55	19
		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	750	910	41	19
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE220613.024	LB226632.026	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

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 %
SE220613.024	LB226632.026	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

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220506.006	LB226634.014	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	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10.5	50	0
			d8-toluene (Surrogate)	mg/kg	-	10.6	10.7	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10.1	50	2
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE220506.015	LB226634.028	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	10.4	50	3
			d8-toluene (Surrogate)	mg/kg	-	10.2	10.6	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10.2	50	6
			Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200
		Total BTEX		mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE220506.006	LB226634.014	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	-	10.6	10.5	30	0
			d8-toluene (Surrogate)	mg/kg	-	10.6	10.7	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10.1	30	2
		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
SE220506.015	LB226634.028	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	-	10.1	10.4	30	3
			d8-toluene (Surrogate)	mg/kg	-	10.2	10.6	30	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10.2	30	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 %
LB226744.002	Mercury	mg/kg	0.05	0.22	0.2	70 - 130	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226632.002	Naphthalene	mg/kg	0.1	3.8	4	60 - 140	96
	Acenaphthylene	mg/kg	0.1	3.7	4	60 - 140	94
	Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	99
	Phenanthrene	mg/kg	0.1	3.7	4	60 - 140	93
	Anthracene	mg/kg	0.1	3.8	4	60 - 140	94
	Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	95
	Pyrene	mg/kg	0.1	3.9	4	60 - 140	97
	Benzo(a)pyrene	mg/kg	0.1	3.9	4	60 - 140	97
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226632.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	112

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 %
LB226734.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	5.1	4.81	70 - 130	106
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	103
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	109
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	92	89.9	80 - 120	102
	Zinc, Zn	mg/kg	2	290	273	80 - 120	106

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226632.002	TRH C10-C14	mg/kg	20	41	40	60 - 140	103
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	100
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	90
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	41	40	60 - 140	103
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	105
	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 %
LB226634.002	Monocyclic	Benzene	mg/kg	0.1	4.8	5	60 - 140	97
	Aromatic	Toluene	mg/kg	0.1	4.8	5	60 - 140	96
		Ethylbenzene	mg/kg	0.1	5.0	5	60 - 140	99
		m/p-xylene	mg/kg	0.2	9.9	10	60 - 140	99
		o-xylene	mg/kg	0.1	4.9	5	60 - 140	99
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.2	10	70 - 130	112
		d8-toluene (Surrogate)	mg/kg	-	10.9	10	70 - 130	109
		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 %	
LB226634.002	TRH C6-C10	mg/kg	25	71	92.5	60 - 140	77	
	TRH C6-C9	mg/kg	20	64	80	60 - 140	79	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.2	10	70 - 130	112
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	42	62.5	60 - 140	67

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%
SE220626.001	LB226744.004	Mercury	mg/kg	0.05	0.23	<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%
SE220613.021	LB226632.004	Naphthalene	mg/kg	0.1	4.8	<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	4.6	0.2	4	110
		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	0.4	4	109
		Anthracene	mg/kg	0.1	4.3	0.2	4	101
		Fluoranthene	mg/kg	0.1	5.5	1.4	4	101
		Pyrene	mg/kg	0.1	6.0	1.8	4	107
		Benzo(a)anthracene	mg/kg	0.1	0.5	0.8	-	-
		Chrysene	mg/kg	0.1	0.5	0.8	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.7	1.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	0.4	0.6	-	-
		Benzo(a)pyrene	mg/kg	0.1	5.0	1.0	4	99
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.4	0.5	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	0.4	0.6	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	5.2	1.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	5.3	1.4	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	5.2	1.4	-	-
		Total PAH (18)	mg/kg	0.8	43	9.3	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	84
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80

PCBs in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220613.021	LB226632.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.5	<0.2	0.4	119
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	89	

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220626.001	LB226734.004	Arsenic, As	mg/kg	1	50	4	50	92
		Cadmium, Cd	mg/kg	0.3	44	<0.3	50	88
		Chromium, Cr	mg/kg	0.5	51	2.8	50	96
		Copper, Cu	mg/kg	0.5	51	<0.5	50	101
		Nickel, Ni	mg/kg	0.5	47	0.6	50	93
		Lead, Pb	mg/kg	1	57	14	50	85
		Zinc, Zn	mg/kg	2	71	23	50	95

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220613.021	LB226632.004	TRH C10-C14	mg/kg	20	41	<20	40	103
		TRH C15-C28	mg/kg	45	52	<45	40	75
		TRH C29-C36	mg/kg	45	<45	<45	40	88
		TRH C37-C40	mg/kg	100	<100	<100	-	-

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220613.021	LB226632.004	TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH >C10-C16	mg/kg	25	40	<25	40	100
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	40	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	50 @
		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%
SE220613.021	LB226634.004	Monocyclic	Benzene	mg/kg	0.1	<0.1	5	90
		Aromatic	Toluene	mg/kg	0.1	<0.1	5	91
			Ethylbenzene	mg/kg	0.1	<0.1	5	94
			m/p-xylene	mg/kg	0.2	<0.2	10	94
			o-xylene	mg/kg	0.1	<0.1	5	93
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.5	10.0	105
			d8-toluene (Surrogate)	mg/kg	-	10.2	9.8	102
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.9	9.5	99
		Totals	Total Xylenes	mg/kg	0.3	14	<0.3	-
			Total BTEX	mg/kg	0.6	28	<0.6	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220613.021	LB226634.004	TRH C6-C10	mg/kg	25	66	<25	92.5	71
		TRH C6-C9	mg/kg	20	59	<20	80	73
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.5	10.0	105
			d8-toluene (Surrogate)	mg/kg	-	10.2	9.8	102
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.9	9.5	99
		VPH F	Benzene (F0)	mg/kg	0.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	62.5	61



MATRIX SPIKE DUPLICATES

SE220506 R0

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

CLIENT DETAILS

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Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 9

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SGS Reference **SE220506 R0**
Date Received 08 Jun 2021
Date Reported 16 Jun 2021

COMMENTS

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

No respirable fibres detected in soil samples using trace analysis technique.

Sample #7-8: A portion of the soil sample supplied has been sub-sampled for asbestos according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. For identification of asbestos in soil samples, Industries & environment recommends supplying approximately 50-100g of sample in a separate container.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

PFAS subcontracted to SGS Melbourne, Unit 10/585 Blackburn Road Notting Hill VIC 3168, NATA Accreditation Number 2562, Site number 14420. Report Number ME320926

MA-1523 Majority of surrogates are within acceptance criteria.

SIGNATORIES

Akheeque BENIAMEEN
Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Yusuf KUTHPUDIN
Asbestos Analyst



ANALYTICAL REPORT

SE220506 R0

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE220506.001	BH01_0.2-0.3	Soil	58g Clay,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220506.003	BH02_0.3-0.4	Soil	171g Clay,Soil,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220506.004	BH03_0.15-0.25	Soil	106g Sand,Soil,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220506.005	BH04_0.1-0.2	Soil	130g Sand,Soil,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220506.007	BH06_0.2-0.3	Soil	71g Clay,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220506.008	BH07_0.3-0.4	Soil	65g Clay,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220506.009	BH08_0.0-0.2	Soil	168g Sand,Soil,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE220506.014	BH10_0.5-0.6	Soil	141g Clay,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220506.015	BH11_0.6-0.7	Soil	71g Clay,Rocks	07 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD

METHODOLOGY SUMMARY

AN602	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	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	AS4964.2004 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	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.

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.

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.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 2

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015

Telephone No: (02) 85940400

Facsimile No: (02) 85940499

Email: au.samplerreceipt.sydney@sgs.com

Company Name: Sullivan Environmental Sciences Pty Ltd

Address: PO Box 5248, Turrumurra NSW 2074

Contact Name: Adam Sullivan

Project Name/No: SES_590 (Regents Park)

Purchase Order No:

Results Required By: Standard TAT

Telephone: 0400500264

Facsimile:

Email Results: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL10	CL17	VOC	PFAS (low level)	PCB	Asbestos in Soil	BITEX
BH01_0.2-0.3	7/6/21	1		X		2	X				X	X	
QA01		2				1	X						
BH02_0.3-0.4		3				2	X				X	X	
BH03_0.15-0.25		4				2	X				X	X	
BH04_0.1-0.2		5				2	X				X	X	
BH05_0.2-0.3		6				2	X						
BH06_0.2-0.3		7				2	X			X	X	X	
BH07_0.3-0.4		8				2	X			X	X	X	
BH08_0.0-0.2		9				3	X			X		X	

SGS EHS Sydney COC
SE220506

Relinquished By: <u>A. Schi Adam Sullivan</u>	Date/Time: <u>8/6/21 12pm</u>	Received By: <u>George Zhi</u>	Date/Time: <u>8/6/21 @ 4pm</u>
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: <u>Yes</u> / No	Temperature: Ambient / <u>Chilled</u>	Sample Cooler Sealed: Yes / No	Laboratory Quotation No: 242708
Comments:			



Page 2 of 2

Project Name/No: SES_590 (Regents Park)

Purchase Order No:

Results Required By: Standard TAT

Telephone: 0400500264

Facsimile:

Email Results: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL10	CL17	VOC	PFAS (low level)	PCB	Arsenicals in Soil	BTEXN
BH08_0.8-1.0	7/6/21	10		X		1	X						
BH09_0.4-0.5	↓	11				2	X						
QA02		12				1	X						
BH09_1.7-1.8		13				1	X						
BH10_0.5-0.6		14				2	X			X	X		
BH11_0.6-0.7		15				2	X			X	X		
Trip Spike	2/6/21	16		↓		1						X	

Relinquished By: Adrian Sullivan

Date/Time: 8/6/21 12pm

Received By: George Zhi

Date/Time	8/6/21 @ 4pm
Date/Time	

Relinquished By:

Date/Time:

Received By:

Date/Time	

Samples Intact: ☒ Yes ☐ No

Temperature: Ambient / Chilled

Sample Cooler Sealed: Yes/ No

Laboratory Quotation No: 242708

Comments:

CLIENT DETAILS

Contact **Huong Crawford**
 Client **SGS I&E SYDNEY**
 Address **Unit 16, 33 Maddox Street
 Alexandria
 NSW 2015**

Telephone **02 8594 0400**
 Facsimile **02 8594 0499**
 Email **au.environmental.sydney@sgs.com**

Project **SES_590 (Regents Park)**
 Order Number **SE220506**
 Samples **16**

LABORATORY DETAILS

Manager **Adam Atkinson**
 Laboratory **SGS Melbourne EH&S**
 Address **10/585 Blackburn Road
 Notting Hill Victoria 3168**

Telephone **+61395743200**
 Facsimile **+61395743399**
 Email **Au.SampleReceipt.Melbourne@sgs.com**

SGS Reference **ME320926 R0**
 Date Received **10 Jun 2021**
 Date Reported **16 Jun 2021**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(14420).

MA-1523 Majority of surrogates are within acceptance criteria.

SIGNATORIES



Vanessa PALAMARA
 Senior Chemist



ANALYTICAL REPORT

ME320926 R0

Parameter	Units	LOR	Sample Number	ME320926.001	ME320926.002	ME320926.003	ME320926.004
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Jul 2021	06 Jul 2021	06 Jul 2021	06 Jul 2021
			Sample Name	SE220506.001	SE220506.002	SE220506.003	SE220506.004

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320926 R0

				Sample Number	ME320926.001	ME320926.002	ME320926.003	ME320926.004
				Sample Matrix	Soil	Soil	Soil	Soil
				Sample Date	06 Jul 2021	06 Jul 2021	06 Jul 2021	06 Jul 2021
				Sample Name	SE220506.001	SE220506.002	SE220506.003	SE220506.004
Parameter		Units	LOR					

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-



ANALYTICAL REPORT

ME320926 R0

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	ME320926.005 Soil 06 Jul 2021 SE220506.005	ME320926.006 Soil 06 Jul 2021 SE220506.006	ME320926.007 Soil 07 Jun 2021 SE220506.007	ME320926.008 Soil 07 Jun 2021 SE220506.008

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	<0.001	<0.001
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	109	112
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	101	104
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	130	147
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	117	126
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	117	120
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	105	114
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	149	143
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	93	95
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	70	68
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	16	15
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	1	2
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	168	166
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	110	113
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	150	114
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	91	90
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	94	98
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	133	124
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	77	58
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	39	61
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	22	33
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	41	39
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	46	33
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	80	90
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	91	80

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320926 R0

			Sample Number	ME320926.005	ME320926.006	ME320926.007	ME320926.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Jul 2021	06 Jul 2021	07 Jun 2021	07 Jun 2021
			Sample Name	SE220506.005	SE220506.006	SE220506.007	SE220506.008
Parameter	Units	LOR					

Moisture Content Method: AN002 Tested: 11/6/2021 (continued)

% Moisture*	%w/w	1	-	-	20.3	20.3



ANALYTICAL REPORT

ME320926 R0

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	ME320926.009 Soil 07 Jun 2021 SE220506.009	ME320926.010 Soil 06 Jul 2021 SE220506.010	ME320926.011 Soil 06 Jul 2021 SE220506.011	ME320926.012 Soil 06 Jul 2021 SE220506.012

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 11/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	0.0003	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	0.0003	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	112	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	107	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	115	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	107	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	108	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	111	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	139	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	102	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	94	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	51	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	9	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	132	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	110	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	108	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	64	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	74	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	140	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	56	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	34	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	33	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	41	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	34	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	82	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	82	-	-	-

Moisture Content Method: AN002 Tested: 11/6/2021



ANALYTICAL REPORT

ME320926 R0

Parameter	Sample Number	ME320926.009	ME320926.010	ME320926.011	ME320926.012
	Sample Matrix	Soil	Soil	Soil	Soil
	Sample Date	07 Jun 2021	06 Jul 2021	06 Jul 2021	06 Jul 2021
	Sample Name	SE220506.009	SE220506.010	SE220506.011	SE220506.012
Units		LOR			

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	11.7	-	-	-



ANALYTICAL REPORT

ME320926 R0

Parameter	Units	LOR	Sample Number	ME320926.013	ME320926.014	ME320926.015	ME320926.016
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Jul 2021	06 Jul 2021	06 Jul 2021	06 Feb 2021
			Sample Name	SE220506.013	SE220506.014	SE220506.015	SE220506.016

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320926 R0

			Sample Number	ME320926.013	ME320926.014	ME320926.015	ME320926.016
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Jul 2021	06 Jul 2021	06 Jul 2021	06 Feb 2021
			Sample Name	SE220506.013	SE220506.014	SE220506.015	SE220506.016
Parameter		Units	LOR				

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

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

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture*	LB042044	%w/w	1	8%

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentanoic acid (PFPeA)	LB042040	mg/kg	0.0005	<0.0005	0%	NA
Perfluorohexanoic acid (PFHxA)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoroheptanoic acid (PFHpA)	LB042040	mg/kg	0.0001	<0.0001	0%	88%
Perfluorooctanoic Acid (PFOA)	LB042040	mg/kg	0.0001	<0.0001	0%	56%
Perfluorononanoic acid (PFNA)	LB042040	mg/kg	0.0001	<0.0001	0%	111%
Perfluorodecanoic acid (PFDA)	LB042040	mg/kg	0.0001	<0.0001	0%	111%
Perfluoroundecanoic acid (PFUnA)	LB042040	mg/kg	0.0001	<0.0001	0%	122%
Perfluorododecanoic acid (PFDoA)	LB042040	mg/kg	0.0001	<0.0001	0%	136%
Perfluorotridecanoic acid (PFTrDA)	LB042040	mg/kg	0.0001	<0.0001	0%	132%
Perfluorotetradecanoic acid (PFTeDA)	LB042040	mg/kg	0.0001	<0.0001	0%	126%
Perfluorohexadecanoic acid (PFHxDA)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorobutane sulfonate (PFBS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorooctane sulfonate (PFOS)	LB042040	mg/kg	0.0001	<0.0001	0%	56%
Sum PFOS and PFHXS	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorononane sulfonate (PFNS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorodecane sulfonate (PFDS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB042040	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB042040	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB042040	mg/kg	0.001	<0.001	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB042040	mg/kg	0.001	<0.001	0%	59%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB042040	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB042040	mg/kg	0.001	<0.001	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB042040	mg/kg	0.002	<0.002	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB042040	mg/kg	0.002	<0.002	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	LB042040	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB042040	mg/kg	0.001	<0.001	0%	NA
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	109%	3%	106%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	95%	6%	100%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	123%	11%	127%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	117%	1%	116%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	114%	3%	114%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	120%	16%	107%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	146%	23%	141%
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	81%	22%	95%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	73%	35%	87%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	45%	33%	63%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	18%	113%	52%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	135%	25%	146%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	110%	4%	114%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	100%	25%	106%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	84%	54%	76%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	90%	36%	80%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	146%	26%	132%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	67%	63%	66%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	58%	31%	63%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	42%	48%	46%



QC SUMMARY

ME320926 R0

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 (continued)

				MB	DUP %RPD	LCS %Recovery
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	46%	60%	56%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	45%	81%	55%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	91%	16%	122%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	82%	30%	98%



METHOD SUMMARY

ME320926 R0

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.

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

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

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

SE220506

CLIENT DETAILS

Contact ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU

Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 16

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 8/6/2021
Report Due Wed 16/6/2021
SGS Reference **SE220506**

SUBMISSION DETAILS

This is to confirm that 16 samples were received on Tuesday 8/6/2021. Results are expected to be ready by COB Wednesday 16/6/2021. Please quote SGS reference SE220506 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice
Samples received in correct containers	Yes	Sample counts by matrix	16 Soil
Date documentation received	8/6/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	14°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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. Results may be delayed.

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SAMPLE RECEIPT ADVICE

SE220506

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH01_0.2-0.3	1	26	11	7	10	11	7
002	QA01	1	26	-	7	10	11	7
003	BH02_0.3-0.4	1	26	11	7	10	11	7
004	BH03_0.15-0.25	1	26	11	7	10	11	7
005	BH04_0.1-0.2	1	26	11	7	10	11	7
006	BH05_0.2-0.3	1	26	-	7	10	11	7
007	BH06_0.2-0.3	1	26	11	7	10	11	7
008	BH07_0.3-0.4	1	26	11	7	10	11	7
009	BH08_0.0-0.2	1	26	-	7	10	11	7
010	BH08_0.8-1.0	1	26	-	7	10	11	7
011	BH09_0.4-0.5	1	26	-	7	10	11	7
012	QA02	1	26	-	7	10	11	7
013	BH09_1.7-1.8	1	26	-	7	10	11	7
014	BH10_0.5-0.6	1	26	11	7	10	11	7
015	BH11_0.6-0.7	1	26	11	7	10	11	7
016	Trip Spike	-	-	-	-	-	11	-

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

SE220506

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content	Per- and Polyfluoroalkyl Substances (PFAS) in
001	BH01_0.2-0.3	2	1	-
002	QA01	-	1	-
003	BH02_0.3-0.4	2	1	-
004	BH03_0.15-0.25	2	1	-
005	BH04_0.1-0.2	2	1	-
006	BH05_0.2-0.3	-	1	-
007	BH06_0.2-0.3	2	1	55
008	BH07_0.3-0.4	2	1	55
009	BH08_0.0-0.2	2	1	55
010	BH08_0.8-1.0	-	1	-
011	BH09_0.4-0.5	-	1	-
012	QA02	-	1	-
013	BH09_1.7-1.8	-	1	-
014	BH10_0.5-0.6	2	1	-
015	BH11_0.6-0.7	2	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 ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU
Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 17

LABORATORY DETAILS

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SGS Reference **SE220534 R0**
Date Received 9/6/2021
Date Reported 17/6/2021

COMMENTS

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

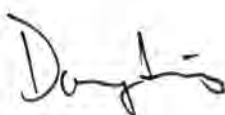
No respirable fibres detected in soil samples using trace analysis technique.

Asbestos analysed by Approved Identifiers Yusuf Kuthpudin.

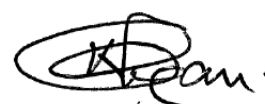
SIGNATORIES



Akheeque BENIAEMEEN
Chemist



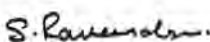
Dong LIANG
Metals/Inorganics Team Leader



Kamrul AHSAN
Senior Chemist



Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader



Teresa NGUYEN
Organic Chemist



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL - 8/6/2021 SE220534.001	SOIL - 8/6/2021 SE220534.002	SOIL - 8/6/2021 SE220534.003	SOIL - 8/6/2021 SE220534.004	SOIL - 8/6/2021 SE220534.005
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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	-
Chloromethane	mg/kg	1	<1	<1	<1	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromomethane	mg/kg	1	<1	<1	<1	<1	-
Chloroethane	mg/kg	1	<1	<1	<1	<1	-
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	-
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	-
Iodomethane	mg/kg	5	<5	<5	<5	<5	-
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	-
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	-
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2-nitropropane	mg/kg	10	<10	<10	<10	<10	-
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	-



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.001	8/6/2021 SE220534.002	8/6/2021 SE220534.003	8/6/2021 SE220534.004	8/6/2021 SE220534.005
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Total VOC*	mg/kg	24	<24	<24	<24	<24	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	<3.0	<3.0	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	-



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL - 8/6/2021 SE220534.006	SOIL - 8/6/2021 SE220534.007	SOIL - 8/6/2021 SE220534.008	SOIL - 8/6/2021 SE220534.009	SOIL - 8/6/2021 SE220534.010
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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	-	-	-
Chloromethane	mg/kg	1	-	-	-	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	-	-	-
Bromomethane	mg/kg	1	-	-	-	-	-
Chloroethane	mg/kg	1	-	-	-	-	-
Trichlorofluoromethane	mg/kg	1	-	-	-	-	-
Acetone (2-propanone)	mg/kg	10	-	-	-	-	-
Iodomethane	mg/kg	5	-	-	-	-	-
1,1-dichloroethene	mg/kg	0.1	-	-	-	-	-
Acrylonitrile	mg/kg	0.1	-	-	-	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	-	-	-
Allyl chloride	mg/kg	0.1	-	-	-	-	-
Carbon disulfide	mg/kg	0.5	-	-	-	-	-
trans-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	-
MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
1,1-dichloroethane	mg/kg	0.1	-	-	-	-	-
Vinyl acetate	mg/kg	10	-	-	-	-	-
MEK (2-butanone)	mg/kg	10	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	-
Bromochloromethane	mg/kg	0.1	-	-	-	-	-
Chloroform	mg/kg	0.1	-	-	-	-	-
2,2-dichloropropane	mg/kg	0.1	-	-	-	-	-
1,2-dichloroethane	mg/kg	0.1	-	-	-	-	-
1,1,1-trichloroethane	mg/kg	0.1	-	-	-	-	-
1,1-dichloropropene	mg/kg	0.1	-	-	-	-	-
Carbon tetrachloride	mg/kg	0.1	-	-	-	-	-
Dibromomethane	mg/kg	0.1	-	-	-	-	-
1,2-dichloropropane	mg/kg	0.1	-	-	-	-	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-	-	-	-
2-nitropropane	mg/kg	10	-	-	-	-	-
Bromodichloromethane	mg/kg	0.1	-	-	-	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	-
1,1,2-trichloroethane	mg/kg	0.1	-	-	-	-	-
1,3-dichloropropane	mg/kg	0.1	-	-	-	-	-
Chlorodibromomethane	mg/kg	0.1	-	-	-	-	-
2-hexanone (MBK)	mg/kg	5	-	-	-	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	-
Chlorobenzene	mg/kg	0.1	-	-	-	-	-
Bromoform	mg/kg	0.1	-	-	-	-	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	-	-	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	-
1,2,3-trichloropropane	mg/kg	0.1	-	-	-	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	-	-	-



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.006	8/6/2021 SE220534.007	8/6/2021 SE220534.008	8/6/2021 SE220534.009	8/6/2021 SE220534.010
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	-	-	-
Bromobenzene	mg/kg	0.1	-	-	-	-	-
n-propylbenzene	mg/kg	0.1	-	-	-	-	-
2-chlorotoluene	mg/kg	0.1	-	-	-	-	-
4-chlorotoluene	mg/kg	0.1	-	-	-	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	-	-	-
tert-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	-	-	-
sec-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,3-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
1,4-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
p-isopropyltoluene	mg/kg	0.1	-	-	-	-	-
1,2-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
n-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	-	-	-	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	-	-	-
Total VOC*	mg/kg	24	-	-	-	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	-	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	-



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.011	8/6/2021 SE220534.012	8/6/2021 SE220534.013	8/6/2021 SE220534.014	8/6/2021 SE220534.015
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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	-	-	-
Chloromethane	mg/kg	1	-	-	-	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	-	-	-
Bromomethane	mg/kg	1	-	-	-	-	-
Chloroethane	mg/kg	1	-	-	-	-	-
Trichlorofluoromethane	mg/kg	1	-	-	-	-	-
Acetone (2-propanone)	mg/kg	10	-	-	-	-	-
Iodomethane	mg/kg	5	-	-	-	-	-
1,1-dichloroethene	mg/kg	0.1	-	-	-	-	-
Acrylonitrile	mg/kg	0.1	-	-	-	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	-	-	-
Allyl chloride	mg/kg	0.1	-	-	-	-	-
Carbon disulfide	mg/kg	0.5	-	-	-	-	-
trans-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	-
MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
1,1-dichloroethane	mg/kg	0.1	-	-	-	-	-
Vinyl acetate	mg/kg	10	-	-	-	-	-
MEK (2-butanone)	mg/kg	10	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	-
Bromochloromethane	mg/kg	0.1	-	-	-	-	-
Chloroform	mg/kg	0.1	-	-	-	-	-
2,2-dichloropropane	mg/kg	0.1	-	-	-	-	-
1,2-dichloroethane	mg/kg	0.1	-	-	-	-	-
1,1,1-trichloroethane	mg/kg	0.1	-	-	-	-	-
1,1-dichloropropene	mg/kg	0.1	-	-	-	-	-
Carbon tetrachloride	mg/kg	0.1	-	-	-	-	-
Dibromomethane	mg/kg	0.1	-	-	-	-	-
1,2-dichloropropane	mg/kg	0.1	-	-	-	-	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-	-	-	-
2-nitropropane	mg/kg	10	-	-	-	-	-
Bromodichloromethane	mg/kg	0.1	-	-	-	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	-
1,1,2-trichloroethane	mg/kg	0.1	-	-	-	-	-
1,3-dichloropropane	mg/kg	0.1	-	-	-	-	-
Chlorodibromomethane	mg/kg	0.1	-	-	-	-	-
2-hexanone (MBK)	mg/kg	5	-	-	-	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	-
Chlorobenzene	mg/kg	0.1	-	-	-	-	-
Bromoform	mg/kg	0.1	-	-	-	-	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	-	-	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	-
1,2,3-trichloropropane	mg/kg	0.1	-	-	-	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	-	-	-



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.011	8/6/2021 SE220534.012	8/6/2021 SE220534.013	8/6/2021 SE220534.014	8/6/2021 SE220534.015
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	-	-	-
Bromobenzene	mg/kg	0.1	-	-	-	-	-
n-propylbenzene	mg/kg	0.1	-	-	-	-	-
2-chlorotoluene	mg/kg	0.1	-	-	-	-	-
4-chlorotoluene	mg/kg	0.1	-	-	-	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	-	-	-
tert-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	-	-	-
sec-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,3-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
1,4-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
p-isopropyltoluene	mg/kg	0.1	-	-	-	-	-
1,2-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
n-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	-	-	-	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	-	-	-
Total VOC*	mg/kg	24	-	-	-	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	-	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	-



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	SP03_0.5	Trip Blank
			SOIL - 8/6/2021 SE220534.016	SOIL - 2/6/2021 SE220534.017
Benzene	mg/kg	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-
Chloromethane	mg/kg	1	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-
Bromomethane	mg/kg	1	-	-
Chloroethane	mg/kg	1	-	-
Trichlorofluoromethane	mg/kg	1	-	-
Acetone (2-propanone)	mg/kg	10	-	-
Iodomethane	mg/kg	5	-	-
1,1-dichloroethene	mg/kg	0.1	-	-
Acrylonitrile	mg/kg	0.1	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-
Allyl chloride	mg/kg	0.1	-	-
Carbon disulfide	mg/kg	0.5	-	-
trans-1,2-dichloroethene	mg/kg	0.1	-	-
MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-
1,1-dichloroethane	mg/kg	0.1	-	-
Vinyl acetate	mg/kg	10	-	-
MEK (2-butanone)	mg/kg	10	-	-
cis-1,2-dichloroethene	mg/kg	0.1	-	-
Bromochloromethane	mg/kg	0.1	-	-
Chloroform	mg/kg	0.1	-	-
2,2-dichloropropane	mg/kg	0.1	-	-
1,2-dichloroethane	mg/kg	0.1	-	-
1,1,1-trichloroethane	mg/kg	0.1	-	-
1,1-dichloropropene	mg/kg	0.1	-	-
Carbon tetrachloride	mg/kg	0.1	-	-
Dibromomethane	mg/kg	0.1	-	-
1,2-dichloropropane	mg/kg	0.1	-	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-
2-nitropropane	mg/kg	10	-	-
Bromodichloromethane	mg/kg	0.1	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-
cis-1,3-dichloropropene	mg/kg	0.1	-	-
trans-1,3-dichloropropene	mg/kg	0.1	-	-
1,1,2-trichloroethane	mg/kg	0.1	-	-
1,3-dichloropropane	mg/kg	0.1	-	-
Chlorodibromomethane	mg/kg	0.1	-	-
2-hexanone (MBK)	mg/kg	5	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-
Chlorobenzene	mg/kg	0.1	-	-
Bromoform	mg/kg	0.1	-	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-
1,2,3-trichloropropane	mg/kg	0.1	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	-



ANALYTICAL RESULTS

SE220534 R0

VOC's in Soil [AN433] Tested: 11/6/2021 (continued)

			SP03_0.5	Trip Blank
			SOIL	SOIL
			-	-
			8/6/2021	2/6/2021
PARAMETER	UOM	LOR	SE220534.016	SE220534.017
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-
Bromobenzene	mg/kg	0.1	-	-
n-propylbenzene	mg/kg	0.1	-	-
2-chlorotoluene	mg/kg	0.1	-	-
4-chlorotoluene	mg/kg	0.1	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	-
tert-butylbenzene	mg/kg	0.1	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	-
sec-butylbenzene	mg/kg	0.1	-	-
1,3-dichlorobenzene	mg/kg	0.1	-	-
1,4-dichlorobenzene	mg/kg	0.1	-	-
p-isopropyltoluene	mg/kg	0.1	-	-
1,2-dichlorobenzene	mg/kg	0.1	-	-
n-butylbenzene	mg/kg	0.1	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	-
Total VOC*	mg/kg	24	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-



ANALYTICAL RESULTS

SE220534 R0

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021 SE220534.001	8/6/2021 SE220534.002	8/6/2021 SE220534.003	8/6/2021 SE220534.004	8/6/2021 SE220534.005
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	BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021 SE220534.006	8/6/2021 SE220534.007	8/6/2021 SE220534.008	8/6/2021 SE220534.009	8/6/2021 SE220534.010
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	BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021 SE220534.011	8/6/2021 SE220534.012	8/6/2021 SE220534.013	8/6/2021 SE220534.014	8/6/2021 SE220534.015
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	SP03_0.5
			SOIL
			-
			8/6/2021 SE220534.016
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



ANALYTICAL RESULTS

SE220534 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.001	8/6/2021 SE220534.002	8/6/2021 SE220534.003	8/6/2021 SE220534.004	8/6/2021 SE220534.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	630	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	250	<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	850	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	880	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	850	<210	<210

PARAMETER	UOM	LOR	BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.006	8/6/2021 SE220534.007	8/6/2021 SE220534.008	8/6/2021 SE220534.009	8/6/2021 SE220534.010
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	BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.011	8/6/2021 SE220534.012	8/6/2021 SE220534.013	8/6/2021 SE220534.014	8/6/2021 SE220534.015
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

SE220534 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 11/6/2021 (continued)

			SP03_0.5
			SOIL
			-
			8/6/2021
PARAMETER	UOM	LOR	SE220534.016
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-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



ANALYTICAL RESULTS

SE220534 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/6/2021

PARAMETER	UOM	LOR	BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.001	8/6/2021 SE220534.002	8/6/2021 SE220534.003	8/6/2021 SE220534.004	8/6/2021 SE220534.005
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	<0.1
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	BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.006	8/6/2021 SE220534.007	8/6/2021 SE220534.008	8/6/2021 SE220534.009	8/6/2021 SE220534.010
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



ANALYTICAL RESULTS

SE220534 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/6/2021 (continued)

PARAMETER	UOM	LOR	BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.011	8/6/2021 SE220534.012	8/6/2021 SE220534.013	8/6/2021 SE220534.014	8/6/2021 SE220534.015
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	SP03_0.5
			SOIL
			8/6/2021 SE220534.016
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



ANALYTICAL RESULTS

SE220534 R0

PCBs in Soil [AN420] Tested: 11/6/2021

			BH14_0.3-0.5	BH16_0.0-0.2	BH17_1.0-1.2	BH18_1.3-1.5	BH19_2.1-2.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021	8/6/2021	8/6/2021	8/6/2021	8/6/2021
			SE220534.006	SE220534.009	SE220534.010	SE220534.011	SE220534.013
PARAMETER	UOM	LOR					
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE220534 R0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 17/6/2021

PARAMETER	UOM	LOR	BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.001	8/6/2021 SE220534.002	8/6/2021 SE220534.003	8/6/2021 SE220534.004	8/6/2021 SE220534.005
Arsenic, As	mg/kg	1	1	3	5	3	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.0	6.2	5.9	7.7	9.2
Copper, Cu	mg/kg	0.5	6.3	12	59	21	27
Lead, Pb	mg/kg	1	7	13	10	10	10
Nickel, Ni	mg/kg	0.5	1.1	18	25	26	49
Zinc, Zn	mg/kg	2	28	97	90	310	190

PARAMETER	UOM	LOR	BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.006	8/6/2021 SE220534.007	8/6/2021 SE220534.008	8/6/2021 SE220534.009	8/6/2021 SE220534.010
Arsenic, As	mg/kg	1	4	70	7	6	7
Cadmium, Cd	mg/kg	0.3	<0.3	0.6	<0.3	0.4	<0.3
Chromium, Cr	mg/kg	0.5	7.5	8.4	7.9	15	7.7
Copper, Cu	mg/kg	0.5	32	28	28	110	32
Lead, Pb	mg/kg	1	12	12	18	130	12
Nickel, Ni	mg/kg	0.5	18	2.5	21	9.9	17
Zinc, Zn	mg/kg	2	59	26	72	180	76

PARAMETER	UOM	LOR	BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			8/6/2021 SE220534.011	8/6/2021 SE220534.012	8/6/2021 SE220534.013	8/6/2021 SE220534.014	8/6/2021 SE220534.015
Arsenic, As	mg/kg	1	5	6	7	3	7
Cadmium, Cd	mg/kg	0.3	0.4	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	18	6.4	14	8.7	13
Copper, Cu	mg/kg	0.5	34	37	23	31	23
Lead, Pb	mg/kg	1	42	14	23	14	21
Nickel, Ni	mg/kg	0.5	15	19	8.2	14	9.5
Zinc, Zn	mg/kg	2	110	69	58	72	53

PARAMETER	UOM	LOR	SP03_0.5
			SOIL
			8/6/2021 SE220534.016
Arsenic, As	mg/kg	1	5
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	9.0
Copper, Cu	mg/kg	0.5	25
Lead, Pb	mg/kg	1	13
Nickel, Ni	mg/kg	0.5	11
Zinc, Zn	mg/kg	2	46



ANALYTICAL RESULTS

SE220534 R0

Mercury in Soil [AN312] Tested: 17/6/2021

			BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021	8/6/2021	8/6/2021	8/6/2021	8/6/2021
PARAMETER	UOM	LOR	SE220534.001	SE220534.002	SE220534.003	SE220534.004	SE220534.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021	8/6/2021	8/6/2021	8/6/2021	8/6/2021
PARAMETER	UOM	LOR	SE220534.006	SE220534.007	SE220534.008	SE220534.009	SE220534.010
Mercury	mg/kg	0.05	0.06	<0.05	<0.05	0.07	<0.05

			BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021	8/6/2021	8/6/2021	8/6/2021	8/6/2021
PARAMETER	UOM	LOR	SE220534.011	SE220534.012	SE220534.013	SE220534.014	SE220534.015
Mercury	mg/kg	0.05	<0.05	0.05	<0.05	<0.05	<0.05

			SP03_0.5
			SOIL
			-
			8/6/2021
PARAMETER	UOM	LOR	SE220534.016
Mercury	mg/kg	0.05	<0.05



ANALYTICAL RESULTS

SE220534 R0

Moisture Content [AN002] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH12_0.5-0.6	BH12_1.3-1.4	BH13_0.2-0.4	BH13_1.0-1.2	QA03
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021 SE220534.001	8/6/2021 SE220534.002	8/6/2021 SE220534.003	8/6/2021 SE220534.004	8/6/2021 SE220534.005
% Moisture	%w/w	1	20.8	10.6	17.9	17.2	14.6

PARAMETER	UOM	LOR	BH14_0.3-0.5	BH15_1.0-1.2	BH15_2.2-2.3	BH16_0.0-0.2	BH17_1.0-1.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021 SE220534.006	8/6/2021 SE220534.007	8/6/2021 SE220534.008	8/6/2021 SE220534.009	8/6/2021 SE220534.010
% Moisture	%w/w	1	11.6	19.4	13.9	18.4	16.2

PARAMETER	UOM	LOR	BH18_1.3-1.5	QA04	BH19_2.1-2.3	SP01_0.5	SP02_0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021 SE220534.011	8/6/2021 SE220534.012	8/6/2021 SE220534.013	8/6/2021 SE220534.014	8/6/2021 SE220534.015
% Moisture	%w/w	1	15.7	16.1	22.3	9.4	17.3

PARAMETER	UOM	LOR	SP03_0.5	Trip Blank
			SOIL	SOIL
			-	-
			8/6/2021 SE220534.016	2/6/2021 SE220534.017
% Moisture	%w/w	1	15.5	<1.0



ANALYTICAL RESULTS

SE220534 R0

Fibre Identification in soil [AN602] Tested: 16/6/2021

			BH14_0.3-0.5	BH16_0.0-0.2	BH17_1.0-1.2	BH18_1.3-1.5	BH19_2.1-2.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			8/6/2021	8/6/2021	8/6/2021	8/6/2021	8/6/2021
			SE220534.006	SE220534.009	SE220534.010	SE220534.011	SE220534.013
PARAMETER	UOM	LOR					
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

			SP01_0.5	SP02_0.5	SP03_0.5
			SOIL	SOIL	SOIL
			-	-	-
			8/6/2021	8/6/2021	8/6/2021
			SE220534.014	SE220534.015	SE220534.016
PARAMETER	UOM	LOR			
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01



ANALYTICAL RESULTS

SE220534 R0

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level [MA-1523] Tested: 17/6/2021

			BH12_0.5-0.6	BH13_0.2-0.4
			SOIL	SOIL
			-	-
			8/6/2021	8/6/2021
PARAMETER	UOM	LOR	SE220534.001	SE220534.003
Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001	<0.0001
Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001	<0.0001
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001

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 ASS 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).

AN420

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

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

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

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

AS4964.2004 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

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.

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.
		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:

- a. 1 Bq is equivalent to 27 pCi
- b. 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

SE220534 R0

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SGS Reference **SE220534 R0**
Date Received 09 Jun 2021
Date Reported 17 Jun 2021

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- Low level	4 items
Matrix Spike	VOC's in Soil	1 item

SAMPLE SUMMARY



HOLDING TIME SUMMARY

SE220534 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

Fibre Identification in soil

Method: ME-(AU)-ENVJAN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH14_0.3-0.5	SE220534.006	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021
SP01_0.5	SE220534.014	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021
SP02_0.5	SE220534.015	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021
SP03_0.5	SE220534.016	LB226854	08 Jun 2021	09 Jun 2021	08 Jun 2022	16 Jun 2021	08 Jun 2022	17 Jun 2021

Mercury in Soil

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.5-0.6	SE220534.001	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
QA03	SE220534.005	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
QA04	SE220534.012	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021
SP03_0.5	SE220534.016	LB226929	08 Jun 2021	09 Jun 2021	06 Jul 2021	17 Jun 2021	06 Jul 2021	17 Jun 2021

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.5-0.6	SE220534.001	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
QA03	SE220534.005	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
QA04	SE220534.012	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
SP03_0.5	SE220534.016	LB226786	08 Jun 2021	09 Jun 2021	22 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021
Trip Blank	SE220534.017	LB226786	02 Jun 2021	09 Jun 2021	16 Jun 2021	15 Jun 2021	20 Jun 2021	17 Jun 2021

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.5-0.6	SE220534.001	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA03	SE220534.005	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021

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
QA04	SE220534.012	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP03_0.5	SE220534.016	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.5-0.6	SE220534.001	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA03	SE220534.005	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA04	SE220534.012	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP03_0.5	SE220534.016	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.5-0.6	SE220534.001	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
QA03	SE220534.005	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
QA04	SE220534.012	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021
SP03_0.5	SE220534.016	LB226928	08 Jun 2021	09 Jun 2021	05 Dec 2021	17 Jun 2021	05 Dec 2021	17 Jun 2021

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
BH12_0.5-0.6	SE220534.001	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA03	SE220534.005	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA04	SE220534.012	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021



HOLDING TIME SUMMARY

SE220534 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
SP03_0.5	SE220534.016	LB226664	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021

VOC's in Soil

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.5-0.6	SE220534.001	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA03	SE220534.005	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA04	SE220534.012	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP03_0.5	SE220534.016	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
Trip Blank	SE220534.017	LB226668	02 Jun 2021	09 Jun 2021	16 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.5-0.6	SE220534.001	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH12_1.3-1.4	SE220534.002	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_0.2-0.4	SE220534.003	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH13_1.0-1.2	SE220534.004	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA03	SE220534.005	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH14_0.3-0.5	SE220534.006	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_1.0-1.2	SE220534.007	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH15_2.2-2.3	SE220534.008	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH16_0.0-0.2	SE220534.009	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH17_1.0-1.2	SE220534.010	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH18_1.3-1.5	SE220534.011	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
QA04	SE220534.012	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
BH19_2.1-2.3	SE220534.013	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP01_0.5	SE220534.014	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP02_0.5	SE220534.015	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
SP03_0.5	SE220534.016	LB226668	08 Jun 2021	09 Jun 2021	22 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021
Trip Blank	SE220534.017	LB226668	02 Jun 2021	09 Jun 2021	16 Jun 2021	11 Jun 2021	21 Jul 2021	17 Jun 2021

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)	BH12_0.5-0.6	SE220534.001	%	70 - 130%	94
	BH12_1.3-1.4	SE220534.002	%	70 - 130%	95
	BH13_0.2-0.4	SE220534.003	%	70 - 130%	86
	BH13_1.0-1.2	SE220534.004	%	70 - 130%	89
	QA03	SE220534.005	%	70 - 130%	94
	BH14_0.3-0.5	SE220534.006	%	70 - 130%	88
	BH15_1.0-1.2	SE220534.007	%	70 - 130%	92
	BH15_2.2-2.3	SE220534.008	%	70 - 130%	94
	BH16_0.0-0.2	SE220534.009	%	70 - 130%	88
	BH17_1.0-1.2	SE220534.010	%	70 - 130%	93
	BH18_1.3-1.5	SE220534.011	%	70 - 130%	93
	QA04	SE220534.012	%	70 - 130%	91
	BH19_2.1-2.3	SE220534.013	%	70 - 130%	89
	SP01_0.5	SE220534.014	%	70 - 130%	86
	SP02_0.5	SE220534.015	%	70 - 130%	94
	SP03_0.5	SE220534.016	%	70 - 130%	93
d14-p-terphenyl (Surrogate)	BH12_0.5-0.6	SE220534.001	%	70 - 130%	87
	BH12_1.3-1.4	SE220534.002	%	70 - 130%	97
	BH13_0.2-0.4	SE220534.003	%	70 - 130%	73
	BH13_1.0-1.2	SE220534.004	%	70 - 130%	90
	QA03	SE220534.005	%	70 - 130%	96
	BH14_0.3-0.5	SE220534.006	%	70 - 130%	81
	BH15_1.0-1.2	SE220534.007	%	70 - 130%	92
	BH15_2.2-2.3	SE220534.008	%	70 - 130%	93
	BH16_0.0-0.2	SE220534.009	%	70 - 130%	89
	BH17_1.0-1.2	SE220534.010	%	70 - 130%	92
	BH18_1.3-1.5	SE220534.011	%	70 - 130%	87
	QA04	SE220534.012	%	70 - 130%	97
	BH19_2.1-2.3	SE220534.013	%	70 - 130%	85
	SP01_0.5	SE220534.014	%	70 - 130%	89
	SP02_0.5	SE220534.015	%	70 - 130%	93
	SP03_0.5	SE220534.016	%	70 - 130%	94
d5-nitrobenzene (Surrogate)	BH12_0.5-0.6	SE220534.001	%	70 - 130%	98
	BH12_1.3-1.4	SE220534.002	%	70 - 130%	95
	BH13_0.2-0.4	SE220534.003	%	70 - 130%	85
	BH13_1.0-1.2	SE220534.004	%	70 - 130%	103
	QA03	SE220534.005	%	70 - 130%	101
	BH14_0.3-0.5	SE220534.006	%	70 - 130%	91
	BH15_1.0-1.2	SE220534.007	%	70 - 130%	93
	BH15_2.2-2.3	SE220534.008	%	70 - 130%	93
	BH16_0.0-0.2	SE220534.009	%	70 - 130%	92
	BH17_1.0-1.2	SE220534.010	%	70 - 130%	94
	BH18_1.3-1.5	SE220534.011	%	70 - 130%	90
	QA04	SE220534.012	%	70 - 130%	93
	BH19_2.1-2.3	SE220534.013	%	70 - 130%	88
	SP01_0.5	SE220534.014	%	70 - 130%	91
	SP02_0.5	SE220534.015	%	70 - 130%	95
	SP03_0.5	SE220534.016	%	70 - 130%	97

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH14_0.3-0.5	SE220534.006	%	60 - 130%	105
	BH16_0.0-0.2	SE220534.009	%	60 - 130%	110
	BH17_1.0-1.2	SE220534.010	%	60 - 130%	109
	BH18_1.3-1.5	SE220534.011	%	60 - 130%	120
	BH19_2.1-2.3	SE220534.013	%	60 - 130%	111

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 130%	39
	BH13_0.2-0.4	SE220534.003	%	10 - 130%	43
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	86



SURROGATES

SE220534 R0

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- Low level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	BH13_0.2-0.4	SE220534.003	%	10 - 150%	74
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	91
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	94
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	136
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	168 †
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	82
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	119
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	5 †
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	5 †
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	151 †
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	122
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	113
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	128
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	115
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	120
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	108
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	121
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	109
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	115
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	120
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	126
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	104
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	124
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	141
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	129
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	99
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	117
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	109
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	113
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	55
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	33
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	114
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	103
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	41
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	18
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	83
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	49
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	45
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	16
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	78
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	39
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	41
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	29
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	BH12_0.5-0.6	SE220534.001	%	10 - 150%	38
	BH13_0.2-0.4	SE220534.003	%	10 - 150%	26

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH12_0.5-0.6	SE220534.001	%	60 - 130%	69
	BH12_1.3-1.4	SE220534.002	%	60 - 130%	70
	BH13_0.2-0.4	SE220534.003	%	60 - 130%	76
	BH13_1.0-1.2	SE220534.004	%	60 - 130%	68
	QA03	SE220534.005	%	60 - 130%	74
	BH14_0.3-0.5	SE220534.006	%	60 - 130%	74
	BH15_1.0-1.2	SE220534.007	%	60 - 130%	76
	BH15_2.2-2.3	SE220534.008	%	60 - 130%	72
	BH16_0.0-0.2	SE220534.009	%	60 - 130%	71
	BH17_1.0-1.2	SE220534.010	%	60 - 130%	71
	BH18_1.3-1.5	SE220534.011	%	60 - 130%	76
	QA04	SE220534.012	%	60 - 130%	71
	BH19_2.1-2.3	SE220534.013	%	60 - 130%	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.

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP01_0.5	SE220534.014	%	60 - 130%	74
	SP02_0.5	SE220534.015	%	60 - 130%	76
	SP03_0.5	SE220534.016	%	60 - 130%	68
	Trip Blank	SE220534.017	%	60 - 130%	73
d4-1,2-dichloroethane (Surrogate)	BH12_0.5-0.6	SE220534.001	%	60 - 130%	80
	BH12_1.3-1.4	SE220534.002	%	60 - 130%	77
	BH13_0.2-0.4	SE220534.003	%	60 - 130%	85
	BH13_1.0-1.2	SE220534.004	%	60 - 130%	78
	QA03	SE220534.005	%	60 - 130%	84
	BH14_0.3-0.5	SE220534.006	%	60 - 130%	86
	BH15_1.0-1.2	SE220534.007	%	60 - 130%	88
	BH15_2.2-2.3	SE220534.008	%	60 - 130%	83
	BH16_0.0-0.2	SE220534.009	%	60 - 130%	82
	BH17_1.0-1.2	SE220534.010	%	60 - 130%	80
	BH18_1.3-1.5	SE220534.011	%	60 - 130%	89
	QA04	SE220534.012	%	60 - 130%	85
	BH19_2.1-2.3	SE220534.013	%	60 - 130%	79
	SP01_0.5	SE220534.014	%	60 - 130%	88
	SP02_0.5	SE220534.015	%	60 - 130%	85
	SP03_0.5	SE220534.016	%	60 - 130%	78
	Trip Blank	SE220534.017	%	60 - 130%	87
d8-toluene (Surrogate)	BH12_0.5-0.6	SE220534.001	%	60 - 130%	81
	BH12_1.3-1.4	SE220534.002	%	60 - 130%	78
	BH13_0.2-0.4	SE220534.003	%	60 - 130%	91
	BH13_1.0-1.2	SE220534.004	%	60 - 130%	81
	QA03	SE220534.005	%	60 - 130%	88
	BH14_0.3-0.5	SE220534.006	%	60 - 130%	88
	BH15_1.0-1.2	SE220534.007	%	60 - 130%	93
	BH15_2.2-2.3	SE220534.008	%	60 - 130%	85
	BH16_0.0-0.2	SE220534.009	%	60 - 130%	85
	BH17_1.0-1.2	SE220534.010	%	60 - 130%	84
	BH18_1.3-1.5	SE220534.011	%	60 - 130%	94
	QA04	SE220534.012	%	60 - 130%	87
	BH19_2.1-2.3	SE220534.013	%	60 - 130%	83
	SP01_0.5	SE220534.014	%	60 - 130%	92
	SP02_0.5	SE220534.015	%	60 - 130%	89
	SP03_0.5	SE220534.016	%	60 - 130%	80
	Trip Blank	SE220534.017	%	60 - 130%	90

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH12_0.5-0.6	SE220534.001	%	60 - 130%	69
	BH12_1.3-1.4	SE220534.002	%	60 - 130%	70
	BH13_0.2-0.4	SE220534.003	%	60 - 130%	76
	BH13_1.0-1.2	SE220534.004	%	60 - 130%	68
	QA03	SE220534.005	%	60 - 130%	74
	BH14_0.3-0.5	SE220534.006	%	60 - 130%	74
	BH15_1.0-1.2	SE220534.007	%	60 - 130%	76
	BH15_2.2-2.3	SE220534.008	%	60 - 130%	72
	BH16_0.0-0.2	SE220534.009	%	60 - 130%	71
	BH17_1.0-1.2	SE220534.010	%	60 - 130%	71
	BH18_1.3-1.5	SE220534.011	%	60 - 130%	76
	QA04	SE220534.012	%	60 - 130%	71
	BH19_2.1-2.3	SE220534.013	%	60 - 130%	70
	SP01_0.5	SE220534.014	%	60 - 130%	74
	SP02_0.5	SE220534.015	%	60 - 130%	76
	SP03_0.5	SE220534.016	%	60 - 130%	68
d4-1,2-dichloroethane (Surrogate)	BH12_0.5-0.6	SE220534.001	%	60 - 130%	80
	BH12_1.3-1.4	SE220534.002	%	60 - 130%	77
	BH13_0.2-0.4	SE220534.003	%	60 - 130%	85
	BH13_1.0-1.2	SE220534.004	%	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 %
d4-1,2-dichloroethane (Surrogate)	QA03	SE220534.005	%	60 - 130%	84
	BH14_0.3-0.5	SE220534.006	%	60 - 130%	86
	BH15_1.0-1.2	SE220534.007	%	60 - 130%	88
	BH15_2.2-2.3	SE220534.008	%	60 - 130%	83
	BH16_0.0-0.2	SE220534.009	%	60 - 130%	82
	BH17_1.0-1.2	SE220534.010	%	60 - 130%	80
	BH18_1.3-1.5	SE220534.011	%	60 - 130%	89
	QA04	SE220534.012	%	60 - 130%	85
	BH19_2.1-2.3	SE220534.013	%	60 - 130%	79
	SP01_0.5	SE220534.014	%	60 - 130%	88
	SP02_0.5	SE220534.015	%	60 - 130%	85
	SP03_0.5	SE220534.016	%	60 - 130%	78
d8-toluene (Surrogate)	BH12_0.5-0.6	SE220534.001	%	60 - 130%	81
	BH12_1.3-1.4	SE220534.002	%	60 - 130%	78
	BH13_0.2-0.4	SE220534.003	%	60 - 130%	91
	BH13_1.0-1.2	SE220534.004	%	60 - 130%	81
	QA03	SE220534.005	%	60 - 130%	88
	BH14_0.3-0.5	SE220534.006	%	60 - 130%	88
	BH15_1.0-1.2	SE220534.007	%	60 - 130%	93
	BH15_2.2-2.3	SE220534.008	%	60 - 130%	85
	BH16_0.0-0.2	SE220534.009	%	60 - 130%	85
	BH17_1.0-1.2	SE220534.010	%	60 - 130%	84
	BH18_1.3-1.5	SE220534.011	%	60 - 130%	94
	QA04	SE220534.012	%	60 - 130%	87
	BH19_2.1-2.3	SE220534.013	%	60 - 130%	83
	SP01_0.5	SE220534.014	%	60 - 130%	92
	SP02_0.5	SE220534.015	%	60 - 130%	89
	SP03_0.5	SE220534.016	%	60 - 130%	80



METHOD BLANKS

SE220534 R0

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
LB226929.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB226664.001	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)	%	-	96
	2-fluorobiphenyl (Surrogate)	%	-	92
	d14-p-terphenyl (Surrogate)	%	-	92

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB226664.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochors)	mg/kg	-	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	100

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

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

Sample Number	Parameter	Units	LOR	Result
LB226928.001	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
LB226664.001	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



METHOD BLANKS

SE220534 R0

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.

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Number		Parameter	Units	LOR	Result
LB226668.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
		Nitrogenous Compounds			
		Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10

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.

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB226668.001	Oxygenated Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	91
		d8-toluene (Surrogate)	%	-	93
		Bromofluorobenzene (Surrogate)	%	-	76
	Totals	Total BTEX	mg/kg	0.6	<0.6
		Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB226668.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	91

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 %
SE220534.010	LB226929.014	Mercury	mg/kg	0.05	<0.05	0.05	137	0
SE220534.016	LB226929.021	Mercury	mg/kg	0.05	<0.05	<0.05	183	0

Moisture Content

Method: ME-(AU)-[ENV]JAN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220534.010	LB226786.011	% Moisture	%w/w	1	16.2	16.2	36	0
SE220551.003	LB226786.022	% Moisture	%w/w	1	23.4	21.6	34	8
SE220551.007	LB226786.027	% Moisture	%w/w	1	21.1	23.5	34	10

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220534.010	LB226664.014	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&i)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	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	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	6
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	8
SE220534.016	LB226664.026	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&i)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	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	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	8
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	9

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]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220534.016	LB226664.026	Surrooates	d14-p-terphenyl (Surrooate)	mg/kg	-	0.5	0.5	30	9

PCBs in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220534.010	LB226664.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)		mg/kg	1	<1	<1	200
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)		mg/kg	-	0	0	30	0

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

Method: ME-(AU)-[ENV]AN40/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220534.010	LB226928.014	Arsenic, As	mg/kg	1	7	5	46	26
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	7.7	7.4	37	4
		Copper, Cu	mg/kg	0.5	32	29	32	9
		Nickel, Ni	mg/kg	0.5	17	17	33	2
		Lead, Pb	mg/kg	1	12	13	38	12
		Zinc, Zn	mg/kg	2	76	77	33	2
SE220534.016	LB226928.021	Arsenic, As	mg/kg	1	5	5	48	1
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	9.0	8.5	36	6
		Copper, Cu	mg/kg	0.5	25	29	32	17
		Nickel, Ni	mg/kg	0.5	11	13	34	23
		Lead, Pb	mg/kg	1	13	17	37	26
		Zinc, Zn	mg/kg	2	46	61	34	27

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220534.010	LB226664.014	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 >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
SE220534.016	LB226664.026	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

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220534.010	LB226668.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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

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 %
SE220534.010	LB226668.014	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	7.9	50	1
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.3	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	6.8	50	5
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE220534.016	LB226668.024	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.8	8.2	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.0	8.4	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.8	7.0	50	2
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE220534.010	LB226668.014	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	-	8.0	7.9	30	1
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.3	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	6.8	30	5
		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
SE220534.016	LB226668.024	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	-	7.8	8.2	30	5
			d8-toluene (Surrogate)	mg/kg	-	8.0	8.4	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.8	7.0	30	2
		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 %
LB226929.002	Mercury	mg/kg	0.05	0.23	0.2	70 - 130	115

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226664.002	Naphthalene	mg/kg	0.1	3.4	4	60 - 140	84
	Acenaphthylene	mg/kg	0.1	3.7	4	60 - 140	93
	Acenaphthene	mg/kg	0.1	3.7	4	60 - 140	92
	Phenanthrene	mg/kg	0.1	3.7	4	60 - 140	93
	Anthracene	mg/kg	0.1	3.5	4	60 - 140	86
	Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	95
	Pyrene	mg/kg	0.1	3.5	4	60 - 140	88
	Benzo(a)pyrene	mg/kg	0.1	3.4	4	60 - 140	86
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	95
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	87

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226664.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	95

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 %
LB226928.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	4.5	4.81	70 - 130	94
	Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	97
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	105
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	94	89.9	80 - 120	105
	Zinc, Zn	mg/kg	2	280	273	80 - 120	104

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN430

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226664.002	TRH C10-C14	mg/kg	20	42	40	60 - 140	105
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	93
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	80
	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	95
	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 %
LB226668.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	3.8	5	60 - 140	76
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	3.9	5	60 - 140	79
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	3.7	5	60 - 140	74
	Halogenated	Chlorobenzene	mg/kg	0.1	4.4	5	60 - 140	88
	Monocyclic	Benzene	mg/kg	0.1	3.9	5	60 - 140	79
	Aromatic	Toluene	mg/kg	0.1	4.2	5	60 - 140	83
		Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	88
		m/p-xylene	mg/kg	0.2	8.9	10	60 - 140	89
		o-xylene	mg/kg	0.1	4.4	5	60 - 140	89
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.8	10	70 - 130	98
		d8-toluene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	10	70 - 130	75
	Trihalomethan	Chloroform	ma/ka	0.1	4.1	5	60 - 140	82

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226668.002	TRH C6-C10	mg/kg	25	64	92.5	60 - 140	69
	TRH C6-C9	mg/kg	20	56	80	60 - 140	70
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.8	10	70 - 130



LABORATORY CONTROL SAMPLES

SE220534 R0

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.

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226668.002	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	10	70 - 130
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	38	62.5	60 - 140

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%
SE220534.001	LB226929.004	Mercury	mg/kg	0.05	0.23	<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%
SE220534.001	LB226664.004	Naphthalene	mg/kg	0.1	3.5	<0.1	4	87
		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	4.0	<0.1	4	100
		Acenaphthene	mg/kg	0.1	3.9	<0.1	4	98
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	3.7	<0.1	4	92
		Anthracene	mg/kg	0.1	3.4	<0.1	4	85
		Fluoranthene	mg/kg	0.1	3.8	<0.1	4	94
		Pyrene	mg/kg	0.1	3.7	<0.1	4	91
		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	3.2	<0.1	4	81
		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	3.2	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	3.4	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	3.3	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	29	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	91
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	91
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220534.001	LB226928.004	Arsenic, As	mg/kg	1	50	1	50	97
		Cadmium, Cd	mg/kg	0.3	45	<0.3	50	90
		Chromium, Cr	mg/kg	0.5	51	3.0	50	96
		Copper, Cu	mg/kg	0.5	53	6.3	50	94
		Nickel, Ni	mg/kg	0.5	52	1.1	50	101
		Lead, Pb	mg/kg	1	53	7	50	92
		Zinc, Zn	mg/kg	2	66	28	50	76

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220534.001	LB226664.004	TRH C10-C14	mg/kg	20	42	<20	40	105
		TRH C15-C28	mg/kg	45	<45	<45	40	98
		TRH C29-C36	mg/kg	45	<45	<45	40	75
		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 Bands	TRH >C10-C16	mg/kg	25	39	<25	40	98
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	36	<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%
SE220534.001	LB226668.004	Monocyclic	Benzene	mg/kg	0.1	3.4	<0.1	5	67
		Aromatic	Toluene	mg/kg	0.1	3.6	<0.1	5	71
			Ethylbenzene	mg/kg	0.1	3.8	<0.1	5	75
			m/p-xylene	mg/kg	0.2	7.7	<0.2	10	77
			o-xylene	mg/kg	0.1	3.9	<0.1	5	77

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.

VOC's in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220534.001	LB226668.004	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.0	10	84
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.1	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.4	6.9	10	64 🔻
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-
			Total RTEX	mg/kg	0.6	22	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE220534.001	LB226668.004	TRH C6-C10	mg/kg	25	63	<25	92.5	68	
		TRH C6-C9	mg/kg	20	56	<20	80	69	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.0	10	84
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.1	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.4	6.9	-	64
		VPH F	Benzene (F0)	mg/kg	0.1	3.4	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	41	<25	62.5	65



MATRIX SPIKE DUPLICATES

SE220534 R0

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 **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 8

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SGS Reference **SE220534 R0**
Date Received 09 Jun 2021
Date Reported 17 Jun 2021

COMMENTS

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

No respirable fibres detected in soil samples using trace analysis technique.

Asbestos analysed by Approved Identifiers Yusuf Kuthpuhin.

SIGNATORIES

Akheeque BENIAMEEN
Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE220534.006	BH14_0.3-0.5	Soil	123g Clay,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220534.009	BH16_0.0-0.2	Soil	125g Clay,Sand,Soil,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE220534.010	BH17_1.0-1.2	Soil	172g Clay,Sand,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220534.011	BH18_1.3-1.5	Soil	114g Clay,Sand,Soil,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220534.013	BH19_2.1-2.3	Soil	150g Clay,Sand,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220534.014	SP01_0.5	Soil	125g Clay,Sand,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220534.015	SP02_0.5	Soil	74g Clay,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220534.016	SP03_0.5	Soil	159g Clay,Sand,Rocks	08 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD

METHODOLOGY SUMMARY

AN602	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	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	AS4964.2004 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	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.

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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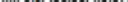
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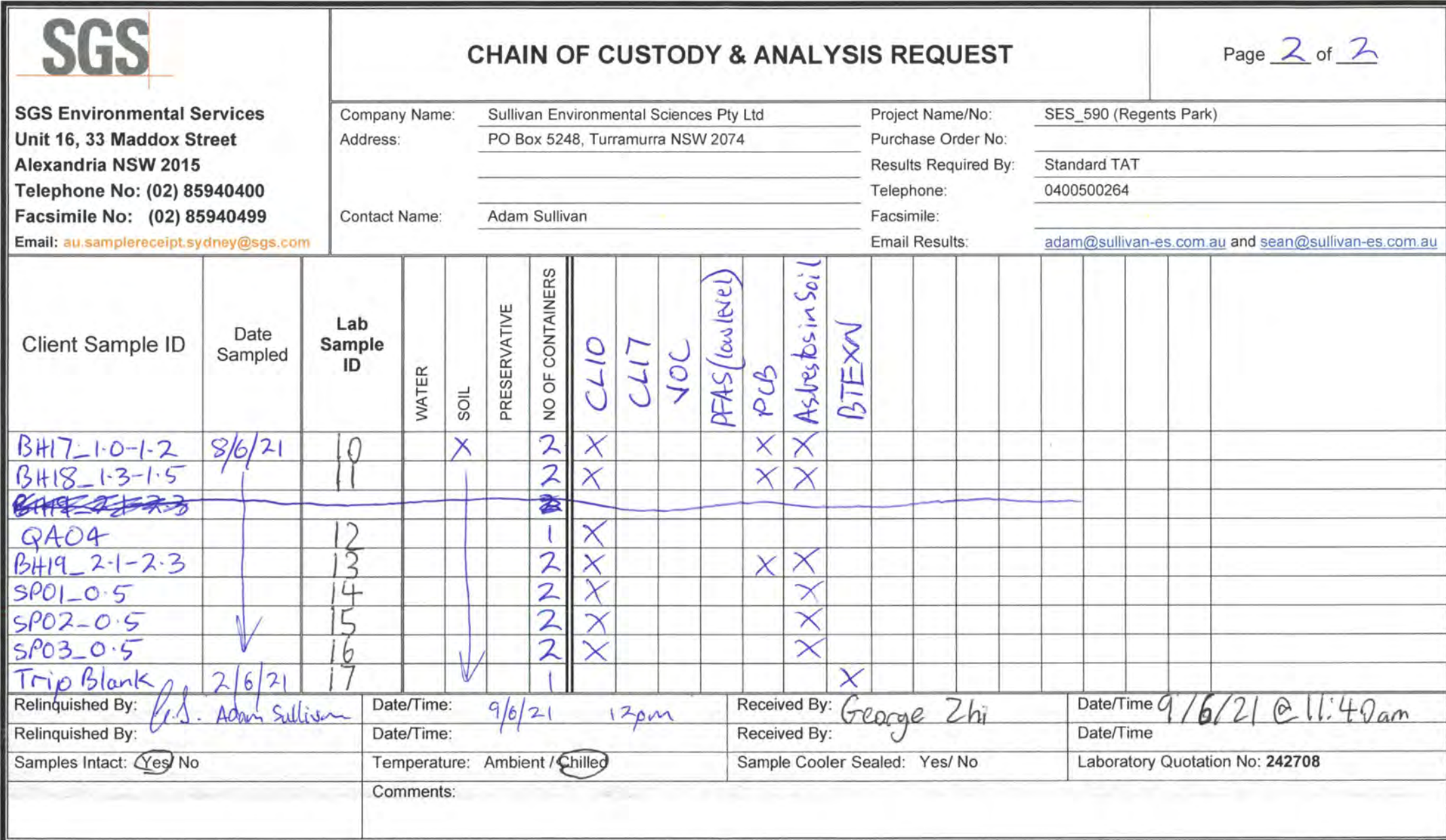
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ANALYTICAL REPORT



Accreditation No. 2562

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Order Number **SE220534**
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SGS Reference **ME320956 R0**
Date Received **10 Jun 2021**
Date Reported **16 Jun 2021**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(14420).

MA-1523 Majority of surrogates are within acceptance criteria.

SIGNATORIES

Vanessa PALAMARA
Senior Chemist



ANALYTICAL REPORT

ME320956 R0

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	ME320956.001 Soil 08 Jun 2021 SE220534.001	ME320956.002 Soil 06 Aug 2021 SE220534.002	ME320956.003 Soil 08 Jun 2021 SE220534.003	ME320956.004 Soil 06 Aug 2021 SE220534.004

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 11/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	-	<0.0005	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	-	<0.0001	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	-	<0.001	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	-	<0.001	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	-	<0.001	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	-	<0.001	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	-	<0.001	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	-	<0.001	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	-	<0.002	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	-	<0.002	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	-	<0.001	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	-	<0.001	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	108	-	121	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	104	-	124	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	120	-	126	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	109	-	115	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	115	-	120	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	114	-	103	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	141	-	129	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	99	-	117	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	82	-	119	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	39	-	43	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	5	-	5	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	151	-	122	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	113	-	128	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	109	-	113	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	86	-	74	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	91	-	94	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	136	-	168	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	55	-	33	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	41	-	18	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	45	-	16	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	41	-	29	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	38	-	26	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	83	-	49	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	78	-	39	-

Moisture Content Method: AN002 Tested: 11/6/2021



ANALYTICAL REPORT

ME320956 R0

				Sample Number	ME320956.001	ME320956.002	ME320956.003	ME320956.004
				Sample Matrix	Soil	Soil	Soil	Soil
				Sample Date	08 Jun 2021	06 Aug 2021	08 Jun 2021	06 Aug 2021
				Sample Name	SE220534.001	SE220534.002	SE220534.003	SE220534.004
Parameter		Units	LOR					

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	18.4	-	18.2	-



ANALYTICAL REPORT

ME320956 R0

Parameter	Units	LOR	Sample Number	ME320956.005	ME320956.006	ME320956.007	ME320956.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Aug 2021	06 Aug 2021	06 Aug 2021	06 Aug 2021
			Sample Name	SE220534.005	SE220534.006	SE220534.007	SE220534.008

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320956 R0

			Sample Number	ME320956.005	ME320956.006	ME320956.007	ME320956.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Aug 2021	06 Aug 2021	06 Aug 2021	06 Aug 2021
			Sample Name	SE220534.005	SE220534.006	SE220534.007	SE220534.008
Parameter		Units	LOR				

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-



ANALYTICAL REPORT

ME320956 R0

Parameter	Units	LOR	Sample Number	ME320956.009	ME320956.010	ME320956.011	ME320956.012
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Aug 2021	06 Aug 2021	06 Aug 2021	06 Aug 2021
			Sample Name	SE220534.009	SE220534.010	SE220534.011	SE220534.012

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



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				Sample Number	ME320956.009	ME320956.010	ME320956.011	ME320956.012
				Sample Matrix	Soil	Soil	Soil	Soil
				Sample Date	06 Aug 2021	06 Aug 2021	06 Aug 2021	06 Aug 2021
				Sample Name	SE220534.009	SE220534.010	SE220534.011	SE220534.012
Parameter		Units	LOR					

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-



ANALYTICAL REPORT

ME320956 R0

Parameter	Units	LOR	Sample Number	ME320956.013	ME320956.014	ME320956.015	ME320956.016
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Aug 2021	06 Aug 2021	06 Aug 2021	06 Aug 2021
			Sample Name	SE220534.013	SE220534.014	SE220534.015	SE220534.016

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320956 R0

			Sample Number	ME320956.013	ME320956.014	ME320956.015	ME320956.016
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Aug 2021	06 Aug 2021	06 Aug 2021	06 Aug 2021
			Sample Name	SE220534.013	SE220534.014	SE220534.015	SE220534.016
Parameter		Units	LOR				

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-



ANALYTICAL REPORT

ME320956 R0

		Sample Number	ME320956.017
		Sample Matrix	Soil
		Sample Date	06 Feb 2021
		Sample Name	SE220534.017
Parameter	Units	LOR	

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-
Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0001	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-
Sum PFOS and PFHXS	mg/kg	0.0001	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-



ANALYTICAL REPORT

ME320956 R0

			Sample Number	ME320956.017
			Sample Matrix	Soil
			Sample Date	06 Feb 2021
			Sample Name	SE220534.017
Parameter	Units	LOR		

Moisture Content Method: AN002 Tested: 15/6/2021

% Moisture*	%w/w	1	-

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

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

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture*	LB042044	%w/w	1	8%

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentanoic acid (PFPeA)	LB042040	mg/kg	0.0005	<0.0005	0%	NA
Perfluorohexanoic acid (PFHxA)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoroheptanoic acid (PFHpA)	LB042040	mg/kg	0.0001	<0.0001	0%	88%
Perfluorooctanoic Acid (PFOA)	LB042040	mg/kg	0.0001	<0.0001	0%	56%
Perfluorononanoic acid (PFNA)	LB042040	mg/kg	0.0001	<0.0001	0%	111%
Perfluorodecanoic acid (PFDA)	LB042040	mg/kg	0.0001	<0.0001	0%	111%
Perfluoroundecanoic acid (PFUnA)	LB042040	mg/kg	0.0001	<0.0001	0%	122%
Perfluorododecanoic acid (PFDoA)	LB042040	mg/kg	0.0001	<0.0001	0%	136%
Perfluorotridecanoic acid (PFTrDA)	LB042040	mg/kg	0.0001	<0.0001	0%	132%
Perfluorotetradecanoic acid (PFTeDA)	LB042040	mg/kg	0.0001	<0.0001	0%	126%
Perfluorohexadecanoic acid (PFHxDA)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorobutane sulfonate (PFBS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorooctane sulfonate (PFOS)	LB042040	mg/kg	0.0001	<0.0001	0%	56%
Sum PFOS and PFHXS	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorononane sulfonate (PFNS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorodecane sulfonate (PFDS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB042040	mg/kg	0.0001	<0.0001	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB042040	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB042040	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB042040	mg/kg	0.001	<0.001	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB042040	mg/kg	0.001	<0.001	0%	59%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB042040	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB042040	mg/kg	0.001	<0.001	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB042040	mg/kg	0.002	<0.002	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB042040	mg/kg	0.002	<0.002	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	LB042040	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB042040	mg/kg	0.001	<0.001	0%	NA
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	109%	3%	106%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	95%	6%	100%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	123%	11%	127%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	117%	1%	116%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	114%	3%	114%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	120%	16%	107%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	146%	23%	141%
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	81%	22%	95%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	73%	35%	87%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	45%	33%	63%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	18%	113%	52%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	135%	25%	146%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	110%	4%	114%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	100%	25%	106%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	84%	54%	76%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	90%	36%	80%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	146%	26%	132%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	67%	63%	66%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	58%	31%	63%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	42%	48%	46%



QC SUMMARY

ME320956 R0

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 (continued)

				MB	DUP %RPD	LCS %Recovery
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	46%	60%	56%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	45%	81%	55%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	91%	16%	122%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB042040	%	-	82%	30%	98%



METHOD SUMMARY

ME320956 R0

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.

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

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

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

SE220534

CLIENT DETAILS

Contact ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU

Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 17

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 Wed 9/6/2021
Report Due Thu 17/6/2021
SGS Reference **SE220534**

SUBMISSION DETAILS

This is to confirm that 17 samples were received on Wednesday 9/6/2021. Results are expected to be ready by COB Thursday 17/6/2021. Please quote SGS reference SE220534 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice
Samples received in correct containers	Yes	Sample counts by matrix	17 Soil
Date documentation received	9/6/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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. Results may be delayed.

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

SE220534

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH12_0.5-0.6	1	26	-	7	10	81	7
002	BH12_1.3-1.4	1	26	-	7	10	81	7
003	BH13_0.2-0.4	1	26	-	7	10	81	7
004	BH13_1.0-1.2	1	26	-	7	10	81	7
005	QA03	1	26	-	7	10	11	7
006	BH14_0.3-0.5	1	26	11	7	10	11	7
007	BH15_1.0-1.2	1	26	-	7	10	11	7
008	BH15_2.2-2.3	1	26	-	7	10	11	7
009	BH16_0.0-0.2	1	26	11	7	10	11	7
010	BH17_1.0-1.2	1	26	11	7	10	11	7
011	BH18_1.3-1.5	1	26	11	7	10	11	7
012	QA04	1	26	-	7	10	11	7
013	BH19_2.1-2.3	1	26	11	7	10	11	7
014	SP01_0.5	1	26	-	7	10	11	7
015	SP02_0.5	1	26	-	7	10	11	7
016	SP03_0.5	1	26	-	7	10	11	7
017	Trip Blank	-	-	-	-	-	11	-

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

SE220534

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content	Per- and Polyfluoroalkyl Substances (PFAS) in
001	BH12_0.5-0.6	-	1	55
002	BH12_1.3-1.4	-	1	-
003	BH13_0.2-0.4	-	1	55
004	BH13_1.0-1.2	-	1	-
005	QA03	-	1	-
006	BH14_0.3-0.5	2	1	-
007	BH15_1.0-1.2	-	1	-
008	BH15_2.2-2.3	-	1	-
009	BH16_0.0-0.2	2	1	-
010	BH17_1.0-1.2	2	1	-
011	BH18_1.3-1.5	2	1	-
012	QA04	-	1	-
013	BH19_2.1-2.3	2	1	-
014	SP01_0.5	2	1	-
015	SP02_0.5	2	1	-
016	SP03_0.5	2	1	-
017	Trip Blank	-	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 ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU
Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 20

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
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Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com
SGS Reference **SE220604 R0**
Date Received 10/6/2021
Date Reported 18/6/2021

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 Number ME320993
MA-1523 Majority of surrogates are within acceptance criteria.

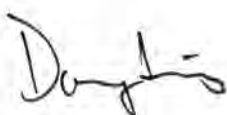
No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Bennel Jiri.

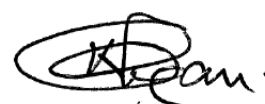
SIGNATORIES



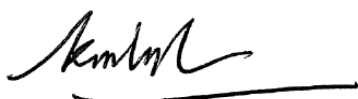
Akheeque BENIAEMEEN
Chemist



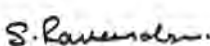
Dong LIANG
Metals/Inorganics Team Leader



Kamrul AHSAN
Senior Chemist



Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader



Shane MCDERMOTT
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ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.001	9/6/2021 SE220604.002	9/6/2021 SE220604.003	9/6/2021 SE220604.004	9/6/2021 SE220604.005
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
Naphthalene	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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	-	<1	<1
Chloromethane	mg/kg	1	-	-	-	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromomethane	mg/kg	1	-	-	-	<1	<1
Chloroethane	mg/kg	1	-	-	-	<1	<1
Trichlorofluoromethane	mg/kg	1	-	-	-	<1	<1
Acetone (2-propanone)	mg/kg	10	-	-	-	<10	<10
Iodomethane	mg/kg	5	-	-	-	<5	<5
1,1-dichloroethene	mg/kg	0.1	-	-	-	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	-	-	-	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	-	<0.5	<0.5
Allyl chloride	mg/kg	0.1	-	-	-	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	-	-	-	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	-	-	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
Vinyl acetate	mg/kg	10	-	-	-	<10	<10
MEK (2-butanone)	mg/kg	10	-	-	-	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	-	-	-	<0.1	<0.1
Chloroform	mg/kg	0.1	-	-	-	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	-	-	-	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	-	-	-	<0.1	<0.1
Dibromomethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-	-	<0.1	<0.1
2-nitropropane	mg/kg	10	-	-	-	<10	<10
Bromodichloromethane	mg/kg	0.1	-	-	-	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	-	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	-	-	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	-	-	-	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	-	-	-	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	-	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromoform	mg/kg	0.1	-	-	-	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	-	-	-	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	-	<1	<1



ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.001	9/6/2021 SE220604.002	9/6/2021 SE220604.003	9/6/2021 SE220604.004	9/6/2021 SE220604.005
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	-	-	-	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	-	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	<1.8	<1.8



ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL - 9/6/2021 SE220604.006	SOIL - 9/6/2021 SE220604.007	SOIL - 9/6/2021 SE220604.008	SOIL - 9/6/2021 SE220604.009	SOIL - 9/6/2021 SE220604.010
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
Naphthalene	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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	<1	<1	<1
Chloromethane	mg/kg	1	-	-	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	-	-	<1	<1	<1
Chloroethane	mg/kg	1	-	-	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	-	-	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	-	-	<10	<10	<10
Iodomethane	mg/kg	5	-	-	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	-	-	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	-	-	<10	<10	<10
MEK (2-butanone)	mg/kg	10	-	-	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	-	-	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	-	-	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	<1	<1



ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.006	9/6/2021 SE220604.007	9/6/2021 SE220604.008	9/6/2021 SE220604.009	9/6/2021 SE220604.010
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	<24	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	<3.0	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	<1.8	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	<1.8	<1.8	<1.8



ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL - 9/6/2021 SE220604.011	SOIL - 9/6/2021 SE220604.013	SOIL - 9/6/2021 SE220604.014	SOIL - 9/6/2021 SE220604.015	SOIL - 9/6/2021 SE220604.016
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
Naphthalene	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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	<1	<1	<1
Chloromethane	mg/kg	1	-	-	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	-	-	<1	<1	<1
Chloroethane	mg/kg	1	-	-	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	-	-	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	-	-	<10	<10	<10
Iodomethane	mg/kg	5	-	-	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	-	-	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	-	-	<10	<10	<10
MEK (2-butanone)	mg/kg	10	-	-	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	-	-	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	-	-	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	<1	<1



ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.011	9/6/2021 SE220604.013	9/6/2021 SE220604.014	9/6/2021 SE220604.015	9/6/2021 SE220604.016
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	<24	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	<3.0	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	<1.8	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	<1.8	<1.8	<1.8



ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL - 9/6/2021 SE220604.017	SOIL - 9/6/2021 SE220604.018	SOIL - 9/6/2021 SE220604.019	SOIL - 9/6/2021 SE220604.020
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
Naphthalene	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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	-	-
Chloromethane	mg/kg	1	<1	-	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	-	-
Bromomethane	mg/kg	1	<1	-	-	-
Chloroethane	mg/kg	1	<1	-	-	-
Trichlorofluoromethane	mg/kg	1	<1	-	-	-
Acetone (2-propanone)	mg/kg	10	<10	-	-	-
Iodomethane	mg/kg	5	<5	-	-	-
1,1-dichloroethene	mg/kg	0.1	<0.1	-	-	-
Acrylonitrile	mg/kg	0.1	<0.1	-	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	-	-
Allyl chloride	mg/kg	0.1	<0.1	-	-	-
Carbon disulfide	mg/kg	0.5	<0.5	-	-	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-
MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	-	-
1,1-dichloroethane	mg/kg	0.1	<0.1	-	-	-
Vinyl acetate	mg/kg	10	<10	-	-	-
MEK (2-butanone)	mg/kg	10	<10	-	-	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-
Bromochloromethane	mg/kg	0.1	<0.1	-	-	-
Chloroform	mg/kg	0.1	<0.1	-	-	-
2,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-
1,2-dichloroethane	mg/kg	0.1	<0.1	-	-	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	-	-
1,1-dichloropropene	mg/kg	0.1	<0.1	-	-	-
Carbon tetrachloride	mg/kg	0.1	<0.1	-	-	-
Dibromomethane	mg/kg	0.1	<0.1	-	-	-
1,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	-	-	-
2-nitropropane	mg/kg	10	<10	-	-	-
Bromodichloromethane	mg/kg	0.1	<0.1	-	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	-	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	-	-
1,3-dichloropropane	mg/kg	0.1	<0.1	-	-	-
Chlorodibromomethane	mg/kg	0.1	<0.1	-	-	-
2-hexanone (MBK)	mg/kg	5	<5	-	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-
Chlorobenzene	mg/kg	0.1	<0.1	-	-	-
Bromoform	mg/kg	0.1	<0.1	-	-	-
cis-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-



ANALYTICAL RESULTS

SE220604 R0

VOC's in Soil [AN433] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL	SOIL	SOIL	SOIL
			- 9/6/2021 SE220604.017	- 9/6/2021 SE220604.018	- 9/6/2021 SE220604.019	- 9/6/2021 SE220604.020
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	-	-
Bromobenzene	mg/kg	0.1	<0.1	-	-	-
n-propylbenzene	mg/kg	0.1	<0.1	-	-	-
2-chlorotoluene	mg/kg	0.1	<0.1	-	-	-
4-chlorotoluene	mg/kg	0.1	<0.1	-	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-
tert-butylbenzene	mg/kg	0.1	<0.1	-	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-
sec-butylbenzene	mg/kg	0.1	<0.1	-	-	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-
p-isopropyltoluene	mg/kg	0.1	<0.1	-	-	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-
n-butylbenzene	mg/kg	0.1	<0.1	-	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-
Total VOC*	mg/kg	24	<24	-	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	-	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-	-



ANALYTICAL RESULTS

SE220604 R0

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.001	9/6/2021 SE220604.002	9/6/2021 SE220604.003	9/6/2021 SE220604.004	9/6/2021 SE220604.005
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
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	BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.006	9/6/2021 SE220604.007	9/6/2021 SE220604.008	9/6/2021 SE220604.009	9/6/2021 SE220604.010
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
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	BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.011	9/6/2021 SE220604.013	9/6/2021 SE220604.014	9/6/2021 SE220604.015	9/6/2021 SE220604.016
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
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	HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/6/2021 SE220604.017	9/6/2021 SE220604.018	9/6/2021 SE220604.019	9/6/2021 SE220604.020
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25



ANALYTICAL RESULTS

SE220604 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.001	9/6/2021 SE220604.002	9/6/2021 SE220604.003	9/6/2021 SE220604.004	9/6/2021 SE220604.005
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	BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.006	9/6/2021 SE220604.007	9/6/2021 SE220604.008	9/6/2021 SE220604.009	9/6/2021 SE220604.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	98	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	140	<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	190	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	240	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.011	9/6/2021 SE220604.013	9/6/2021 SE220604.014	9/6/2021 SE220604.015	9/6/2021 SE220604.016
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

SE220604 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL - 9/6/2021 SE220604.017	SOIL - 9/6/2021 SE220604.018	SOIL - 9/6/2021 SE220604.019	SOIL - 9/6/2021 SE220604.020
TRH C10-C14	mg/kg	20	<20	41	<20	20
TRH C15-C28	mg/kg	45	<45	4800	210	660
TRH C29-C36	mg/kg	45	<45	4400	310	210
TRH C37-C40	mg/kg	100	<100	1400	180	<100
TRH >C10-C16	mg/kg	25	<25	120	<25	60
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	120	<25	60
TRH >C16-C34 (F3)	mg/kg	90	<90	8000	400	770
TRH >C34-C40 (F4)	mg/kg	120	<120	2600	310	<120
TRH C10-C36 Total	mg/kg	110	<110	9200	530	890
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	11000	710	830



ANALYTICAL RESULTS

SE220604 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/6/2021

			BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021	9/6/2021	9/6/2021	9/6/2021	9/6/2021
PARAMETER	UOM	LOR	SE220604.001	SE220604.002	SE220604.003	SE220604.004	SE220604.005
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	<0.1
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

			BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021	9/6/2021	9/6/2021	9/6/2021	9/6/2021
PARAMETER	UOM	LOR	SE220604.006	SE220604.007	SE220604.008	SE220604.009	SE220604.010
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



ANALYTICAL RESULTS

SE220604 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/6/2021 (continued)

PARAMETER	UOM	LOR	BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.011	9/6/2021 SE220604.013	9/6/2021 SE220604.014	9/6/2021 SE220604.015	9/6/2021 SE220604.016
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	HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.017	9/6/2021 SE220604.018	9/6/2021 SE220604.019	9/6/2021 SE220604.020
Naphthalene	mg/kg	0.1	<0.1	0.4	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	0.3	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	0.2	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	0.3	0.2	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	0.3	0.5	0.2
Pyrene	mg/kg	0.1	<0.1	0.8	0.6	0.3
Benzo(a)anthracene	mg/kg	0.1	<0.1	0.1	0.2	0.1
Chrysene	mg/kg	0.1	<0.1	0.2	0.3	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.4	0.4	0.3
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.2	0.2	0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	0.1	0.3	0.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.2	0.2	0.5
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.2	0.2	0.5
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0.2	0.4	0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.3	0.5	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	0.3	0.4	0.4
Total PAH (18)	mg/kg	0.8	<0.8	3.5	3.0	2.3
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	3.1	3.0	2.3



ANALYTICAL RESULTS

SE220604 R0

Speciated Phenols in Soil [AN420] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH21_0.4-0.6	BH23_0.4-0.5	BH24_0.5-0.7	BH25_0.5-0.7
			SOIL	SOIL	SOIL	SOIL
			- 9/6/2021 SE220604.002	- 9/6/2021 SE220604.005	- 9/6/2021 SE220604.006	- 9/6/2021 SE220604.007
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2



ANALYTICAL RESULTS

SE220604 R0

OC Pesticides in Soil [AN420] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH21_0.4-0.6	BH23_0.4-0.5	BH24_0.5-0.7	BH25_0.5-0.7
			SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.002	9/6/2021 SE220604.005	9/6/2021 SE220604.006	9/6/2021 SE220604.007
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE220604 R0

OP Pesticides in Soil [AN420] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH21_0.4-0.6	BH23_0.4-0.5	BH24_0.5-0.7	BH25_0.5-0.7
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/6/2021 SE220604.002	9/6/2021 SE220604.005	9/6/2021 SE220604.006	9/6/2021 SE220604.007
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7



ANALYTICAL RESULTS

SE220604 R0

PCBs in Soil [AN420] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH20_0.3-0.4	BH21_0.4-0.6	BH23_0.4-0.5	BH24_0.5-0.7	BH25_0.5-0.7
			SOIL	SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.001	9/6/2021 SE220604.002	9/6/2021 SE220604.005	9/6/2021 SE220604.006	9/6/2021 SE220604.007
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH28_0.7-0.8	SP02_A	SP02_B	SS01
			SOIL	SOIL	SOIL	SOIL
			9/6/2021 SE220604.013	9/6/2021 SE220604.018	9/6/2021 SE220604.019	9/6/2021 SE220604.020
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE220604 R0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 16/6/2021

PARAMETER	UOM	LOR	BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.001	9/6/2021 SE220604.002	9/6/2021 SE220604.003	9/6/2021 SE220604.004	9/6/2021 SE220604.005
Arsenic, As	mg/kg	1	4	6	7	9	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	10	12	11	15	12
Copper, Cu	mg/kg	0.5	25	13	19	15	12
Lead, Pb	mg/kg	1	10	10	9	12	10
Nickel, Ni	mg/kg	0.5	3.7	2.9	2.1	6.5	1.7
Zinc, Zn	mg/kg	2	36	18	19	25	19

PARAMETER	UOM	LOR	BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.006	9/6/2021 SE220604.007	9/6/2021 SE220604.008	9/6/2021 SE220604.009	9/6/2021 SE220604.010
Arsenic, As	mg/kg	1	9	6	8	5	9
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	17	15	15	13	17
Copper, Cu	mg/kg	0.5	13	18	22	58	12
Lead, Pb	mg/kg	1	14	35	11	41	13
Nickel, Ni	mg/kg	0.5	4.0	5.2	12	21	1.7
Zinc, Zn	mg/kg	2	26	69	22	180	23

PARAMETER	UOM	LOR	BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.011	9/6/2021 SE220604.013	9/6/2021 SE220604.014	9/6/2021 SE220604.015	9/6/2021 SE220604.016
Arsenic, As	mg/kg	1	4	10	6	7	14
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	0.4
Chromium, Cr	mg/kg	0.5	11	12	7.3	7.6	13
Copper, Cu	mg/kg	0.5	26	17	23	33	29
Lead, Pb	mg/kg	1	16	12	14	16	19
Nickel, Ni	mg/kg	0.5	13	6.2	12	8.0	4.8
Zinc, Zn	mg/kg	2	44	41	43	49	68

PARAMETER	UOM	LOR	HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/6/2021 SE220604.017	9/6/2021 SE220604.018	9/6/2021 SE220604.019	9/6/2021 SE220604.020
Arsenic, As	mg/kg	1	7	9	15	5
Cadmium, Cd	mg/kg	0.3	<0.3	3.5	0.6	<0.3
Chromium, Cr	mg/kg	0.5	20	42	19	12
Copper, Cu	mg/kg	0.5	10	250	62	65
Lead, Pb	mg/kg	1	16	58	220	37
Nickel, Ni	mg/kg	0.5	6.1	21	21	20
Zinc, Zn	mg/kg	2	28	1300	1600	380



ANALYTICAL RESULTS

SE220604 R0

Mercury in Soil [AN312] Tested: 16/6/2021

			BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021	9/6/2021	9/6/2021	9/6/2021	9/6/2021
PARAMETER	UOM	LOR	SE220604.001	SE220604.002	SE220604.003	SE220604.004	SE220604.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021	9/6/2021	9/6/2021	9/6/2021	9/6/2021
PARAMETER	UOM	LOR	SE220604.006	SE220604.007	SE220604.008	SE220604.009	SE220604.010
Mercury	mg/kg	0.05	<0.05	0.08	<0.05	<0.05	<0.05

			BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021	9/6/2021	9/6/2021	9/6/2021	9/6/2021
PARAMETER	UOM	LOR	SE220604.011	SE220604.013	SE220604.014	SE220604.015	SE220604.016
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/6/2021	9/6/2021	9/6/2021	9/6/2021
PARAMETER	UOM	LOR	SE220604.017	SE220604.018	SE220604.019	SE220604.020
Mercury	mg/kg	0.05	<0.05	<0.05	0.10	<0.05



ANALYTICAL RESULTS

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Moisture Content [AN002] Tested: 15/6/2021

PARAMETER	UOM	LOR	BH20_0.3-0.4	BH21_0.4-0.6	QA05	BH22_0.2-0.4	BH23_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.001	9/6/2021 SE220604.002	9/6/2021 SE220604.003	9/6/2021 SE220604.004	9/6/2021 SE220604.005
% Moisture	%w/w	1	21.9	15.7	20.3	20.8	21.9

PARAMETER	UOM	LOR	BH24_0.5-0.7	BH25_0.5-0.7	BH26_0.3-0.5	BH27_0.4-0.5	BH27_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.006	9/6/2021 SE220604.007	9/6/2021 SE220604.008	9/6/2021 SE220604.009	9/6/2021 SE220604.010
% Moisture	%w/w	1	18.9	22.0	15.5	13.1	21.5

PARAMETER	UOM	LOR	BH28_0.5-0.6	BH28_0.7-0.8	BH29_1.0-1.1	BH29_1.8-2.0	QA06
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			9/6/2021 SE220604.011	9/6/2021 SE220604.013	9/6/2021 SE220604.014	9/6/2021 SE220604.015	9/6/2021 SE220604.016
% Moisture	%w/w	1	11.9	22.7	11.0	22.1	21.4

PARAMETER	UOM	LOR	HA01_0.5-0.6	SP02_A	SP02_B	SS01
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/6/2021 SE220604.017	9/6/2021 SE220604.018	9/6/2021 SE220604.019	9/6/2021 SE220604.020
% Moisture	%w/w	1	14.3	26.0	33.1	15.3



ANALYTICAL RESULTS

SE220604 R0

Fibre Identification in soil [AN602] Tested: 17/6/2021

			BH25_0.5-0.7	BH28_0.5-0.6	SP02_A	SP02_B
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			9/6/2021	9/6/2021	9/6/2021	9/6/2021
			SE220604.007	SE220604.011	SE220604.018	SE220604.019
PARAMETER	UOM	LOR				
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01



ANALYTICAL RESULTS

SE220604 R0

Fibre ID in bulk materials [AN602] Tested: 17/6/2021

			BH28_F01
			MATERIAL
			-
			9/6/2021
			SE220604.012
PARAMETER	UOM	LOR	
Asbestos Detected	No unit	-	Yes

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level [MA-1523] Tested: 18/6/2021

PARAMETER	UOM	LOR	BH26_0.3-0.5	BH27_0.4-0.5
			SOIL	SOIL
			9/6/2021 SE220604.008	9/6/2021 SE220604.009
Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001	<0.0001
Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001	<0.0001
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	<0.001

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 ASS 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).

AN420

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

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

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

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

AS4964.2004 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

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.

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.
		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:

- a. 1 Bq is equivalent to 27 pCi
- b. 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

SE220604 R0

CLIENT DETAILS

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Samples 20

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SGS Reference **SE220604 R0**
Date Received 10 Jun 2021
Date Reported 18 Jun 2021

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- Low level	4 items
	VOC's in Soil	13 items
	Volatile Petroleum Hydrocarbons in Soil	13 items
Matrix Spike	VOC's in Soil	1 item

SAMPLE SUMMARY



HOLDING TIME SUMMARY

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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 ID in bulk materials

Method: ME-(AU)-ENVJAN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH28_F01	SE220604.012	LB226950	09 Jun 2021	10 Jun 2021	09 Jun 2022	17 Jun 2021	09 Jun 2022	18 Jun 2021

Fibre Identification in soil

Method: ME-(AU)-ENVJAN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH25_0.5-0.7	SE220604.007	LB226948	09 Jun 2021	10 Jun 2021	09 Jun 2022	17 Jun 2021	09 Jun 2022	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226948	09 Jun 2021	10 Jun 2021	09 Jun 2022	17 Jun 2021	09 Jun 2022	18 Jun 2021
SP02_A	SE220604.018	LB226948	09 Jun 2021	10 Jun 2021	09 Jun 2022	17 Jun 2021	09 Jun 2022	18 Jun 2021
SP02_B	SE220604.019	LB226948	09 Jun 2021	10 Jun 2021	09 Jun 2022	17 Jun 2021	09 Jun 2022	18 Jun 2021

Mercury in Soil

Method: ME-(AU)-ENVJAN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226874	09 Jun 2021	10 Jun 2021	07 Jul 2021	16 Jun 2021	07 Jul 2021	18 Jun 2021

Moisture Content

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
QA05	SE220604.003	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
QA06	SE220604.016	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
SP02_A	SE220604.018	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
SP02_B	SE220604.019	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021
SS01	SE220604.020	LB226809	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	20 Jun 2021	18 Jun 2021

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021



HOLDING TIME SUMMARY

SE220604 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

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH25_0.5-0.7	SE220604.007	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref



HOLDING TIME SUMMARY

SE220604 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

PCBs in Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021

Speciated Phenols in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021

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
BH20_0.3-0.4	SE220604.001	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
QA05	SE220604.003	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
QA06	SE220604.016	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
SP02_A	SE220604.018	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021



HOLDING TIME SUMMARY

SE220604 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

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP02_B	SE220604.019	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021
SS01	SE220604.020	LB226866	09 Jun 2021	10 Jun 2021	06 Dec 2021	16 Jun 2021	06 Dec 2021	18 Jun 2021

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
BH20_0.3-0.4	SE220604.001	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226801	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.0-1.1	SE220604.014	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH20_0.3-0.4	SE220604.001	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH21_0.4-0.6	SE220604.002	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA05	SE220604.003	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH22_0.2-0.4	SE220604.004	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH23_0.4-0.5	SE220604.005	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH24_0.5-0.7	SE220604.006	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH25_0.5-0.7	SE220604.007	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH26_0.3-0.5	SE220604.008	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.4-0.5	SE220604.009	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH27_0.7-0.8	SE220604.010	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.5-0.6	SE220604.011	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH28_0.7-0.8	SE220604.013	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021



HOLDING TIME SUMMARY

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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
BH29_1.0-1.1	SE220604.014	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
BH29_1.8-2.0	SE220604.015	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
QA06	SE220604.016	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
HA01_0.5-0.6	SE220604.017	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_A	SE220604.018	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SP02_B	SE220604.019	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021
SS01	SE220604.020	LB226802	09 Jun 2021	10 Jun 2021	23 Jun 2021	15 Jun 2021	25 Jul 2021	18 Jun 2021



SURROGATES

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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.

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH21_0.4-0.6	SE220604.002	%	60 - 130%	105
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	109
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	107
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	107

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH21_0.4-0.6	SE220604.002	%	60 - 130%	83
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	90
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	87
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	90
d14-p-terphenyl (Surrogate)	BH21_0.4-0.6	SE220604.002	%	60 - 130%	93
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	96
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	93
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	95

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH20_0.3-0.4	SE220604.001	%	70 - 130%	87
	BH21_0.4-0.6	SE220604.002	%	70 - 130%	83
	QA05	SE220604.003	%	70 - 130%	86
	BH22_0.2-0.4	SE220604.004	%	70 - 130%	87
	BH23_0.4-0.5	SE220604.005	%	70 - 130%	90
	BH24_0.5-0.7	SE220604.006	%	70 - 130%	87
	BH25_0.5-0.7	SE220604.007	%	70 - 130%	90
	BH26_0.3-0.5	SE220604.008	%	70 - 130%	89
	BH27_0.4-0.5	SE220604.009	%	70 - 130%	104
	BH27_0.7-0.8	SE220604.010	%	70 - 130%	100
	BH28_0.5-0.6	SE220604.011	%	70 - 130%	84
	BH28_0.7-0.8	SE220604.013	%	70 - 130%	86
	BH29_1.0-1.1	SE220604.014	%	70 - 130%	90
	BH29_1.8-2.0	SE220604.015	%	70 - 130%	93
	QA06	SE220604.016	%	70 - 130%	93
	HA01_0.5-0.6	SE220604.017	%	70 - 130%	99
	SP02_A	SE220604.018	%	70 - 130%	92
	SP02_B	SE220604.019	%	70 - 130%	96
	SS01	SE220604.020	%	70 - 130%	94
d14-p-terphenyl (Surrogate)	BH20_0.3-0.4	SE220604.001	%	70 - 130%	92
	BH21_0.4-0.6	SE220604.002	%	70 - 130%	93
	QA05	SE220604.003	%	70 - 130%	96
	BH22_0.2-0.4	SE220604.004	%	70 - 130%	93
	BH23_0.4-0.5	SE220604.005	%	70 - 130%	96
	BH24_0.5-0.7	SE220604.006	%	70 - 130%	93
	BH25_0.5-0.7	SE220604.007	%	70 - 130%	95
	BH26_0.3-0.5	SE220604.008	%	70 - 130%	95
	BH27_0.4-0.5	SE220604.009	%	70 - 130%	99
	BH27_0.7-0.8	SE220604.010	%	70 - 130%	107
	BH28_0.5-0.6	SE220604.011	%	70 - 130%	93
	BH28_0.7-0.8	SE220604.013	%	70 - 130%	94
	BH29_1.0-1.1	SE220604.014	%	70 - 130%	98
	BH29_1.8-2.0	SE220604.015	%	70 - 130%	85
	QA06	SE220604.016	%	70 - 130%	94
	HA01_0.5-0.6	SE220604.017	%	70 - 130%	93
	SP02_A	SE220604.018	%	70 - 130%	81
	SP02_B	SE220604.019	%	70 - 130%	80
	SS01	SE220604.020	%	70 - 130%	98
d5-nitrobenzene (Surrogate)	BH20_0.3-0.4	SE220604.001	%	70 - 130%	90
	BH21_0.4-0.6	SE220604.002	%	70 - 130%	89
	QA05	SE220604.003	%	70 - 130%	99
	BH22_0.2-0.4	SE220604.004	%	70 - 130%	98
	BH23_0.4-0.5	SE220604.005	%	70 - 130%	97
	BH24_0.5-0.7	SE220604.006	%	70 - 130%	100

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)	BH25_0.5-0.7	SE220604.007	%	70 - 130%	103
	BH26_0.3-0.5	SE220604.008	%	70 - 130%	107
	BH27_0.4-0.5	SE220604.009	%	70 - 130%	106
	BH27_0.7-0.8	SE220604.010	%	70 - 130%	116
	BH28_0.5-0.6	SE220604.011	%	70 - 130%	88
	BH28_0.7-0.8	SE220604.013	%	70 - 130%	102
	BH29_1.0-1.1	SE220604.014	%	70 - 130%	101
	BH29_1.8-2.0	SE220604.015	%	70 - 130%	87
	QA06	SE220604.016	%	70 - 130%	100
	HA01_0.5-0.6	SE220604.017	%	70 - 130%	94
	SP02_A	SE220604.018	%	70 - 130%	100
	SP02_B	SE220604.019	%	70 - 130%	111
	SS01	SE220604.020	%	70 - 130%	113

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH20_0.3-0.4	SE220604.001	%	60 - 130%	107
	BH21_0.4-0.6	SE220604.002	%	60 - 130%	105
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	109
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	107
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	107
	BH28_0.7-0.8	SE220604.013	%	60 - 130%	106
	SP02_A	SE220604.018	%	60 - 130%	103
	SP02_B	SE220604.019	%	60 - 130%	111
	SS01	SE220604.020	%	60 - 130%	102

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 130%	16
	BH27_0.4-0.5	SE220604.009	%	10 - 130%	10
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	123
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	132
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	81
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	80
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	142
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	122
(13C2-PFDa) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	64
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	60
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	2 ↑
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	1 ↑
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	104
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	114
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	104
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	120
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	103
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	111
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	111
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	110
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	94
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	112
(13C5-PFHxS) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	101
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	104
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	154 ↑
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	152 ↑
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	134
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	112
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	72
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	74
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	96
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	102
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	48
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	45

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- Low level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	114
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	104
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	27
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	32
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	69
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	49
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	23
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	18
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	56
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	55
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	25
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	33
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	BH26_0.3-0.5	SE220604.008	%	10 - 150%	22
	BH27_0.4-0.5	SE220604.009	%	10 - 150%	22

Speciated Phenols in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-Tribromophenol (Surrogate)	BH21_0.4-0.6	SE220604.002	%	70 - 130%	89
	BH23_0.4-0.5	SE220604.005	%	70 - 130%	84
	BH24_0.5-0.7	SE220604.006	%	70 - 130%	86
	BH25_0.5-0.7	SE220604.007	%	70 - 130%	89
d5-phenol (Surrogate)	BH21_0.4-0.6	SE220604.002	%	50 - 130%	92
	BH23_0.4-0.5	SE220604.005	%	50 - 130%	92
	BH24_0.5-0.7	SE220604.006	%	50 - 130%	92
	BH25_0.5-0.7	SE220604.007	%	50 - 130%	95

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH20_0.3-0.4	SE220604.001	%	60 - 130%	78
	BH21_0.4-0.6	SE220604.002	%	60 - 130%	65
	QA05	SE220604.003	%	60 - 130%	68
	BH22_0.2-0.4	SE220604.004	%	60 - 130%	90
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	64
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	56 ⊕
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	55 ⊕
	BH26_0.3-0.5	SE220604.008	%	60 - 130%	101
	BH27_0.4-0.5	SE220604.009	%	60 - 130%	60 ⊕
	BH27_0.7-0.8	SE220604.010	%	60 - 130%	64
	BH28_0.5-0.6	SE220604.011	%	60 - 130%	65
	BH28_0.7-0.8	SE220604.013	%	60 - 130%	53 ⊕
	BH29_1.0-1.1	SE220604.014	%	60 - 130%	69
	BH29_1.8-2.0	SE220604.015	%	60 - 130%	107
	QA06	SE220604.016	%	60 - 130%	72
	HA01_0.5-0.6	SE220604.017	%	60 - 130%	69
	SP02_A	SE220604.018	%	60 - 130%	39 ⊕
	SP02_B	SE220604.019	%	60 - 130%	51 ⊕
	SS01	SE220604.020	%	60 - 130%	67
d4-1,2-dichloroethane (Surrogate)	BH20_0.3-0.4	SE220604.001	%	60 - 130%	78
	BH21_0.4-0.6	SE220604.002	%	60 - 130%	68
	QA05	SE220604.003	%	60 - 130%	68
	BH22_0.2-0.4	SE220604.004	%	60 - 130%	95
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	59 ⊕
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	57 ⊕
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	58 †
	BH26_0.3-0.5	SE220604.008	%	60 - 130%	99
	BH27_0.4-0.5	SE220604.009	%	60 - 130%	60
	BH27_0.7-0.8	SE220604.010	%	60 - 130%	62
	BH28_0.5-0.6	SE220604.011	%	60 - 130%	68
	BH28_0.7-0.8	SE220604.013	%	60 - 130%	55 ⊕
	BH29_1.0-1.1	SE220604.014	%	60 - 130%	71
	BH29_1.8-2.0	SE220604.015	%	60 - 130%	107
	QA06	SE220604.016	%	60 - 130%	73

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)	HA01_0.5-0.6	SE220604.017	%	60 - 130%	69
	SP02_A	SE220604.018	%	60 - 130%	43 ④
	SP02_B	SE220604.019	%	60 - 130%	52 ④
	SS01	SE220604.020	%	60 - 130%	67
d8-toluene (Surrogate)	BH20_0.3-0.4	SE220604.001	%	60 - 130%	101
	BH21_0.4-0.6	SE220604.002	%	60 - 130%	91
	QA05	SE220604.003	%	60 - 130%	81
	BH22_0.2-0.4	SE220604.004	%	60 - 130%	94
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	70
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	67
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	67
	BH26_0.3-0.5	SE220604.008	%	60 - 130%	101
	BH27_0.4-0.5	SE220604.009	%	60 - 130%	70
	BH27_0.7-0.8	SE220604.010	%	60 - 130%	72
	BH28_0.5-0.6	SE220604.011	%	60 - 130%	78
	BH28_0.7-0.8	SE220604.013	%	60 - 130%	63
	BH29_1.0-1.1	SE220604.014	%	60 - 130%	82
	BH29_1.8-2.0	SE220604.015	%	60 - 130%	108
	QA06	SE220604.016	%	60 - 130%	85
	HA01_0.5-0.6	SE220604.017	%	60 - 130%	80
	SP02_A	SE220604.018	%	60 - 130%	47 ④
	SP02_B	SE220604.019	%	60 - 130%	61
	SS01	SE220604.020	%	60 - 130%	79

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH20_0.3-0.4	SE220604.001	%	60 - 130%	78
	BH21_0.4-0.6	SE220604.002	%	60 - 130%	65
	QA05	SE220604.003	%	60 - 130%	68
	BH22_0.2-0.4	SE220604.004	%	60 - 130%	90
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	64
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	56 ④
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	55 ④
	BH26_0.3-0.5	SE220604.008	%	60 - 130%	101
	BH27_0.4-0.5	SE220604.009	%	60 - 130%	60 ④
	BH27_0.7-0.8	SE220604.010	%	60 - 130%	64
	BH28_0.5-0.6	SE220604.011	%	60 - 130%	65
	BH28_0.7-0.8	SE220604.013	%	60 - 130%	53 ④
	BH29_1.0-1.1	SE220604.014	%	60 - 130%	69
	BH29_1.8-2.0	SE220604.015	%	60 - 130%	107
	QA06	SE220604.016	%	60 - 130%	72
	HA01_0.5-0.6	SE220604.017	%	60 - 130%	69
	SP02_A	SE220604.018	%	60 - 130%	39 ④
	SP02_B	SE220604.019	%	60 - 130%	51 ④
	SS01	SE220604.020	%	60 - 130%	67
d4-1,2-dichloroethane (Surrogate)	BH20_0.3-0.4	SE220604.001	%	60 - 130%	78
	BH21_0.4-0.6	SE220604.002	%	60 - 130%	68
	QA05	SE220604.003	%	60 - 130%	68
	BH22_0.2-0.4	SE220604.004	%	60 - 130%	95
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	59 ④
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	57 ④
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	58 ④
	BH26_0.3-0.5	SE220604.008	%	60 - 130%	99
	BH27_0.4-0.5	SE220604.009	%	60 - 130%	60
	BH27_0.7-0.8	SE220604.010	%	60 - 130%	62
	BH28_0.5-0.6	SE220604.011	%	60 - 130%	68
	BH28_0.7-0.8	SE220604.013	%	60 - 130%	55 ④
	BH29_1.0-1.1	SE220604.014	%	60 - 130%	71
	BH29_1.8-2.0	SE220604.015	%	60 - 130%	107
	QA06	SE220604.016	%	60 - 130%	73
	HA01_0.5-0.6	SE220604.017	%	60 - 130%	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.

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	SP02_A	SE220604.018	%	60 - 130%	43 ☹
	SP02_B	SE220604.019	%	60 - 130%	52 ☹
	SS01	SE220604.020	%	60 - 130%	67
d8-toluene (Surrogate)	BH20_0.3-0.4	SE220604.001	%	60 - 130%	101
	BH21_0.4-0.6	SE220604.002	%	60 - 130%	91
	QA05	SE220604.003	%	60 - 130%	81
	BH22_0.2-0.4	SE220604.004	%	60 - 130%	94
	BH23_0.4-0.5	SE220604.005	%	60 - 130%	70
	BH24_0.5-0.7	SE220604.006	%	60 - 130%	67
	BH25_0.5-0.7	SE220604.007	%	60 - 130%	67
	BH26_0.3-0.5	SE220604.008	%	60 - 130%	101
	BH27_0.4-0.5	SE220604.009	%	60 - 130%	70
	BH27_0.7-0.8	SE220604.010	%	60 - 130%	72
	BH28_0.5-0.6	SE220604.011	%	60 - 130%	78
	BH28_0.7-0.8	SE220604.013	%	60 - 130%	63
	BH29_1.0-1.1	SE220604.014	%	60 - 130%	82
	BH29_1.8-2.0	SE220604.015	%	60 - 130%	108
	QA06	SE220604.016	%	60 - 130%	85
	HA01_0.5-0.6	SE220604.017	%	60 - 130%	80
	SP02_A	SE220604.018	%	60 - 130%	47 ☹
	SP02_B	SE220604.019	%	60 - 130%	61
	SS01	SE220604.020	%	60 - 130%	79



METHOD BLANKS

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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)-ENVJAN312

Sample Number	Parameter	Units	LOR	Result
LB226874.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB226801.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
Surrogates	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	100

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB226801.001	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	94
Surrogates	d14-p-terphenyl (Surrogate)	%	-	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB226801.001	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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB226801.001	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)	%	-	104
	2-fluorobiphenyl (Surrogate)	%	-	94
	d14-p-terphenyl (Surrogate)	%	-	103

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB226801.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	100

Speciated Phenols in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB226801.001	Phenol	mg/kg	0.5	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
	2-chlorophenol	mg/kg	0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5
	4-nitrophenol	mg/kg	1	<1
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1
	Pentachlorophenol	mg/kg	0.5	<0.5
	2,4-dinitrophenol	mg/kg	2	<2
	4-chloro-3-methylphenol	mg/kg	2	<2
	Surrogates			
	2,4,6-Tribromophenol (Surrogate)	%	-	79
	d5-phenol (Surrogate)	%	-	81

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

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

Sample Number	Parameter	Units	LOR	Result
LB226866.001	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
LB226801.001	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



METHOD BLANKS

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VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Number		Parameter	Units	LOR	Result
LB226802.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10

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Result 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
LB226802.001	Oxygenated Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	81
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	82
	Totals	Total BTEX	mg/kg	0.6	<0.6
		Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB226802.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	81



DUPLICATES

SE220604 R0

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 %
SE220604.010	LB226874.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE220604.020	LB226874.024	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 %
SE220604.010	LB226809.011	% Moisture	%w/w	1	21.5	23.2	34	8
SE220622.014	LB226809.022	% Moisture	%w/w	1	87.6	87.8	31	0

OP Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.007	LB226801.028	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Metidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	3
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
	Surrogates							

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.007	LB226801.028	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	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	13
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	3
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
	Surrogates							
SE220604.020	LB226801.027	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	193	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	151	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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.020	LB226801.027	Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	0.2	0.1	83	44
		Pyrene	mg/kg	0.1	0.3	0.2	69	39
		Benzo(a)anthracene	mg/kg	0.1	0.1	<0.1	120	23
		Chrysene	mg/kg	0.1	0.1	<0.1	118	34
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	0.2	71	16
		Benzo(k)fluoranthene	mg/kg	0.1	0.1	<0.1	141	6
		Benzo(a)pyrene	mg/kg	0.1	0.2	0.2	80	15
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.5	0.5	51	6
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	193	0
		Benzo(ghi)perylene	mg/kg	0.1	0.5	0.5	51	3
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	0.3	0.3	79	19
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	0.4	0.4	86	11
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.4	0.3	68	14
		Total PAH (18)	mg/kg	0.8	2.3	1.7	69	29
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.6	30	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	7
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	5

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.020	LB226801.030	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	0

Speciated Phenols in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.007	LB226801.027	Phenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0
		Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0
		4-nitrophenol	mg/kg	1	<1	<1	200	0
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0
		Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dinitrophenol	mg/kg	2	<2	<2	200	0
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0
	Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.5	4.7	30	5
		d5-phenol (Surrogate)	mg/kg	-	1.9	2.0	30	4

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

Method: ME-(AU)-ENVJAN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.010	LB226866.014	Arsenic, As	mg/kg	1	9	8	42	17
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	17	12	33	28
		Copper, Cu	mg/kg	0.5	12	12	34	4
		Nickel, Ni	mg/kg	0.5	1.7	1.5	62	9
		Lead, Pb	mg/kg	1	13	11	38	15



DUPLICATES

SE220604 R0

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]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.010	LB226866.014	Zinc, Zn	mg/kg	2	23	24	39	3
SE220604.020	LB226866.024	Arsenic, As	mg/kg	1	5	5	50	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	12	12	34	3
		Copper, Cu	mg/kg	0.5	65	56	31	16
		Nickel, Ni	mg/kg	0.5	20	18	33	6
		Lead, Pb	mg/kg	1	37	37	33	1
		Zinc, Zn	mg/kg	2	380	280	31	29

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.007	LB226801.028	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
SE220604.020	LB226801.027	TRH C10-C14	mg/kg	20	20	<20	133	0
		TRH C15-C28	mg/kg	45	660	760	36	13
		TRH C29-C36	mg/kg	45	210	240	50	13
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	890	990	42	11
		TRH >C10-C40 Total (F bands)	mg/kg	210	830	1100	52	28
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	60	67	69	11
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	60	67	69	11
		TRH >C16-C34 (F3)	mg/kg	90	770	870	41	13
		TRH >C34-C40 (F4)	mg/kg	120	<120	160	118	25

VOC's in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220604.010	LB226802.014	Fumigants						
		2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
		1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated						
		Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics						
		Chloromethane	mg/kg	1	<1	<1	200	0
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
		Bromomethane	mg/kg	1	<1	<1	200	0
		Chloroethane	mg/kg	1	<1	<1	200	0
		Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
		Iodomethane	mg/kg	5	<5	<5	200	0
		1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
		Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
		1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
		Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
		1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
		1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
		1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
		Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
		Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
		1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
		1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	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

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE220604.010	LB226802.014	Halogenated Aliphatics	1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0	
		Halogenated Aromatics	1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0	
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0	
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0	
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0	
			Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0	
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0	
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			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	
		Styrene (Vinyl benzene)		mg/kg	0.1	<0.1	<0.1	200	0	
		Isopropylbenzene (Cumene)		mg/kg	0.1	<0.1	<0.1	200	0	
		n-propylbenzene		mg/kg	0.1	<0.1	<0.1	200	0	
		1,3,5-trimethylbenzene		mg/kg	0.1	<0.1	<0.1	200	0	
		tert-butylbenzene		mg/kg	0.1	<0.1	<0.1	200	0	
		1,2,4-trimethylbenzene		mg/kg	0.1	<0.1	<0.1	200	0	
		sec-butylbenzene		mg/kg	0.1	<0.1	<0.1	200	0	
		p-isopropyltoluene		mg/kg	0.1	<0.1	<0.1	200	0	
		n-butylbenzene		mg/kg	0.1	<0.1	<0.1	200	0	
		Nitrogenous Compounds		Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Oxygenated Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0	
			Acetone (2-propanone)	mg/kg	10	<10	<10	200	0	
			MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0	
			Vinyl acetate	mg/kg	10	<10	<10	200	0	
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0	
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0	
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0	
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0	
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.2	7.9	50	24	
			d8-toluene (Surrogate)	mg/kg	-	7.2	9.3	50	25	
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.4	8.0	50	22	
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0	
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0	
			Total VOC*	mg/kg	24	<24	<24	200	0	
			Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3	<3	200	0	
			Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0	
			Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0	
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0	
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0	
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0	
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE220604.010	LB226802.014	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	-	6.2	7.9	30	24
		d8-toluene (Surrogate)	mg/kg	-	7.2	9.3	30	25	
		Bromofluorobenzene (Surrogate)	mo/ka	-	6.4	8.0	30	22	



DUPLICATES

SE220604 R0

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 %
SE220604.010	LB226802.014	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 %
LB226874.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	103

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226801.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	100
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	103
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	100
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	100
	Endrin	mg/kg	0.2	0.2	0.2	60 - 140	105
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	89
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226801.002	Dichlorvos	mg/kg	0.5	1.6	2	60 - 140	79
	Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	104
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	102
	Ethion	mg/kg	0.2	1.8	2	60 - 140	91
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226801.002	Naphthalene	mg/kg	0.1	3.9	4	60 - 140	98
	Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	101
	Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	100
	Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	101
	Anthracene	mg/kg	0.1	4.0	4	60 - 140	99
	Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	98
	Pyrene	mg/kg	0.1	4.1	4	60 - 140	103
	Benzo(a)pyrene	mg/kg	0.1	4.4	4	60 - 140	110
Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	103
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226801.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	102

Speciated Phenols in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226801.002	Phenol	mg/kg	0.5	0.9	1	70 - 130	92
	2,4-dichlorophenol	mg/kg	0.5	1.0	1	70 - 130	99
	2,4,6-trichlorophenol	mg/kg	0.5	0.7	1	70 - 130	74
	Pentachlorophenol	mg/kg	0.5	0.7	1	70 - 130	70
	Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.5	5	40 - 130
	d5-phenol (Surrogate)	mg/ka	-	1.9	2	40 - 130	94

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 %
LB226866.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	109
	Cadmium, Cd	mg/kg	0.3	4.8	4.81	70 - 130	101
	Chromium, Cr	mg/kg	0.5	40	38.31	80 - 120	105
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	109
	Nickel, Ni	mg/kg	0.5	200	187	80 - 120	105
	Lead, Pb	mg/kg	1	95	89.9	80 - 120	105
	Zinc, Zn	mg/kg	2	290	273	80 - 120	105

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR



LABORATORY CONTROL SAMPLES

SE220604 R0

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 %
LB226801.002	TRH C10-C14	mg/kg	20	45	40	60 - 140	113
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	108
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	103
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	44	40	60 - 140	110
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	118
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226802.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	3.2	5	60 - 140	65
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	3.8	5	60 - 140	76
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	3.8	5	60 - 140	77
	Halogenated	Chlorobenzene	mg/kg	0.1	4.3	5	60 - 140	86
	Monocyclic	Benzene	mg/kg	0.1	3.8	5	60 - 140	76
	Aromatic	Toluene	mg/kg	0.1	4.8	5	60 - 140	96
		Ethylbenzene	mg/kg	0.1	4.3	5	60 - 140	86
		m/p-xylene	mg/kg	0.2	8.5	10	60 - 140	85
		o-xylene	mg/kg	0.1	4.3	5	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.5	10	70 - 130	105
		d8-toluene (Surrogate)	mg/kg	-	10.3	10	70 - 130	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.0	10	70 - 130	100
	Trihalomethan	Chloroform	mg/kg	0.1	4.0	5	60 - 140	81

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB226802.002	TRH C6-C10	mg/kg	25	67	92.5	60 - 140	72	
	TRH C6-C9	mg/kg	20	60	80	60 - 140	75	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.5	10	70 - 130	105
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.0	10	70 - 130	100
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/ka	25	41	62.5	60 - 140	65

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%
SE220604.001	LB226874.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220604.001	LB226801.004	Naphthalene	mg/kg	0.1	3.7	<0.1	4	91
		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	3.7	<0.1	4	93
		Acenaphthene	mg/kg	0.1	3.7	<0.1	4	94
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	3.8	<0.1	4	95
		Anthracene	mg/kg	0.1	3.7	<0.1	4	93
		Fluoranthene	mg/kg	0.1	3.7	<0.1	4	93
		Pyrene	mg/kg	0.1	3.9	<0.1	4	97
		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	4.0	<0.1	4	101
		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	4.0	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.2	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.1	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	30	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	95
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	90
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	86

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220604.001	LB226866.004	Arsenic, As	mg/kg	1	53	4	50	98
		Cadmium, Cd	mg/kg	0.3	47	<0.3	50	94
		Chromium, Cr	mg/kg	0.5	59	10	50	98
		Copper, Cu	mg/kg	0.5	69	25	50	88
		Nickel, Ni	mg/kg	0.5	54	3.7	50	100
		Lead, Pb	mg/kg	1	57	10	50	95
		Zinc, Zn	mg/kg	2	78	36	50	85

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220604.001	LB226801.004	TRH C10-C14	mg/kg	20	44	<20	40	110
		TRH C15-C28	mg/kg	45	<45	<45	40	108
		TRH C29-C36	mg/kg	45	<45	<45	40	90
		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 Bands	TRH >C10-C16	mg/kg	25	43	<25	40	108
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	39	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	110
		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%
SE220604.001	LB226802.004	Monocyclic	Benzene	mg/kg	0.1	3.4	<0.1	5	68
		Aromatic	Toluene	mg/kg	0.1	4.4	<0.1	5	88
			Ethylbenzene	mg/kg	0.1	3.9	<0.1	5	78
			m/p-xylene	mg/kg	0.2	7.8	<0.2	10	77
			o-xylene	mg/kg	0.1	3.8	<0.1	5	76



MATRIX SPIKES

SE220604 R0

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.

VOC's in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220604.001	LB226802.004	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.7	7.8	10	77
			d8-toluene (Surrogate)	mg/kg	-	10.1	10.1	10	101
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.4	7.8	10	64 ☹
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-
			Total BTEX	mg/kg	0.6	23	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE220604.001	LB226802.004	TRH C6-C10	mg/kg	25	63	<25	92.5	68	
		TRH C6-C9	mg/kg	20	60	<20	80	74	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.7	7.8	10	77
			d8-toluene (Surrogate)	mg/kg	-	10.1	10.1	10	101
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.4	7.8	-	64
		VPH F	Benzene (F0)	mg/kg	0.1	3.4	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	<25	62.5	63



MATRIX SPIKE DUPLICATES

SE220604 R0

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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Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 5

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SGS Reference **SE220604 R0**
Date Received 10 Jun 2021
Date Reported 18 Jun 2021

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 Number ME320993
MA-1523 Majority of surrogates are within acceptance criteria.

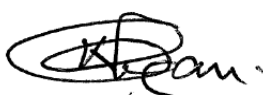
No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Bennel Jiri.

SIGNATORIES



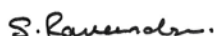
Akheeque BENIAMEEN
Chemist



Kamrul AHSAN
Senior Chemist



Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader



ANALYTICAL REPORT

SE220604 R0

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE220604.007	BH25_0.5-0.7	Soil	101g Clay	09 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220604.011	BH28_0.5-0.6	Soil	163g Clay,Rocks	09 Jun 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE220604.018	SP02_A	Soil	78g Clay,Sand,Soil	09 Jun 2021	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE220604.019	SP02_B	Soil	52g Clay,Sand,Soil, Plant Matter	09 Jun 2021	No Asbestos Found at RL of 0.1g/kg Synthetic Mineral Fibres Detected Organic Fibres Detected	<0.01



ANALYTICAL REPORT

SE220604 R0

RESULTS

Fibre ID in bulk materials

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE220604.012	BH28_F01	Other	120x60x7mm Cement sheet fragments	09 Jun 2021	Amosite, Chrysotile & Crocidolite Asbestos Detected	

METHOD

METHODOLOGY SUMMARY

AN602	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	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	AS4964.2004 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	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.

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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Page 1 of 3

Email: au_samplerreceipt.sydney@sgs.com

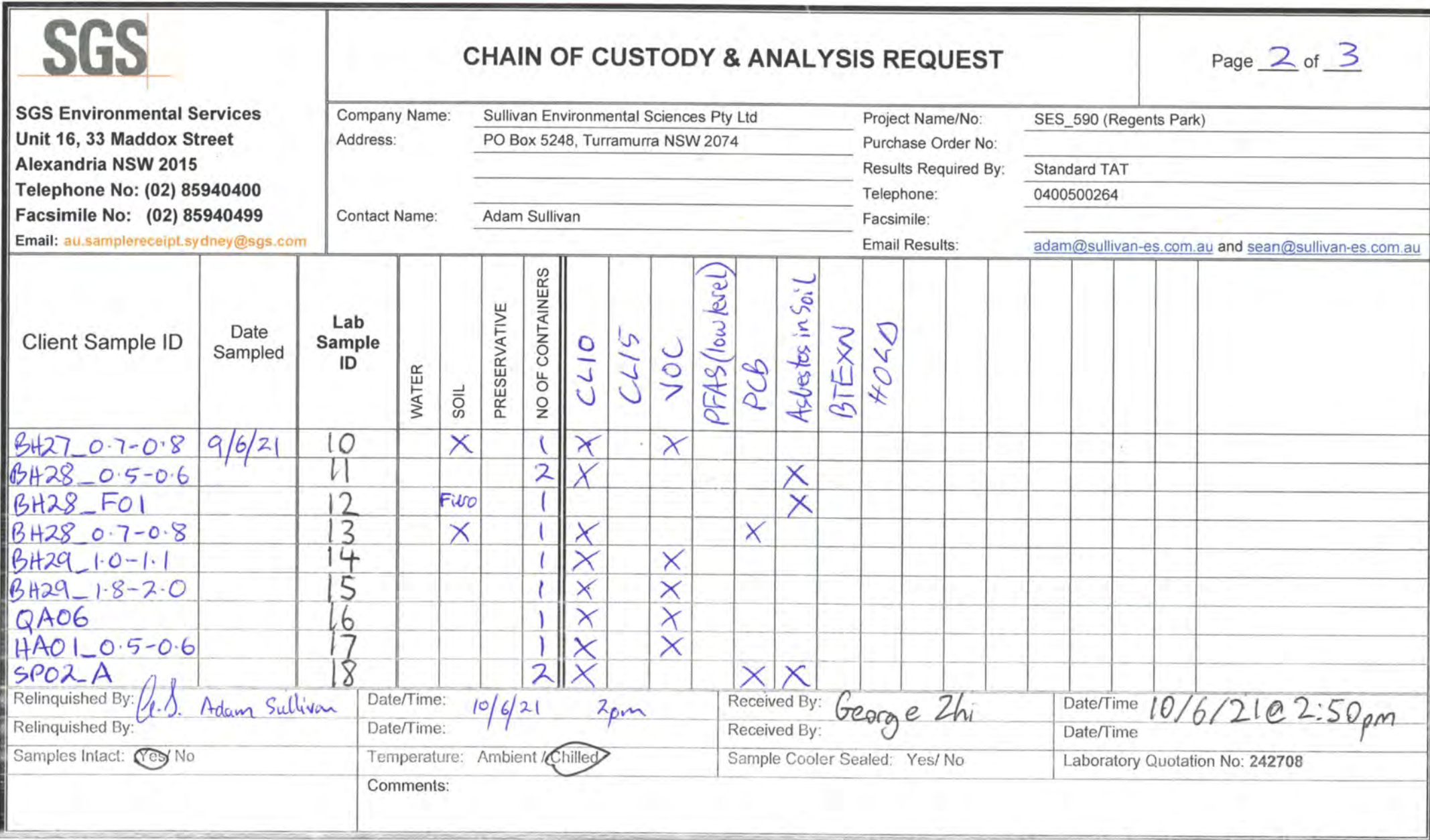
Email Results: adam@sullivan-es.com.au and sean@sullivan-es.com.au

SGS EHS Sydney COC
SE220604



Laboratory Quotation No: 242708

Comments:



SGS Environmental Services
Unit 16, 33 Maddox Street
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Email: au.samplerreceipt.sydney@sgs.com

Company Name: Sullivan Environmental Sciences Pty Ltd

Address: PO Box 5248, Turrumurra NSW 2074

Project Name/No: SES_590 (Regents Park)

Purchase Order No:

Results Required By: Standard TAT

Telephone: 0400500264

Contact Name: Adam Sullivan

Facsimile:

Email Results: adam@sullivan-es.com.au and sean@sullivan-es.com.au

[illegible]

Relinquished By: Adam Sullivan

Date/Time: 10/6/21 2pm

Received By: George Thi

Date/Time	10/6/21 @ 2:50pm

Relinquished By:

Date/Time:

Received By:

Date/Time	

Samples Intact: Yes/No

Temperature: Ambient / Chilled

Sample Cooler Sealed: Yes/ No

Laboratory Quotation No: 242708

Comments:

CLIENT DETAILS

Contact **Huong Crawford**
 Client **SGS I&E SYDNEY**
 Address **Unit 16, 33 Maddox Street
Alexandria
NSW 2015**

 Telephone **02 8594 0400**
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 Email **au.environmental.sydney@sgs.com**

 Project **SES_590 (Regents Park)**
 Order Number **SE220604**
 Samples **20**

LABORATORY DETAILS

Manager **Adam Atkinson**
 Laboratory **SGS Melbourne EH&S**
 Address **10/585 Blackburn Road
Notting Hill Victoria 3168**

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 Facsimile **+61395743399**
 Email **Au.SampleReceipt.Melbourne@sgs.com**

 SGS Reference **ME320993 R0**
 Date Received **11 Jun 2021**
 Date Reported **17 Jun 2021**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(14420).

MA-1523 Majority of surrogates are within acceptance criteria.

SIGNATORIES



Adam ATKINSON
 Australian Chemistry Manager



Vanessa PALAMARA
 Senior Chemist



ANALYTICAL REPORT

ME320993 R0

Parameter	Units	LOR	Sample Number	ME320993.001	ME320993.002	ME320993.003	ME320993.004
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
			Sample Name	SE220604.001	SE220604.002	SE220604.003	SE220604.004

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320993 R0

				Sample Number	ME320993.001	ME320993.002	ME320993.003	ME320993.004
				Sample Matrix	Soil	Soil	Soil	Soil
				Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
				Sample Name	SE220604.001	SE220604.002	SE220604.003	SE220604.004
Parameter		Units	LOR					

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-



ANALYTICAL REPORT

ME320993 R0

Parameter	Units	LOR	Sample Number	ME320993.005	ME320993.006	ME320993.007	ME320993.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	09 Jun 2021
			Sample Name	SE220604.005	SE220604.006	SE220604.007	SE220604.008

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	<0.0005
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorotridecanoic acid (PFTriDA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	<0.0001
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	<0.0001
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	<0.0001
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	<0.0001
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	<0.0001
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	<0.0001
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	<0.001
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	<0.001
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	<0.001
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	<0.001
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	<0.001
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	<0.001
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	<0.002
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	<0.002
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	<0.001
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	<0.001
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	111
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	154
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	94
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	103
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	114
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	134
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	72
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	64
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	16
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	2
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	104
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	104
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	96
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	123
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	81
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	142
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	48
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	27
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	23
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	25
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	22
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	69
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	56

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320993 R0

			Sample Number	ME320993.005	ME320993.006	ME320993.007	ME320993.008
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	09 Jun 2021
			Sample Name	SE220604.005	SE220604.006	SE220604.007	SE220604.008
Parameter		Units	LOR				

Moisture Content Method: AN002 Tested: 11/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	9.7



ANALYTICAL REPORT

ME320993 R0

Parameter	Units	LOR	Sample Number	ME320993.009	ME320993.010	ME320993.011	ME320993.012
			Sample Matrix	Soil	Soil	Soil	Material
			Sample Date	09 Jun 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
			Sample Name	SE220604.009	SE220604.010	SE220604.011	SE220604.012

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 15/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	<0.0005	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	<0.0001	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	<0.0001	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	<0.0001	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	<0.0001	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	<0.001	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	<0.001	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	<0.001	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	<0.001	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	<0.001	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	<0.001	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	<0.002	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	<0.001	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	<0.001	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	110	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	152	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	104	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	112	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	111	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	104	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	112	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	74	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	60	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	10	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	1	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	114	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	120	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	102	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	132	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	80	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	122	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	45	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	32	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	18	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	33	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	22	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	49	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	55	-	-	-

Moisture Content Method: AN002 Tested: 11/6/2021



ANALYTICAL REPORT

ME320993 R0

				Sample Number	ME320993.009	ME320993.010	ME320993.011	ME320993.012
				Sample Matrix	Soil	Soil	Soil	Material
				Sample Date	09 Jun 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
				Sample Name	SE220604.009	SE220604.010	SE220604.011	SE220604.012
Parameter		Units	LOR					

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	18.0	-	-	-



ANALYTICAL REPORT

ME320993 R0

Parameter	Units	LOR	Sample Number	ME320993.013	ME320993.014	ME320993.015	ME320993.016
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
			Sample Name	SE220604.013	SE220604.014	SE220604.015	SE220604.016

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320993 R0

				Sample Number	ME320993.013	ME320993.014	ME320993.015	ME320993.016
				Sample Matrix	Soil	Soil	Soil	Soil
				Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
				Sample Name	SE220604.013	SE220604.014	SE220604.015	SE220604.016
Parameter		Units	LOR					

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-



ANALYTICAL REPORT

ME320993 R0

Parameter	Units	LOR	Sample Number	ME320993.017	ME320993.018	ME320993.019	ME320993.020
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
			Sample Name	SE220604.017	SE220604.018	SE220604.019	SE220604.020

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 Tested: 16/6/2021

Perfluorobutanoic acid (PFBA)	mg/kg	0.0001	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0005	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001	-	-	-	-
Perfluoroundecanoic acid (PFUnA)	mg/kg	0.0001	-	-	-	-
Perfluorododecanoic acid (PFDoA)	mg/kg	0.0001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001	-	-	-	-
Perfluorohexadecanoic acid (PFHxDA)	mg/kg	0.0001	-	-	-	-
Perfluorobutane sulfonate (PFBS)	mg/kg	0.0001	-	-	-	-
Perfluoropentane sulfonate (PFPeS)	mg/kg	0.0001	-	-	-	-
Perfluorohexane sulfonate (PFHxS)	mg/kg	0.0001	-	-	-	-
Perfluoroheptane sulfonate (PFHpS)	mg/kg	0.0001	-	-	-	-
Perfluorooctane sulfonate (PFOS)	mg/kg	0.0001	-	-	-	-
Sum PFOS and PFHXS	mg/kg	0.0001	-	-	-	-
Perfluorononane sulfonate (PFNS)	mg/kg	0.0001	-	-	-	-
Perfluorodecane sulfonate (PFDS)	mg/kg	0.0001	-	-	-	-
Perfluorododecane sulfonate (PFDoS)	mg/kg	0.0001	-	-	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	mg/kg	0.001	-	-	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	mg/kg	0.001	-	-	-	-
Perfluorooctane sulfonamide (PFOSA)	mg/kg	0.001	-	-	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	mg/kg	0.001	-	-	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	mg/kg	0.002	-	-	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	mg/kg	0.001	-	-	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	mg/kg	0.001	-	-	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	-	-

Moisture Content Method: AN002 Tested: 15/6/2021



ANALYTICAL REPORT

ME320993 R0

				Sample Number	ME320993.017	ME320993.018	ME320993.019	ME320993.020
				Sample Matrix	Soil	Soil	Soil	Soil
				Sample Date	06 Sep 2021	06 Sep 2021	06 Sep 2021	06 Sep 2021
				Sample Name	SE220604.017	SE220604.018	SE220604.019	SE220604.020
Parameter		Units	LOR					

Moisture Content Method: AN002 Tested: 15/6/2021 (continued)

% Moisture*	%w/w	1	-	-	-	-

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

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

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture*	LB042059	%w/w	1	1 - 21%

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentanoic acid (PFPeA)	LB042076	mg/kg	0.0005	<0.0005	0%	NA
Perfluorohexanoic acid (PFHxA)	LB042076	mg/kg	0.0001	<0.0001	20%	NA
Perfluoroheptanoic acid (PFHpA)	LB042076	mg/kg	0.0001	<0.0001	0%	85%
Perfluorooctanoic Acid (PFOA)	LB042076	mg/kg	0.0001	<0.0001	0%	56%
Perfluorononanoic acid (PFNA)	LB042076	mg/kg	0.0001	<0.0001	0%	126%
Perfluorodecanoic acid (PFDA)	LB042076	mg/kg	0.0001	<0.0001	0%	102%
Perfluoroundecanoic acid (PFUnA)	LB042076	mg/kg	0.0001	<0.0001	0%	111%
Perfluorododecanoic acid (PFDoA)	LB042076	mg/kg	0.0001	<0.0001	0%	136%
Perfluorotridecanoic acid (PFTrDA)	LB042076	mg/kg	0.0001	<0.0001	0%	
Perfluorotetradecanoic acid (PFTeDA)	LB042076	mg/kg	0.0001	<0.0001	0%	135%
Perfluorohexadecanoic acid (PFHxDA)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluorobutane sulfonate (PFBS)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluoroheptane sulfonate (PFHpS)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluorooctane sulfonate (PFOS)	LB042076	mg/kg	0.0001	<0.0001	0%	54%
Sum PFOS and PFHXS	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluorononane sulfonate (PFNS)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluorodecane sulfonate (PFDS)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB042076	mg/kg	0.0001	<0.0001	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB042076	mg/kg	0.001	<0.001	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB042076	mg/kg	0.001	<0.001	35%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB042076	mg/kg	0.001	<0.001	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB042076	mg/kg	0.001	<0.001	0%	53%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB042076	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB042076	mg/kg	0.001	<0.001	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB042076	mg/kg	0.002	<0.002	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB042076	mg/kg	0.002	<0.002	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	LB042076	mg/kg	0.001	<0.001	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB042076	mg/kg	0.001	<0.001	0%	NA
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	109%	1%	109%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	146%	9%	149%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	123%	4%	122%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	117%	2%	107%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	114%	4%	113%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	120%	3%	109%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	146%	0%	138%
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	81%	19%	92%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	73%	0%	76%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	45%	10%	36%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	18%	40%	10%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	135%	20%	148%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	110%	15%	109%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	100%	21%	114%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	181%	5%	112%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	193%	13%	92%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	146%	5%	133%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	67%	54%	86%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	58%	44%	58%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	42%	44%	44%



QC SUMMARY

ME320993 R0

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Per- and Polyfluoroalkyl Substances (PFAS) in Solid Samples- Low level Method: MA-1523 (continued)

				MB	DUP %RPD	LCS %Recovery
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	46%	43%	57%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	45%	9%	55%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	91%	16%	101%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB042076	%	-	82%	10%	83%



METHOD SUMMARY

ME320993 R0

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.

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

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

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

SE220604

CLIENT DETAILS

Contact ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU

Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 20

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 10/6/2021
Report Due Fri 18/6/2021
SGS Reference **SE220604**

SUBMISSION DETAILS

This is to confirm that 20 samples were received on Thursday 10/6/2021. Results are expected to be ready by COB Friday 18/6/2021. Please quote SGS reference SE220604 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice
Samples received in correct containers	Yes	Sample counts by matrix	19 Soil, 1 Material
Date documentation received	10/6/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	8°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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. Results may be delayed.

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

SE220604

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Speciated Phenols in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH20_0.3-0.4	-	-	26	11	-	10	11	7
002	BH21_0.4-0.6	29	14	26	11	18	10	11	7
003	QA05	-	-	26	-	-	10	11	7
004	BH22_0.2-0.4	-	-	26	-	-	10	81	7
005	BH23_0.4-0.5	29	14	26	11	18	10	81	7
006	BH24_0.5-0.7	29	14	26	11	18	10	11	7
007	BH25_0.5-0.7	29	14	26	11	18	10	11	7
008	BH26_0.3-0.5	-	-	26	-	-	10	81	7
009	BH27_0.4-0.5	-	-	26	-	-	10	81	7
010	BH27_0.7-0.8	-	-	26	-	-	10	81	7
011	BH28_0.5-0.6	-	-	26	-	-	10	11	7
013	BH28_0.7-0.8	-	-	26	11	-	10	11	7
014	BH29_1.0-1.1	-	-	26	-	-	10	81	7
015	BH29_1.8-2.0	-	-	26	-	-	10	81	7
016	QA06	-	-	26	-	-	10	81	7
017	HA01_0.5-0.6	-	-	26	-	-	10	81	7
018	SP02_A	-	-	26	11	-	10	11	7
019	SP02_B	-	-	26	11	-	10	11	7
020	SS01	-	-	26	11	-	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

SE220604

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre ID in bulk materials	Fibre Identification in soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
001	BH20_0.3-0.4	-	-	1	1	7
002	BH21_0.4-0.6	-	-	1	1	7
003	QA05	-	-	1	1	7
004	BH22_0.2-0.4	-	-	1	1	7
005	BH23_0.4-0.5	-	-	1	1	7
006	BH24_0.5-0.7	-	-	1	1	7
007	BH25_0.5-0.7	-	2	1	1	7
008	BH26_0.3-0.5	-	-	1	1	7
009	BH27_0.4-0.5	-	-	1	1	7
010	BH27_0.7-0.8	-	-	1	1	7
011	BH28_0.5-0.6	-	2	1	1	7
012	BH28_F01	1	-	-	-	-
013	BH28_0.7-0.8	-	-	1	1	7
014	BH29_1.0-1.1	-	-	1	1	7
015	BH29_1.8-2.0	-	-	1	1	7
016	QA06	-	-	1	1	7
017	HA01_0.5-0.6	-	-	1	1	7
018	SP02_A	-	2	1	1	7
019	SP02_B	-	2	1	1	7
020	SS01	-	-	1	1	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

SE220604

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
008	BH26_0.3-0.5	55
009	BH27_0.4-0.5	55

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 ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU

Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 10

LABORATORY DETAILS

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Laboratory SGS Alexandria Environmental
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Alexandria NSW 2015

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

SGS Reference **SE220656 R0**
Date Received 11 Jun 2021
Date Reported 21 Jun 2021

COMMENTS

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

VPH/VOC - The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.

PFAS subcontracted to SGS Melbourne, Unit 10/585 Blackburn Road Notting Hill VIC 3168, NATA Accreditation Number 2562, Site number 14420. ME321013.

MA1523: Some surrogate recovery is outside of the acceptance criteria due to sample matrix interference

SIGNATORIES



Dong LIANG
Metals/Inorganics Team Leader



Ly Kim HA
Organic Section Head



Teresa NGUYEN
Organic Chemist



ANALYTICAL REPORT

SE220656 R0

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	SE220656.001 Water 11 Jun 2021 GW01	SE220656.002 Water 11 Jun 2021 QC01	SE220656.003 Water 11 Jun 2021 GW02	SE220656.004 Water 11 Jun 2021 GW03

VOCs in Water Method: AN433 Tested: 16/6/2021

Fumigants

2,2-dichloropropane	µg/L	0.5	-	-	<5.0 †	<0.5
1,2-dichloropropane	µg/L	0.5	-	-	<5.0 †	<0.5
cis-1,3-dichloropropene	µg/L	0.5	-	-	<5.0 †	<0.5
trans-1,3-dichloropropene	µg/L	0.5	-	-	<5.0 †	<0.5
1,2-dibromoethane (EDB)	µg/L	0.5	-	-	<5.0 †	<0.5

Halogenated Aliphatics

Dichlorodifluoromethane (CFC-12)	µg/L	5	-	-	<50 †	<5
Chloromethane	µg/L	5	-	-	<50 †	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	-	-	<3.0 †	<0.3
Bromomethane	µg/L	10	-	-	<100 †	<10
Chloroethane	µg/L	5	-	-	<50 †	<5
Trichlorofluoromethane	µg/L	1	-	-	<10 †	<1
Iodomethane	µg/L	5	-	-	<50 †	<5
1,1-dichloroethene	µg/L	0.5	-	-	<5.0 †	<0.5
Dichloromethane (Methylene chloride)	µg/L	5	-	-	<50 †	<5
Allyl chloride	µg/L	2	-	-	<20 †	<2
trans-1,2-dichloroethene	µg/L	0.5	-	-	<5.0 †	<0.5
1,1-dichloroethane	µg/L	0.5	-	-	<5.0 †	<0.5
cis-1,2-dichloroethene	µg/L	0.5	-	-	<5.0 †	<0.5
Bromochloromethane	µg/L	0.5	-	-	<5.0 †	<0.5
1,2-dichloroethane	µg/L	0.5	-	-	<5.0 †	<0.5
1,1,1-trichloroethane	µg/L	0.5	-	-	<5.0 †	<0.5
1,1-dichloropropene	µg/L	0.5	-	-	<5.0 †	<0.5
Carbon tetrachloride	µg/L	0.5	-	-	<5.0 †	<0.5
Dibromomethane	µg/L	0.5	-	-	<5.0 †	<0.5
Trichloroethene (Trichloroethylene, TCE)	µg/L	0.5	-	-	<5.0 †	<0.5
1,1,2-trichloroethane	µg/L	0.5	-	-	<5.0 †	<0.5
1,3-dichloropropane	µg/L	0.5	-	-	<5.0 †	<0.5
Tetrachloroethene (Perchloroethylene, PCE)	µg/L	0.5	-	-	<5.0 †	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	-	-	<5.0 †	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	-	-	<10 †	<1
1,1,2,2-tetrachloroethane	µg/L	0.5	-	-	<5.0 †	<0.5
1,2,3-trichloropropane	µg/L	0.5	-	-	<5.0 †	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	-	-	<10 †	<1
1,2-dibromo-3-chloropropane	µg/L	0.5	-	-	<5.0 †	<0.5
Hexachlorobutadiene	µg/L	0.5	-	-	<5.0 †	<0.5

Halogenated Aromatics

Chlorobenzene	µg/L	0.5	-	-	<5.0 †	<0.5
Bromobenzene	µg/L	0.5	-	-	<5.0 †	<0.5
2-chlorotoluene	µg/L	0.5	-	-	<5.0 †	<0.5
4-chlorotoluene	µg/L	0.5	-	-	<5.0 †	<0.5
1,3-dichlorobenzene	µg/L	0.5	-	-	<5.0 †	<0.5
1,4-dichlorobenzene	µg/L	0.3	-	-	<3.0 †	<0.3
1,2-dichlorobenzene	µg/L	0.5	-	-	<5.0 †	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	-	-	<5.0 †	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	-	-	<5.0 †	<0.5

Monocyclic Aromatic Hydrocarbons

Benzene	µg/L	0.5	<0.5	<0.5	<5.0 †	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<5.0 †	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<5.0 †	<0.5
m/p-xylene	µg/L	1	<1	<1	<10 †	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<5.0 †	<0.5
Styrene (Vinyl benzene)	µg/L	0.5	-	-	<5.0 †	<0.5
Isopropylbenzene (Cumene)	µg/L	0.5	-	-	<5.0 †	<0.5
n-propylbenzene	µg/L	0.5	-	-	<5.0 †	<0.5

Parameter	Units	LOR	Sample Number	SE220656.001	SE220656.002	SE220656.003	SE220656.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW01	QC01	GW02	GW03

VOCs in Water Method: AN433 Tested: 16/6/2021 (continued)

1,3,5-trimethylbenzene	µg/L	0.5	-	-	<5.0 †	<0.5
tert-butylbenzene	µg/L	0.5	-	-	<5.0 †	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	-	-	<5.0 †	<0.5
sec-butylbenzene	µg/L	0.5	-	-	<5.0 †	<0.5
p-isopropyltoluene	µg/L	0.5	-	-	<5.0 †	<0.5
n-butylbenzene	µg/L	0.5	-	-	<5.0 †	<0.5

Nitrogenous Compounds

Acrylonitrile	µg/L	0.5	-	-	<5.0 †	<0.5
2-nitropropane	µg/L	100	-	-	<1000 †	<100

Oxygenated Compounds

Acetone (2-propanone)	µg/L	10	-	-	<100 †	<10
MtBE (Methyl-tert-butyl ether)	µg/L	2	-	-	<20 †	<2
Vinyl acetate	µg/L	10	-	-	<100 †	<10
MEK (2-butanone)	µg/L	10	-	-	<100 †	<10
MIBK (4-methyl-2-pentanone)	µg/L	5	-	-	<50 †	<5
2-hexanone (MBK)	µg/L	5	-	-	<50 †	<5

Polycyclic VOCs

Naphthalene	µg/L	0.5	<0.5	<0.5	<5.0 †	<0.5

Sulphonated Compounds

Carbon disulfide	µg/L	2	-	-	<20 †	<2

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	102	101	97	101
d8-toluene (Surrogate)	%	-	94	97	97	97
Bromofluorobenzene (Surrogate)	%	-	102	102	102	101

Totals

Total Xylenes	µg/L	1.5	<1.5	<1.5	<15 †	<1.5
Total BTEX	µg/L	3	<3	<3	<30 †	<3
Total VOC	µg/L	10	-	-	<100 †	<10



ANALYTICAL REPORT

SE220656 R0

Parameter	Units	LOR	Sample Number	SE220656.001	SE220656.002	SE220656.003	SE220656.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW01	QC01	GW02	GW03

VOCs in Water Method: AN433 Tested: 16/6/2021 (continued)

Trihalomethanes

Chloroform (THM)	µg/L	0.5	-	-	<5.0 †	<0.5
Bromodichloromethane (THM)	µg/L	0.5	-	-	<5.0 †	<0.5
Dibromochloromethane (THM)	µg/L	0.5	-	-	<5.0 †	<0.5
Bromoform (THM)	µg/L	0.5	-	-	<5.0 †	<0.5

Volatile Petroleum Hydrocarbons in Water Method: AN433 Tested: 16/6/2021

TRH C6-C10	µg/L	50	<50	<50	<500 †	<50
TRH C6-C9	µg/L	40	<40	<40	<400 †	<40

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	102	101	97	101
d8-toluene (Surrogate)	%	-	94	97	97	97
Bromofluorobenzene (Surrogate)	%	-	102	102	102	101

VPH F Bands

Benzene (F0)	µg/L	0.5	<0.5	<0.5	<5.0 †	<0.5
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<500 †	<50

TRH (Total Recoverable Hydrocarbons) in Water Method: AN403 Tested: 17/6/2021

TRH C10-C14	µg/L	50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	360	<200
TRH C29-C36	µg/L	200	<200	<200	220	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200
TRH C10-C40	µg/L	320	<320	<320	570	<320

TRH F Bands

TRH >C10-C16	µg/L	60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	530	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500



ANALYTICAL REPORT

SE220656 R0

Parameter	Units	LOR	Sample Number	SE220656.001	SE220656.002	SE220656.003	SE220656.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW01	QC01	GW02	GW03

PAH (Polynuclear Aromatic Hydrocarbons) in Water Method: AN420 Tested: 17/6/2021

Naphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	0.1	0.1	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1	0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1	0.2	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1	0.2	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	0.2	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1	1	<1

Surrogates

d5-nitrobenzene (Surrogate)	%	-	54	44	42	50
2-fluorobiphenyl (Surrogate)	%	-	68	56	48	56
d14-p-terphenyl (Surrogate)	%	-	80	68	62	74

Trace Metals (Dissolved) in Water by ICPMS Method: AN318 Tested: 15/6/2021

Arsenic, As	µg/L	1	1	1	<1	<1
Cadmium, Cd	µg/L	0.1	0.8	0.9	0.2	0.2
Chromium, Cr	µg/L	1	3	4	6	6
Copper, Cu	µg/L	1	2	3	1	2
Lead, Pb	µg/L	1	<1	<1	<1	<1
Nickel, Ni	µg/L	1	24	24	15	15
Zinc, Zn	µg/L	5	59	65	15	18

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 15/6/2021

Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	-	0.016	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	-	0.0008	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	-	0.0040	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	-	0.0017	-
Perfluorooctanoic Acid (PFOA)	µg/L	0.0005	-	-	0.0009	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	-	-	<0.001	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	-	<0.001	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-	-	<0.001	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-	-	<0.001	-
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	-	-	<0.001	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	-	<0.001	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	-	<0.002	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-	-	0.002	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-	-	<0.001	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-	-	0.0012	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-	-	<0.0002	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-	-	0.0006	-
Sum of PFHxS and PFOS	µg/L	0.0002	-	-	0.0018	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-	-	<0.0005	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-	-	<0.0005	-



ANALYTICAL REPORT

SE220656 R0

Parameter	Units	LOR	Sample Number	SE220656.001	SE220656.002	SE220656.003	SE220656.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW01	QC01	GW02	GW03

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021 (continued)

Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-	-	<0.0005	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-	-	<0.0005	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-	-	<0.0005	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-	-	<0.0005	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-	-	<0.002	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-	-	<0.0025	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-	-	<0.0025	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-	<0.0025	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-	<0.0025	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-	-	<0.0025	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-	-	<0.0025	-
Total PFAS (n=30)	µg/L	0.006	-	-	0.027	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	100	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	98	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	95	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	96	-
(13C4-PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	104	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	108	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	103	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	112	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	118	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	140	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	183	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	90	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	106	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	95	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	83	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	66	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	67	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	60	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	71	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	76	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	65	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	65	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	68	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	66	-



ANALYTICAL REPORT

SE220656 R0

Parameter	Units	LOR	Sample Number	SE220656.005	SE220656.006	SE220656.007	SE220656.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW04	GW05	Rinse_HA	Rinse_Pump

VOCs in Water Method: AN433 Tested: 16/6/2021

Fumigants

2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	-	-

Halogenated Aliphatics

Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	-	-
Chloromethane	µg/L	5	<5	<5	-	-
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	-	-
Bromomethane	µg/L	10	<10	<10	-	-
Chloroethane	µg/L	5	<5	<5	-	-
Trichlorofluoromethane	µg/L	1	<1	<1	-	-
Iodomethane	µg/L	5	<5	<5	-	-
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-
Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	-	-
Allyl chloride	µg/L	2	<2	<2	-	-
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-
Bromochloromethane	µg/L	0.5	<0.5	<0.5	-	-
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	-	-
Dibromomethane	µg/L	0.5	<0.5	<0.5	-	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	-	-
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	-	-
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	-	-
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	-	-
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	-	-
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	-	-
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	-	-

Halogenated Aromatics

Chlorobenzene	µg/L	0.5	<0.5	<0.5	-	-
Bromobenzene	µg/L	0.5	<0.5	<0.5	-	-
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	-	-
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-

Monocyclic Aromatic Hydrocarbons

Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	-	-
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	-	-
n-propylbenzene	µg/L	0.5	<0.5	<0.5	-	-

Parameter	Units	LOR	Sample Number	SE220656.005	SE220656.006	SE220656.007	SE220656.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW04	GW05	Rinse_HA	Rinse_Pump

VOCs in Water Method: AN433 Tested: 16/6/2021 (continued)

1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	-	-
n-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-

Nitrogenous Compounds

Acrylonitrile	µg/L	0.5	<0.5	<0.5	-	-
2-nitropropane	µg/L	100	<100	<100	-	-

Oxygenated Compounds

Acetone (2-propanone)	µg/L	10	<10	<10	-	-
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	-	-
Vinyl acetate	µg/L	10	<10	<10	-	-
MEK (2-butanone)	µg/L	10	<10	<10	-	-
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	-	-
2-hexanone (MBK)	µg/L	5	<5	<5	-	-

Polycyclic VOCs

Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Sulphonated Compounds

Carbon disulfide	µg/L	2	<2	<2	-	-

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	101	99	99	98
d8-toluene (Surrogate)	%	-	95	95	97	97
Bromofluorobenzene (Surrogate)	%	-	101	101	100	103

Totals

Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3
Total VOC	µg/L	10	<10	<10	-	-



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SE220656 R0

			Sample Number	SE220656.005	SE220656.006	SE220656.007	SE220656.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW04	GW05	Rinse_HA	Rinse_Pump
Parameter	Units	LOR					

VOCs in Water Method: AN433 Tested: 16/6/2021 (continued)

Trihalomethanes

Chloroform (THM)	µg/L	0.5	<0.5	<0.5	-	-
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	-	-
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	-	-
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	-	-

Volatile Petroleum Hydrocarbons in Water Method: AN433 Tested: 16/6/2021

TRH C6-C10	µg/L	50	<50	<50	<50	<50
TRH C6-C9	µg/L	40	<40	<40	<40	<40

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	101	99	99	98
d8-toluene (Surrogate)	%	-	95	95	97	97
Bromofluorobenzene (Surrogate)	%	-	101	101	100	103

VPH F Bands

Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water Method: AN403 Tested: 17/6/2021

TRH C10-C14	µg/L	50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200
TRH C10-C40	µg/L	320	<320	<320	<320	<320

TRH F Bands

TRH >C10-C16	µg/L	60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500



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SE220656 R0

Parameter	Units	LOR	Sample Number	SE220656.005	SE220656.006	SE220656.007	SE220656.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW04	GW05	Rinse_HA	Rinse_Pump

PAH (Polynuclear Aromatic Hydrocarbons) in Water Method: AN420 Tested: 17/6/2021

Naphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1	<1	<1

Surrogates

d5-nitrobenzene (Surrogate)	%	-	56	44	42	60
2-fluorobiphenyl (Surrogate)	%	-	66	52	46	68
d14-p-terphenyl (Surrogate)	%	-	82	66	68	86

Trace Metals (Dissolved) in Water by ICPMS Method: AN318 Tested: 15/6/2021

Arsenic, As	µg/L	1	<1	<1	<1	<1
Cadmium, Cd	µg/L	0.1	0.3	<0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	14	1	<1	<1
Copper, Cu	µg/L	1	1	6	<1	2
Lead, Pb	µg/L	1	<1	<1	<1	<1
Nickel, Ni	µg/L	1	7	54	<1	5
Zinc, Zn	µg/L	5	19	180	<5	17

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 15/6/2021

Mercury	mg/L	0.0001	<0.0001	0.0005	<0.0001	<0.0001

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	0.0034	<0.0005	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	0.0068	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	0.0088	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	0.0043	<0.0005	<0.0005
Perfluorooctanoic Acid (PFOA)	µg/L	0.0005	-	0.0044	<0.0005	<0.0005
Perfluorononanoic acid (PFNA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-	0.003	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-	0.003	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-	0.0079	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-	0.0003	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	-	0.0082	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005



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Parameter	Units	LOR	Sample Number	SE220656.005	SE220656.006	SE220656.007	SE220656.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	11 Jun 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	GW04	GW05	Rinse_HA	Rinse_Pump

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021 (continued)

Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	-	0.042	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	102	99	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	136	95	97
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	83	112	102
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	84	104	108
(13C4-PFOA) Isotopically Labelled Internal Recovery	%	-	-	99	99	101
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	108	105	106
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	114	122	121
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	126	113	83
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	140	132	93
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	195	146	138
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	372	269	221
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	85	117	93
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	94	100	100
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	100	95	100
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	64	127	86
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	58	105	80
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	53	113	83
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	56	83	82
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	66	110	76
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	74	122	108
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	57	106	102
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	52	104	95
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	58	100	100
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	65	94	87



ANALYTICAL REPORT

SE220656 R0

Parameter	Units	LOR	Sample Number	SE220656.009	SE220656.010
			Sample Matrix	Water	Water
			Sample Date	02 Jun 2021	02 Jun 2021
			Sample Name	Trip Blank	Trip Spike

VOCs in Water Method: AN433 Tested: 16/6/2021

Fumigants

2,2-dichloropropane	µg/L	0.5	-	-
1,2-dichloropropane	µg/L	0.5	-	-
cis-1,3-dichloropropene	µg/L	0.5	-	-
trans-1,3-dichloropropene	µg/L	0.5	-	-
1,2-dibromoethane (EDB)	µg/L	0.5	-	-

Halogenated Aliphatics

Dichlorodifluoromethane (CFC-12)	µg/L	5	-	-
Chloromethane	µg/L	5	-	-
Vinyl chloride (Chloroethene)	µg/L	0.3	-	-
Bromomethane	µg/L	10	-	-
Chloroethane	µg/L	5	-	-
Trichlorofluoromethane	µg/L	1	-	-
Iodomethane	µg/L	5	-	-
1,1-dichloroethene	µg/L	0.5	-	-
Dichloromethane (Methylene chloride)	µg/L	5	-	-
Allyl chloride	µg/L	2	-	-
trans-1,2-dichloroethene	µg/L	0.5	-	-
1,1-dichloroethane	µg/L	0.5	-	-
cis-1,2-dichloroethene	µg/L	0.5	-	-
Bromochloromethane	µg/L	0.5	-	-
1,2-dichloroethane	µg/L	0.5	-	-
1,1,1-trichloroethane	µg/L	0.5	-	-
1,1-dichloropropene	µg/L	0.5	-	-
Carbon tetrachloride	µg/L	0.5	-	-
Dibromomethane	µg/L	0.5	-	-
Trichloroethene (Trichloroethylene, TCE)	µg/L	0.5	-	-
1,1,2-trichloroethane	µg/L	0.5	-	-
1,3-dichloropropane	µg/L	0.5	-	-
Tetrachloroethene (Perchloroethylene, PCE)	µg/L	0.5	-	-
1,1,1,2-tetrachloroethane	µg/L	0.5	-	-
cis-1,4-dichloro-2-butene	µg/L	1	-	-
1,1,2,2-tetrachloroethane	µg/L	0.5	-	-
1,2,3-trichloropropane	µg/L	0.5	-	-
trans-1,4-dichloro-2-butene	µg/L	1	-	-
1,2-dibromo-3-chloropropane	µg/L	0.5	-	-
Hexachlorobutadiene	µg/L	0.5	-	-

Halogenated Aromatics

Chlorobenzene	µg/L	0.5	-	-
Bromobenzene	µg/L	0.5	-	-
2-chlorotoluene	µg/L	0.5	-	-
4-chlorotoluene	µg/L	0.5	-	-
1,3-dichlorobenzene	µg/L	0.5	-	-
1,4-dichlorobenzene	µg/L	0.3	-	-
1,2-dichlorobenzene	µg/L	0.5	-	-
1,2,4-trichlorobenzene	µg/L	0.5	-	-
1,2,3-trichlorobenzene	µg/L	0.5	-	-

Monocyclic Aromatic Hydrocarbons

Benzene	µg/L	0.5	<0.5	[105%]
Toluene	µg/L	0.5	<0.5	[104%]
Ethylbenzene	µg/L	0.5	<0.5	[105%]
m/p-xylene	µg/L	1	<1	[104%]
o-xylene	µg/L	0.5	<0.5	[106%]
Styrene (Vinyl benzene)	µg/L	0.5	-	-
Isopropylbenzene (Cumene)	µg/L	0.5	-	-
n-propylbenzene	µg/L	0.5	-	-

		Sample Number	SE220656.009	SE220656.010
		Sample Matrix	Water	Water
		Sample Date	02 Jun 2021	02 Jun 2021
		Sample Name	Trip Blank	Trip Spike
Parameter	Units	LOR		

VOCs in Water Method: AN433 Tested: 16/6/2021 (continued)

1,3,5-trimethylbenzene	µg/L	0.5	-	-
tert-butylbenzene	µg/L	0.5	-	-
1,2,4-trimethylbenzene	µg/L	0.5	-	-
sec-butylbenzene	µg/L	0.5	-	-
p-isopropyltoluene	µg/L	0.5	-	-
n-butylbenzene	µg/L	0.5	-	-

Nitrogenous Compounds

Acrylonitrile	µg/L	0.5	-	-
2-nitropropane	µg/L	100	-	-

Oxygenated Compounds

Acetone (2-propanone)	µg/L	10	-	-
MtBE (Methyl-tert-butyl ether)	µg/L	2	-	-
Vinyl acetate	µg/L	10	-	-
MEK (2-butanone)	µg/L	10	-	-
MIBK (4-methyl-2-pentanone)	µg/L	5	-	-
2-hexanone (MBK)	µg/L	5	-	-

Polycyclic VOCs

Naphthalene	µg/L	0.5	<0.5	-

Sulphonated Compounds

Carbon disulfide	µg/L	2	-	-

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	97	101
d8-toluene (Surrogate)	%	-	97	99
Bromofluorobenzene (Surrogate)	%	-	100	96



ANALYTICAL REPORT

SE220656 R0

		Sample Number	SE220656.009	SE220656.010
		Sample Matrix	Water	Water
		Sample Date	02 Jun 2021	02 Jun 2021
		Sample Name	Trip Blank	Trip Spike
Parameter	Units	LOR		

VOCs in Water Method: AN433 Tested: 16/6/2021 (continued)

Totals

Total Xylenes	µg/L	1.5	<1.5	-
Total BTEX	µg/L	3	<3	-
Total VOC	µg/L	10	-	-

Trihalomethanes

Chloroform (THM)	µg/L	0.5	-	-
Bromodichloromethane (THM)	µg/L	0.5	-	-
Dibromochloromethane (THM)	µg/L	0.5	-	-
Bromoform (THM)	µg/L	0.5	-	-

Volatile Petroleum Hydrocarbons in Water Method: AN433 Tested: 16/6/2021

TRH C6-C10	µg/L	50	-	-
TRH C6-C9	µg/L	40	-	-

Surrogates

d4-1,2-dichloroethane (Surrogate)	%	-	-	-
d8-toluene (Surrogate)	%	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-

VPH F Bands

Benzene (F0)	µg/L	0.5	-	-
TRH C6-C10 minus BTEX (F1)	µg/L	50	-	-

TRH (Total Recoverable Hydrocarbons) in Water Method: AN403 Tested: 18/6/2021

TRH C10-C14	µg/L	50	-	-
TRH C15-C28	µg/L	200	-	-
TRH C29-C36	µg/L	200	-	-
TRH C37-C40	µg/L	200	-	-
TRH C10-C40	µg/L	320	-	-

TRH F Bands

TRH >C10-C16	µg/L	60	-	-
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	-	-
TRH >C16-C34 (F3)	µg/L	500	-	-
TRH >C34-C40 (F4)	µg/L	500	-	-

Parameter	Units	LOR	Sample Number	SE220656.009	SE220656.010
			Sample Matrix	Water	Water
			Sample Date	02 Jun 2021	02 Jun 2021
			Sample Name	Trip Blank	Trip Spike

PAH (Polynuclear Aromatic Hydrocarbons) in Water Method: AN420 Tested: 21/6/2021

Naphthalene	µg/L	0.1	-	-
2-methylnaphthalene	µg/L	0.1	-	-
1-methylnaphthalene	µg/L	0.1	-	-
Acenaphthylene	µg/L	0.1	-	-
Acenaphthene	µg/L	0.1	-	-
Fluorene	µg/L	0.1	-	-
Phenanthrene	µg/L	0.1	-	-
Anthracene	µg/L	0.1	-	-
Fluoranthene	µg/L	0.1	-	-
Pyrene	µg/L	0.1	-	-
Benzo(a)anthracene	µg/L	0.1	-	-
Chrysene	µg/L	0.1	-	-
Benzo(b&j)fluoranthene	µg/L	0.1	-	-
Benzo(k)fluoranthene	µg/L	0.1	-	-
Benzo(a)pyrene	µg/L	0.1	-	-
Indeno(1,2,3-cd)pyrene	µg/L	0.1	-	-
Dibenzo(ah)anthracene	µg/L	0.1	-	-
Benzo(ghi)perylene	µg/L	0.1	-	-
Total PAH (18)	µg/L	1	-	-

Surrogates

d5-nitrobenzene (Surrogate)	%	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-

Trace Metals (Dissolved) in Water by ICPMS Method: AN318 Tested: 18/6/2021

Arsenic, As	µg/L	1	-	-
Cadmium, Cd	µg/L	0.1	-	-
Chromium, Cr	µg/L	1	-	-
Copper, Cu	µg/L	1	-	-
Lead, Pb	µg/L	1	-	-
Nickel, Ni	µg/L	1	-	-
Zinc, Zn	µg/L	5	-	-

Mercury (dissolved) in Water Method: AN311(Perth)/AN312 Tested: 15/6/2021

Mercury	mg/L	0.0001	-	-

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	-
Perfluorooctanoic Acid (PFOA)	µg/L	0.0005	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-	-
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-	-
Sum of PFHxS and PFOS	µg/L	0.0002	-	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-	-



ANALYTICAL REPORT

SE220656 R0

		Sample Number	SE220656.009	SE220656.010
		Sample Matrix	Water	Water
		Sample Date	02 Jun 2021	02 Jun 2021
		Sample Name	Trip Blank	Trip Spike
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021 (continued)

Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-	-
Total PFAS (n=30)	µg/L	0.006	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Mercury	LB226721	mg/L	0.0001	<0.0001	22%	102%

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

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Naphthalene	LB226912	µg/L	0.1	<0.1	0%	73%
2-methylnaphthalene	LB226912	µg/L	0.1	<0.1	0%	NA
1-methylnaphthalene	LB226912	µg/L	0.1	<0.1	0%	NA
Acenaphthylene	LB226912	µg/L	0.1	<0.1	0%	75%
Acenaphthene	LB226912	µg/L	0.1	<0.1	0%	79%
Fluorene	LB226912	µg/L	0.1	<0.1	0%	NA
Phenanthrene	LB226912	µg/L	0.1	<0.1	0%	78%
Anthracene	LB226912	µg/L	0.1	<0.1	0%	82%
Fluoranthene	LB226912	µg/L	0.1	<0.1	0%	88%
Pyrene	LB226912	µg/L	0.1	<0.1	0%	88%
Benzo(a)anthracene	LB226912	µg/L	0.1	<0.1	0%	NA
Chrysene	LB226912	µg/L	0.1	<0.1	0%	NA
Benzo(b&j)fluoranthene	LB226912	µg/L	0.1	<0.1	0%	NA
Benzo(k)fluoranthene	LB226912	µg/L	0.1	<0.1	0%	NA
Benzo(a)pyrene	LB226912	µg/L	0.1	<0.1	0%	83%
Indeno(1,2,3-cd)pyrene	LB226912	µg/L	0.1	<0.1	0%	NA
Dibenzo(ah)anthracene	LB226912	µg/L	0.1	<0.1	0%	NA
Benzo(ghi)perylene	LB226912	µg/L	0.1	<0.1	0%	NA
Total PAH (18)	LB226912	µg/L	1	<1		

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
d5-nitrobenzene (Surrogate)	LB226912	%	-	52%	4 - 10%	56%
2-fluorobiphenyl (Surrogate)	LB226912	%	-	62%	9 - 10%	62%
d14-p-terphenyl (Surrogate)	LB226912	%	-	74%	8 - 10%	78%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Trace Metals (Dissolved) in Water by ICPMS Method: ME-(AU)-[ENV]AN318

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Arsenic, As	LB226776	µg/L	1	<1	0%	104%
Cadmium, Cd	LB226776	µg/L	0.1	<0.1	0%	104%
Chromium, Cr	LB226776	µg/L	1	<1	0%	109%
Copper, Cu	LB226776	µg/L	1	<1	50%	108%
Lead, Pb	LB226776	µg/L	1	<1	0%	114%
Nickel, Ni	LB226776	µg/L	1	<1	6%	104%
Zinc, Zn	LB226776	µg/L	5	<5	5%	107%

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

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
TRH C10-C14	LB226912	µg/L	50	<50	0%	85%
TRH C15-C28	LB226912	µg/L	200	<200	0 - 1%	94%
TRH C29-C36	LB226912	µg/L	200	<200	0 - 11%	102%
TRH C37-C40	LB226912	µg/L	200	<200	0%	NA
TRH C10-C40	LB226912	µg/L	320	<320	0 - 6%	NA

TRH F Bands

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
TRH >C10-C16	LB226912	µg/L	60	<60	0%	90%
TRH >C10-C16 - Naphthalene (F2)	LB226912	µg/L	60	<60	0%	NA
TRH >C16-C34 (F3)	LB226912	µg/L	500	<500	0 - 4%	104%
TRH >C34-C40 (F4)	LB226912	µg/L	500	<500	0%	97%

VOCs in Water Method: ME-(AU)-[ENV]AN433

Fumigants

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
2,2-dichloropropane	LB226894	µg/L	0.5	<0.5	0%	NA
1,2-dichloropropane	LB226894	µg/L	0.5	<0.5	0%	NA
cis-1,3-dichloropropene	LB226894	µg/L	0.5	<0.5	0%	NA
trans-1,3-dichloropropene	LB226894	µg/L	0.5	<0.5	0%	NA
1,2-dibromoethane (EDB)	LB226894	µg/L	0.5	<0.5	0%	NA

Halogenated Aliphatics

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Dichlorodifluoromethane (CFC-12)	LB226894	µg/L	5	<5	0%	NA
Chloromethane	LB226894	µg/L	5	<5	0%	NA
Vinyl chloride (Chloroethene)	LB226894	µg/L	0.3	<0.3	0%	NA
Bromomethane	LB226894	µg/L	10	<10	0%	NA
Chloroethane	LB226894	µg/L	5	<5	0%	NA
Trichlorofluoromethane	LB226894	µg/L	1	<1	0%	NA
Iodomethane	LB226894	µg/L	5	<5	0%	NA
1,1-dichloroethene	LB226894	µg/L	0.5	<0.5	0%	84%
Dichloromethane (Methylene chloride)	LB226894	µg/L	5	<5	0%	NA
Allyl chloride	LB226894	µg/L	2	<2	0%	NA
trans-1,2-dichloroethene	LB226894	µg/L	0.5	<0.5	0%	NA
1,1-dichloroethane	LB226894	µg/L	0.5	<0.5	0%	NA
cis-1,2-dichloroethene	LB226894	µg/L	0.5	<0.5	0%	NA
Bromochloromethane	LB226894	µg/L	0.5	<0.5	0%	NA
1,2-dichloroethane	LB226894	µg/L	0.5	<0.5	0%	96%
1,1,1-trichloroethane	LB226894	µg/L	0.5	<0.5	0%	NA
1,1-dichloropropene	LB226894	µg/L	0.5	<0.5	0%	NA
Carbon tetrachloride	LB226894	µg/L	0.5	<0.5	0%	NA
Dibromomethane	LB226894	µg/L	0.5	<0.5	0%	NA
Trichloroethene (Trichloroethylene,TCE)	LB226894	µg/L	0.5	<0.5	0%	90%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

VOCs in Water Method: ME-(AU)-[ENV]AN433 (continued)

				MB	DUP %RPD	LCS %Recovery
1,1,2-trichloroethane	LB226894	µg/L	0.5	<0.5	0%	NA
1,3-dichloropropane	LB226894	µg/L	0.5	<0.5	0%	NA
Tetrachloroethene (Perchloroethylene,PCE)	LB226894	µg/L	0.5	<0.5	0%	NA
1,1,1,2-tetrachloroethane	LB226894	µg/L	0.5	<0.5	0%	NA
cis-1,4-dichloro-2-butene	LB226894	µg/L	1	<1	0%	NA
1,1,2,2-tetrachloroethane	LB226894	µg/L	0.5	<0.5	0%	NA
1,2,3-trichloropropane	LB226894	µg/L	0.5	<0.5	0%	NA
trans-1,4-dichloro-2-butene	LB226894	µg/L	1	<1	0%	NA
1,2-dibromo-3-chloropropane	LB226894	µg/L	0.5	<0.5	0%	NA
Hexachlorobutadiene	LB226894	µg/L	0.5	<0.5	0%	NA

Halogenated Aromatics

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Chlorobenzene	LB226894	µg/L	0.5	<0.5	0%	100%
Bromobenzene	LB226894	µg/L	0.5	<0.5	0%	NA
2-chlorotoluene	LB226894	µg/L	0.5	<0.5	0%	NA
4-chlorotoluene	LB226894	µg/L	0.5	<0.5	0%	NA
1,3-dichlorobenzene	LB226894	µg/L	0.5	<0.5	0%	NA
1,4-dichlorobenzene	LB226894	µg/L	0.3	<0.3	0%	NA
1,2-dichlorobenzene	LB226894	µg/L	0.5	<0.5	0%	NA
1,2,4-trichlorobenzene	LB226894	µg/L	0.5	<0.5	0%	NA
1,2,3-trichlorobenzene	LB226894	µg/L	0.5	<0.5	0%	NA

Monocyclic Aromatic Hydrocarbons

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Benzene	LB226894	µg/L	0.5	<0.5	0%	109%	111%
Toluene	LB226894	µg/L	0.5	<0.5	0%	109%	109%
Ethylbenzene	LB226894	µg/L	0.5	<0.5	0%	108%	105%
m/p-xylene	LB226894	µg/L	1	<1	0%	108%	104%
o-xylene	LB226894	µg/L	0.5	<0.5	0%	109%	106%
Styrene (Vinyl benzene)	LB226894	µg/L	0.5	<0.5	0%	NA	
Isopropylbenzene (Cumene)	LB226894	µg/L	0.5	<0.5	0%	NA	
n-propylbenzene	LB226894	µg/L	0.5	<0.5	0%	NA	
1,3,5-trimethylbenzene	LB226894	µg/L	0.5	<0.5	0%	NA	
tert-butylbenzene	LB226894	µg/L	0.5	<0.5	0%	NA	
1,2,4-trimethylbenzene	LB226894	µg/L	0.5	<0.5	0%	NA	
sec-butylbenzene	LB226894	µg/L	0.5	<0.5	0%	NA	
p-isopropyltoluene	LB226894	µg/L	0.5	<0.5	0%	NA	
n-butylbenzene	LB226894	µg/L	0.5	<0.5	0%	NA	

Nitrogenous Compounds

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acrylonitrile	LB226894	µg/L	0.5	<0.5	0%	NA
2-nitropropane	LB226894	µg/L	100	<100		

Oxygenated Compounds

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acetone (2-propanone)	LB226894	µg/L	10	<10	0%	NA
MtBE (Methyl-tert-butyl ether)	LB226894	µg/L	2	<1	0%	NA
Vinyl acetate	LB226894	µg/L	10	<10	0%	NA
MEK (2-butanone)	LB226894	µg/L	10	<10	0%	NA
MIBK (4-methyl-2-pentanone)	LB226894	µg/L	5	<5	0%	NA
2-hexanone (MBK)	LB226894	µg/L	5	<5	0%	NA

Polycyclic VOCs

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

VOCs in Water Method: ME-(AU)-[ENV]AN433 (continued)

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Naphthalene	LB226894	µg/L	0.5	<0.5	0%	NA	NA

Sulphonated Compounds

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Carbon disulfide	LB226894	µg/L	2	<2	0%	NA

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
d4-1,2-dichloroethane (Surrogate)	LB226894	%	-	97%	2 - 3%	103%	109%
d8-toluene (Surrogate)	LB226894	%	-	95%	0 - 2%	101%	103%
Bromofluorobenzene (Surrogate)	LB226894	%	-	98%	0 - 1%	97%	99%

Totals

Parameter	QC Reference	Units	LOR	MB
Total Xylenes	LB226894	µg/L	1.5	<1.5
Total BTEX	LB226894	µg/L	3	<3
Total VOC	LB226894	µg/L	10	<10

Trihalomethanes

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Chloroform (THM)	LB226894	µg/L	0.5	<0.5	0%	105%
Bromodichloromethane (THM)	LB226894	µg/L	0.5	<0.5	0%	NA
Dibromochloromethane (THM)	LB226894	µg/L	0.5	<0.5	0%	NA
Bromoform (THM)	LB226894	µg/L	0.5	<0.5	0%	NA

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Volatile Petroleum Hydrocarbons in Water Method: ME-(AU)-[ENV]AN433

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
TRH C6-C10	LB226894	µg/L	50	<50	0%	92%	89%
TRH C6-C9	LB226894	µg/L	40	<40	0%	81%	91%

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
d4-1,2-dichloroethane (Surrogate)	LB226894	%	-	97%	2 - 3%	103%	109%
d8-toluene (Surrogate)	LB226894	%	-	95%	0 - 2%	101%	103%
Bromofluorobenzene (Surrogate)	LB226894	%	-	98%	0 - 1%	97%	99%

VPH F Bands

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Benzene (F0)	LB226894	µg/L	0.5		0%	NA	NA
TRH C6-C10 minus BTEX (F1)	LB226894	µg/L	50	<50	0%	90%	87%

METHOD

METHODOLOGY SUMMARY

AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: 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.
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
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). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Silica) 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).
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.
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

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

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

SE220656 R0

CLIENT DETAILS

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Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 10

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SGS Reference **SE220656 R0**
Date Received 11 Jun 2021
Date Reported 21 Jun 2021

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:

Extraction Date	VOCs in Water	2 items
Surrogate	Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level	5 items

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	10 Water
Date documentation received	11/6/2021	Type of documentation received	COC
Number of eskies/boxes received		Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	17.0°C
Sufficient sample for analysis	Yes	Turnaround time requested	Standard



HOLDING TIME SUMMARY

SE220656 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 (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW01	SE220656.001	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021
QC01	SE220656.002	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021
GW02	SE220656.003	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021
GW03	SE220656.004	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021
GW04	SE220656.005	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021
GW05	SE220656.006	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021
Rinse_HA	SE220656.007	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021
Rinse_Pump	SE220656.008	LB226721	11 Jun 2021	11 Jun 2021	09 Jul 2021	15 Jun 2021	09 Jul 2021	15 Jun 2021

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW01	SE220656.001	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
QC01	SE220656.002	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW02	SE220656.003	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW03	SE220656.004	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW04	SE220656.005	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW05	SE220656.006	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
Rinse_HA	SE220656.007	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
Rinse_Pump	SE220656.008	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW01	SE220656.001	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021
QC01	SE220656.002	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021
GW02	SE220656.003	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021
GW03	SE220656.004	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021
GW04	SE220656.005	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021
GW05	SE220656.006	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021
Rinse_HA	SE220656.007	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021
Rinse_Pump	SE220656.008	LB226776	11 Jun 2021	11 Jun 2021	08 Dec 2021	15 Jun 2021	08 Dec 2021	18 Jun 2021

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW01	SE220656.001	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
QC01	SE220656.002	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW02	SE220656.003	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW03	SE220656.004	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW04	SE220656.005	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
GW05	SE220656.006	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
Rinse_HA	SE220656.007	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021
Rinse_Pump	SE220656.008	LB226912	11 Jun 2021	11 Jun 2021	18 Jun 2021	17 Jun 2021	27 Jul 2021	21 Jun 2021

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW01	SE220656.001	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
QC01	SE220656.002	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
GW02	SE220656.003	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
GW03	SE220656.004	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
GW04	SE220656.005	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
GW05	SE220656.006	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
Rinse_HA	SE220656.007	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
Rinse_Pump	SE220656.008	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
Trip Blank	SE220656.009	LB226894	02 Jun 2021	11 Jun 2021	09 Jun 2021	16 Jun 2021†	26 Jul 2021	17 Jun 2021
Trip Spike	SE220656.010	LB226894	02 Jun 2021	11 Jun 2021	09 Jun 2021	16 Jun 2021†	26 Jul 2021	17 Jun 2021

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW01	SE220656.001	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
QC01	SE220656.002	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
GW02	SE220656.003	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
GW03	SE220656.004	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
GW04	SE220656.005	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021



HOLDING TIME SUMMARY

SE220656 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 Water (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW05	SE220656.006	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
Rinse_HA	SE220656.007	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
Rinse_Pump	SE220656.008	LB226894	11 Jun 2021	11 Jun 2021	18 Jun 2021	16 Jun 2021	26 Jul 2021	17 Jun 2021
Trip Blank	SE220656.009	LB226894	02 Jun 2021	11 Jun 2021	09 Jun 2021	16 Jun 2021†	26 Jul 2021	17 Jun 2021
Trip Spike	SE220656.010	LB226894	02 Jun 2021	11 Jun 2021	09 Jun 2021	16 Jun 2021†	26 Jul 2021	17 Jun 2021



SURROGATES

SE220656 R0

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 Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GW01	SE220656.001	%	40 - 130%	68
	QC01	SE220656.002	%	40 - 130%	56
	GW02	SE220656.003	%	40 - 130%	48
	GW03	SE220656.004	%	40 - 130%	56
	GW04	SE220656.005	%	40 - 130%	66
	GW05	SE220656.006	%	40 - 130%	52
	Rinse_HA	SE220656.007	%	40 - 130%	46
	Rinse_Pump	SE220656.008	%	40 - 130%	68
d14-p-terphenyl (Surrogate)	GW01	SE220656.001	%	40 - 130%	80
	QC01	SE220656.002	%	40 - 130%	68
	GW02	SE220656.003	%	40 - 130%	62
	GW03	SE220656.004	%	40 - 130%	74
	GW04	SE220656.005	%	40 - 130%	82
	GW05	SE220656.006	%	40 - 130%	66
	Rinse_HA	SE220656.007	%	40 - 130%	68
	Rinse_Pump	SE220656.008	%	40 - 130%	86
d5-nitrobenzene (Surrogate)	GW01	SE220656.001	%	40 - 130%	54
	QC01	SE220656.002	%	40 - 130%	44
	GW02	SE220656.003	%	40 - 130%	42
	GW03	SE220656.004	%	40 - 130%	50
	GW04	SE220656.005	%	40 - 130%	56
	GW05	SE220656.006	%	40 - 130%	44
	Rinse_HA	SE220656.007	%	40 - 130%	42
	Rinse_Pump	SE220656.008	%	40 - 130%	60

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2-PFTeDA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	140
	GW05	SE220656.006	%	10 - 150%	195 ↑
	Rinse_HA	SE220656.007	%	10 - 150%	146
	Rinse_Pump	SE220656.008	%	10 - 150%	138
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	83
	GW05	SE220656.006	%	10 - 150%	64
	Rinse_HA	SE220656.007	%	10 - 150%	127
	Rinse_Pump	SE220656.008	%	10 - 150%	86
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	66
	GW05	SE220656.006	%	10 - 150%	58
	Rinse_HA	SE220656.007	%	10 - 150%	105
	Rinse_Pump	SE220656.008	%	10 - 150%	80
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	67
	GW05	SE220656.006	%	10 - 150%	53
	Rinse_HA	SE220656.007	%	10 - 150%	113
	Rinse_Pump	SE220656.008	%	10 - 150%	83
(13C2-PFDxA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	118
	GW05	SE220656.006	%	10 - 150%	140
	Rinse_HA	SE220656.007	%	10 - 150%	132
	Rinse_Pump	SE220656.008	%	10 - 150%	93
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	183 ↑
	GW05	SE220656.006	%	10 - 150%	372 ↑
	Rinse_HA	SE220656.007	%	10 - 150%	269 ↑
	Rinse_Pump	SE220656.008	%	10 - 150%	221 ↑
(13C3-PFBs) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	90
	GW05	SE220656.006	%	10 - 150%	85
	Rinse_HA	SE220656.007	%	10 - 150%	117
	Rinse_Pump	SE220656.008	%	10 - 150%	93
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	106
	GW05	SE220656.006	%	10 - 150%	94
	Rinse_HA	SE220656.007	%	10 - 150%	100
	Rinse_Pump	SE220656.008	%	10 - 150%	100
(13C4-PFOA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	104
	GW05	SE220656.006	%	10 - 150%	99



SURROGATES

SE220656 R0

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	Rinse_HA	SE220656.007	%	10 - 150%	99
	Rinse_Pump	SE220656.008	%	10 - 150%	101
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	100
	GW05	SE220656.006	%	10 - 150%	102
	Rinse_HA	SE220656.007	%	10 - 150%	99
	Rinse_Pump	SE220656.008	%	10 - 150%	101
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	96
	GW05	SE220656.006	%	10 - 150%	84
	Rinse_HA	SE220656.007	%	10 - 150%	104
	Rinse_Pump	SE220656.008	%	10 - 150%	108
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	95
	GW05	SE220656.006	%	10 - 150%	83
	Rinse_HA	SE220656.007	%	10 - 150%	112
	Rinse_Pump	SE220656.008	%	10 - 150%	102
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	98
	GW05	SE220656.006	%	10 - 150%	136
	Rinse_HA	SE220656.007	%	10 - 150%	95
	Rinse_Pump	SE220656.008	%	10 - 150%	97
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	103
	GW05	SE220656.006	%	10 - 150%	114
	Rinse_HA	SE220656.007	%	10 - 150%	122
	Rinse_Pump	SE220656.008	%	10 - 150%	121
(13C7-PFUDa) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	112
	GW05	SE220656.006	%	10 - 150%	126
	Rinse_HA	SE220656.007	%	10 - 150%	113
	Rinse_Pump	SE220656.008	%	10 - 150%	83
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	95
	GW05	SE220656.006	%	10 - 150%	100
	Rinse_HA	SE220656.007	%	10 - 150%	95
	Rinse_Pump	SE220656.008	%	10 - 150%	100
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	60
	GW05	SE220656.006	%	10 - 150%	56
	Rinse_HA	SE220656.007	%	10 - 150%	83
	Rinse_Pump	SE220656.008	%	10 - 150%	82
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	108
	GW05	SE220656.006	%	10 - 150%	108
	Rinse_HA	SE220656.007	%	10 - 150%	105
	Rinse_Pump	SE220656.008	%	10 - 150%	106
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	71
	GW05	SE220656.006	%	10 - 150%	66
	Rinse_HA	SE220656.007	%	10 - 150%	110
	Rinse_Pump	SE220656.008	%	10 - 150%	76
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	68
	GW05	SE220656.006	%	10 - 150%	58
	Rinse_HA	SE220656.007	%	10 - 150%	100
	Rinse_Pump	SE220656.008	%	10 - 150%	100
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	76
	GW05	SE220656.006	%	10 - 150%	74
	Rinse_HA	SE220656.007	%	10 - 150%	122
	Rinse_Pump	SE220656.008	%	10 - 150%	108
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	66
	GW05	SE220656.006	%	10 - 150%	65
	Rinse_HA	SE220656.007	%	10 - 150%	94
	Rinse_Pump	SE220656.008	%	10 - 150%	87
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	65
	GW05	SE220656.006	%	10 - 150%	57
	Rinse_HA	SE220656.007	%	10 - 150%	106
	Rinse_Pump	SE220656.008	%	10 - 150%	102
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	GW02	SE220656.003	%	10 - 150%	65
	GW05	SE220656.006	%	10 - 150%	52
	Rinse_HA	SE220656.007	%	10 - 150%	104

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 Aqueous Samples - Low Level (continued)

Method: MA-1523

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	Rinse_Pump	SE220656.008	%	10 - 150%	95

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GW01	SE220656.001	%	40 - 130%	102
	QC01	SE220656.002	%	40 - 130%	102
	GW02	SE220656.003	%	40 - 130%	102
	GW03	SE220656.004	%	40 - 130%	101
	GW04	SE220656.005	%	40 - 130%	101
	GW05	SE220656.006	%	40 - 130%	101
	Rinse_HA	SE220656.007	%	40 - 130%	100
	Rinse_Pump	SE220656.008	%	40 - 130%	103
	Trip Blank	SE220656.009	%	40 - 130%	100
d4-1,2-dichloroethane (Surrogate)	Trip Spike	SE220656.010	%	40 - 130%	96
	GW01	SE220656.001	%	40 - 130%	102
	QC01	SE220656.002	%	40 - 130%	101
	GW02	SE220656.003	%	40 - 130%	97
	GW03	SE220656.004	%	40 - 130%	101
	GW04	SE220656.005	%	40 - 130%	101
	GW05	SE220656.006	%	40 - 130%	99
	Rinse_HA	SE220656.007	%	40 - 130%	99
	Rinse_Pump	SE220656.008	%	40 - 130%	98
d8-toluene (Surrogate)	Trip Blank	SE220656.009	%	40 - 130%	97
	Trip Spike	SE220656.010	%	40 - 130%	101
	GW01	SE220656.001	%	40 - 130%	94
	QC01	SE220656.002	%	40 - 130%	97
	GW02	SE220656.003	%	40 - 130%	97
	GW03	SE220656.004	%	40 - 130%	97
	GW04	SE220656.005	%	40 - 130%	95
	GW05	SE220656.006	%	40 - 130%	95
	Rinse_HA	SE220656.007	%	40 - 130%	97
	Rinse_Pump	SE220656.008	%	40 - 130%	97
	Trip Blank	SE220656.009	%	40 - 130%	97
	Trip Spike	SE220656.010	%	40 - 130%	99

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GW01	SE220656.001	%	40 - 130%	102
	QC01	SE220656.002	%	40 - 130%	102
	GW02	SE220656.003	%	40 - 130%	102
	GW03	SE220656.004	%	40 - 130%	101
	GW04	SE220656.005	%	40 - 130%	101
	GW05	SE220656.006	%	40 - 130%	101
	Rinse_HA	SE220656.007	%	40 - 130%	100
	Rinse_Pump	SE220656.008	%	40 - 130%	103
d4-1,2-dichloroethane (Surrogate)	GW01	SE220656.001	%	60 - 130%	102
	QC01	SE220656.002	%	60 - 130%	101
	GW02	SE220656.003	%	60 - 130%	97
	GW03	SE220656.004	%	60 - 130%	101
	GW04	SE220656.005	%	60 - 130%	101
	GW05	SE220656.006	%	60 - 130%	99
	Rinse_HA	SE220656.007	%	60 - 130%	99
	Rinse_Pump	SE220656.008	%	60 - 130%	98
d8-toluene (Surrogate)	GW01	SE220656.001	%	40 - 130%	94
	QC01	SE220656.002	%	40 - 130%	97
	GW02	SE220656.003	%	40 - 130%	97
	GW03	SE220656.004	%	40 - 130%	97
	GW04	SE220656.005	%	40 - 130%	95
	GW05	SE220656.006	%	40 - 130%	95
	Rinse_HA	SE220656.007	%	40 - 130%	97
	Rinse_Pump	SE220656.008	%	40 - 130%	97

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 (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB226721.001	Mercury	mg/L	0.0001	<0.0001

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB226912.001	Naphthalene	µg/L	0.1	<0.1
	2-methylnaphthalene	µg/L	0.1	<0.1
	1-methylnaphthalene	µg/L	0.1	<0.1
	Acenaphthylene	µg/L	0.1	<0.1
	Acenaphthene	µg/L	0.1	<0.1
	Fluorene	µg/L	0.1	<0.1
	Phenanthrene	µg/L	0.1	<0.1
	Anthracene	µg/L	0.1	<0.1
	Fluoranthene	µg/L	0.1	<0.1
	Pyrene	µg/L	0.1	<0.1
	Benzo(a)anthracene	µg/L	0.1	<0.1
	Chrysene	µg/L	0.1	<0.1
	Benzo(a)pyrene	µg/L	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
	Dibenzo(ah)anthracene	µg/L	0.1	<0.1
	Benzo(ghi)perylene	µg/L	0.1	<0.1
Surrogates	d5-nitrobenzene (Surrogate)	%	-	52
	2-fluorobiphenyl (Surrogate)	%	-	62
	d14-p-terphenyl (Surrogate)	%	-	74

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB226776.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB226912.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB226894.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		Iodomethane	µg/L	5	<5
		1,1-dichloroethene	µg/L	0.5	<0.5
		Dichloromethane (Methylene chloride)	µg/L	5	<5
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5

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.

VOCs in Water (continued)

Method: ME-(AU)-ENVJAN433

Sample Number		Parameter	Units	LOR	Result	
LB226894.001	Halogenated Aliphatics	Bromochloromethane	µg/L	0.5	<0.5	
		1,2-dichloroethane	µg/L	0.5	<0.5	
		1,1,1-trichloroethane	µg/L	0.5	<0.5	
		1,1-dichloropropene	µg/L	0.5	<0.5	
		Carbon tetrachloride	µg/L	0.5	<0.5	
		Dibromomethane	µg/L	0.5	<0.5	
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	
		1,1,2-trichloroethane	µg/L	0.5	<0.5	
		1,3-dichloropropane	µg/L	0.5	<0.5	
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	
		cis-1,4-dichloro-2-butene	µg/L	1	<1	
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	
		1,2,3-trichloropropane	µg/L	0.5	<0.5	
		trans-1,4-dichloro-2-butene	µg/L	1	<1	
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	
		Hexachlorobutadiene	µg/L	0.5	<0.5	
		Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
			Bromobenzene	µg/L	0.5	<0.5
	2-chlorotoluene		µg/L	0.5	<0.5	
	4-chlorotoluene		µg/L	0.5	<0.5	
	1,3-dichlorobenzene		µg/L	0.5	<0.5	
	1,4-dichlorobenzene		µg/L	0.3	<0.3	
	1,2-dichlorobenzene		µg/L	0.5	<0.5	
	1,2,4-trichlorobenzene		µg/L	0.5	<0.5	
	1,2,3-trichlorobenzene		µg/L	0.5	<0.5	
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5	
		Toluene	µg/L	0.5	<0.5	
		Ethylbenzene	µg/L	0.5	<0.5	
		m/p-xylene	µg/L	1	<1	
		o-xylene	µg/L	0.5	<0.5	
		Styrene (Vinyl benzene)	µg/L	0.5	<0.5	
		Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	
		n-propylbenzene	µg/L	0.5	<0.5	
		1,3,5-trimethylbenzene	µg/L	0.5	<0.5	
		tert-butylbenzene	µg/L	0.5	<0.5	
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5	
		sec-butylbenzene	µg/L	0.5	<0.5	
		p-isopropyltoluene	µg/L	0.5	<0.5	
		n-butylbenzene	µg/L	0.5	<0.5	
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5	
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10	
		MtBE (Methyl-tert-butyl ether)	µg/L	2	<1	
		Vinyl acetate	µg/L	10	<10	
		MEK (2-butanone)	µg/L	10	<10	
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5	
		2-hexanone (MBK)	µg/L	5	<5	
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5	
	Sulphonated	Carbon disulfide	µg/L	2	<2	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	97	
		d8-toluene (Surrogate)	%	-	95	
		Bromofluorobenzene (Surrogate)	%	-	98	
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5	
		Bromodichloromethane (THM)	µg/L	0.5	<0.5	
		Dibromochloromethane (THM)	µg/L	0.5	<0.5	
		Bromoform (THM)	µg/L	0.5	<0.5	

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-ENVJAN433

Sample Number	Parameter	Units	LOR



METHOD BLANKS

SE220656 R0

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.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-ENVJAN433

Sample Number	Parameter	Units	LOR	Result
LB226894.001	TRH C6-C9	µg/L	40	<40
	Surrogates			
	d4-1,2-dichloroethane (Surrogate)	%	-	97
	d8-toluene (Surrogate)	%	-	95
	Bromofluorobenzene (Surrogate)	%	-	98

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 (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220656.003	LB226721.014	Mercury	µg/L	0.0001	<0.0001	<0.0001	139	22

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220656.004	LB226912.031	Naphthalene	µg/L	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	200	0
		Acenaphthylene	µg/L	0.1	<0.1	<0.1	200	0
		Acenaphthene	µg/L	0.1	<0.1	<0.1	200	0
		Fluorene	µg/L	0.1	<0.1	<0.1	200	0
		Phenanthrene	µg/L	0.1	<0.1	<0.1	200	0
		Anthracene	µg/L	0.1	<0.1	<0.1	200	0
		Fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
		Pyrene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	200	0
		Chrysene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	µg/L	-	0.3	0.3	30	4
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.3	30	10
SE220736.001	LB226912.030	d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.4	30	8
		Naphthalene	µg/L	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	200	0
		Acenaphthylene	µg/L	0.1	<0.1	<0.1	200	0
		Acenaphthene	µg/L	0.1	<0.1	<0.1	200	0
		Fluorene	µg/L	0.1	<0.1	<0.1	200	0
		Phenanthrene	µg/L	0.1	<0.1	<0.1	200	0
		Anthracene	µg/L	0.1	<0.1	<0.1	200	0
		Fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
		Pyrene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	200	0
		Chrysene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	µg/L	-	0.3	0.3	30	10
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.3	30	9
		d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.4	30	10

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220656.008	LB226776.024	Arsenic, As	µg/L	1	<1	<1	200	0
		Cadmium, Cd	µg/L	0.1	<0.1	<0.1	200	0
		Chromium, Cr	µg/L	1	<1	<1	200	0
		Copper, Cu	µg/L	1	2	1	80	50
		Lead, Pb	µg/L	1	<1	<1	200	0
		Nickel, Ni	µg/L	1	5	5	36	6
		Zinc, Zn	µg/L	5	17	16	46	5

TRH (Total Recoverable Hydrocarbons) in Water

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

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

TRH (Total Recoverable Hydrocarbons) in Water (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220656.004	LB226912.031	TRH C10-C14	µg/L	50	<50	<50	200	0
		TRH C15-C28	µg/L	200	<200	<200	200	0
		TRH C29-C36	µg/L	200	<200	<200	200	0
		TRH C37-C40	µg/L	200	<200	<200	200	0
		TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	µg/L	60	<60	<60	200	0
		TRH >C10-C16	µg/L	60	<60	<60	200	0
		TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
		TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
		TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0
SE220736.001	LB226912.030	TRH C10-C14	µg/L	50	<50	<50	200	0
		TRH C15-C28	µg/L	200	380	380	83	1
		TRH C29-C36	µg/L	200	380	420	80	11
		TRH C37-C40	µg/L	200	<200	<200	200	0
		TRH C10-C40	µg/L	320	760	810	71	6
		TRH F Bands	µg/L	60	<60	<60	200	0
		TRH >C10-C16	µg/L	60	<60	<60	200	0
		TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
		TRH >C16-C34 (F3)	µg/L	500	640	670	106	4
		TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

VOCs in Water

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220656.006	LB226894.024	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
			Aliphatics	Chloromethane	µg/L	5	<5	<5	200
		Vinyl chloride (Chloroethene)		µg/L	0.3	<0.3	<0.3	200	0
		Bromomethane		µg/L	10	<10	<10	200	0
		Chloroethane		µg/L	5	<5	<5	200	0
		Trichlorofluoromethane		µg/L	1	<1	<1	200	0
		Iodomethane		µg/L	5	<5	<5	200	0
		1,1-dichloroethene		µg/L	0.5	<0.5	<0.5	200	0
		Dichloromethane (Methylene chloride)		µg/L	5	<5	<5	200	0
		Allyl chloride		µg/L	2	<2	<2	200	0
		trans-1,2-dichloroethene		µg/L	0.5	<0.5	<0.5	200	0
		1,1-dichloroethane		µg/L	0.5	<0.5	<0.5	200	0
		cis-1,2-dichloroethene		µg/L	0.5	<0.5	<0.5	200	0
		Bromochloromethane		µg/L	0.5	<0.5	<0.5	200	0
		1,2-dichloroethane		µg/L	0.5	<0.5	<0.5	200	0
		1,1,1-trichloroethane		µg/L	0.5	<0.5	<0.5	200	0
		1,1-dichloropropene		µg/L	0.5	<0.5	<0.5	200	0
		Carbon tetrachloride		µg/L	0.5	<0.5	<0.5	200	0
		Dibromomethane		µg/L	0.5	<0.5	<0.5	200	0
		Trichloroethene (Trichloroethylene,TCE)		µg/L	0.5	<0.5	<0.5	200	0
		1,1,2-trichloroethane		µg/L	0.5	<0.5	<0.5	200	0
		1,3-dichloropropane		µg/L	0.5	<0.5	<0.5	200	0
		Tetrachloroethene (Perchloroethylene,PCE)		µg/L	0.5	<0.5	<0.5	200	0
		1,1,1,2-tetrachloroethane		µg/L	0.5	<0.5	<0.5	200	0
		cis-1,4-dichloro-2-butene		µg/L	1	<1	<1	200	0
		1,1,2,2-tetrachloroethane		µg/L	0.5	<0.5	<0.5	200	0
		1,2,3-trichloropropane		µg/L	0.5	<0.5	<0.5	200	0
		trans-1,4-dichloro-2-butene		µg/L	1	<1	<1	200	0
		1,2-dibromo-3-chloropropane		µg/L	0.5	<0.5	<0.5	200	0
		Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0	
		Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0



DUPLICATES

SE220656 R0

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

VOCs in Water (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220656.006	LB226894.024	Halogenated	1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatics	1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatic	Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	200	0
			Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	200	0
			n-propylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			tert-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			sec-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	200	0
			n-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
		Nitrogenous	Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
		Oxygenated	Acetone (2-propanone)	µg/L	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<0.5	200	0
			Vinyl acetate	µg/L	10	<10	<10	200	0
			MEK (2-butanone)	µg/L	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	9.6	30	3
			d8-toluene (Surrogate)	µg/L	-	9.5	9.5	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	10.1	10.0	30	1
		Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0
SE220691.001	LB226894.025	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
			Chloromethane	µg/L	5	<5	<5	200	0
		Aliphatics	Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	200	0
			Bromomethane	µg/L	10	<10	<10	200	0
			Chloroethane	µg/L	5	<5	<5	200	0
			Trichlorofluoromethane	µg/L	1	<1	<1	200	0
			Iodomethane	µg/L	5	<5	<5	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	200	0
			Allyl chloride	µg/L	2	<2	<2	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Bromochloromethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	200	0
			Dibromomethane	µg/L	0.5	<0.5	<0.5	200	0
			Trichloroethene (Trichloroethylene, TCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	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

VOCs in Water (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE220691.001	LB226894.025	Halogenated	Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	200	0	
		Aliphatics	1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0	
			cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0	
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0	
			1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	200	0	
			trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0	
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	200	0	
			Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0	
		Halogenated	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0	
		Aromatics	Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0	
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0	
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0	
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0	
			1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0	
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0	
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0	
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0	
			Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Aromatic	Toluene	µg/L	0.5	<0.5	<0.5	200	0
		Ethylbenzene		µg/L	0.5	<0.5	<0.5	200	0	
		m/p-xylene		µg/L	1	<1	<1	200	0	
		o-xylene		µg/L	0.5	<0.5	<0.5	200	0	
		Styrene (Vinyl benzene)		µg/L	0.5	<0.5	<0.5	200	0	
		Isopropylbenzene (Cumene)		µg/L	0.5	<0.5	<0.5	200	0	
		n-propylbenzene		µg/L	0.5	<0.5	<0.5	200	0	
		1,3,5-trimethylbenzene		µg/L	0.5	<0.5	<0.5	200	0	
		tert-butylbenzene		µg/L	0.5	<0.5	<0.5	200	0	
		1,2,4-trimethylbenzene		µg/L	0.5	<0.5	<0.5	200	0	
		sec-butylbenzene		µg/L	0.5	<0.5	<0.5	200	0	
		p-isopropyltoluene		µg/L	0.5	<0.5	<0.5	200	0	
		n-butylbenzene		µg/L	0.5	<0.5	<0.5	200	0	
		Nitrogenous		Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
		Oxygenated		Acetone (2-propanone)	µg/L	10	<10	<10	200	0
		Compounds		MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<0.5	200	0
				Vinyl acetate	µg/L	10	<10	<10	200	0
			MEK (2-butanone)	µg/L	10	<10	<10	200	0	
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0	
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0	
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0	
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.2	10.0	30	2	
			d8-toluene (Surrogate)	µg/L	-	9.5	9.7	30	2	
			Bromofluorobenzene (Surrogate)	µg/L	-	10.2	10.2	30	0	
		Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0	
			Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0	
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0	
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0	

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE220656.006	LB226894.024	TRH C6-C10	µg/L	50	<50	<50	200	0	
		TRH C6-C9	µg/L	40	<40	<40	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	9.6	30	3
			d8-toluene (Surrogate)	µg/L	-	9.5	9.5	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	10.1	10.0	30	1
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
		SE220691.001	LB226894.025	TRH C6-C10	µg/L	50	<50	<50	200
TRH C6-C9	µg/L			40	<40	<40	200	0	
Surrogates	d4-1,2-dichloroethane (Surrogate)			µg/L	-	10.2	10.0	30	2
	d8-toluene (Surrogate)			µg/L	-	9.5	9.7	30	2



DUPLICATES

SE220656 R0

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 Water (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE220691.001	LB226894.025	Surrogates	Bromofluorobenzene (Surrogate)	µg/L	-	10.2	10.2	30	0
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	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.

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226912.002	Naphthalene	µg/L	0.1	29	40	60 - 140	73
	Acenaphthylene	µg/L	0.1	30	40	60 - 140	75
	Acenaphthene	µg/L	0.1	32	40	60 - 140	79
	Phenanthrene	µg/L	0.1	31	40	60 - 140	78
	Anthracene	µg/L	0.1	33	40	60 - 140	82
	Fluoranthene	µg/L	0.1	35	40	60 - 140	88
	Pyrene	µg/L	0.1	35	40	60 - 140	88
	Benzo(a)pyrene	µg/L	0.1	33	40	60 - 140	83
	Surrogates						
	d5-nitrobenzene (Surrogate)	µg/L	-	0.3	0.5	40 - 130	56
	2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	62
	d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	78

Trace Metals (Dissolved) in Water by ICPMS
Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226776.002	Arsenic, As	µg/L	1	21	20	80 - 120	104
	Cadmium, Cd	µg/L	0.1	21	20	80 - 120	104
	Chromium, Cr	µg/L	1	22	20	80 - 120	109
	Copper, Cu	µg/L	1	22	20	80 - 120	108
	Lead, Pb	µg/L	1	23	20	80 - 120	114
	Nickel, Ni	µg/L	1	21	20	80 - 120	104
	Zinc, Zn	µg/L	5	21	20	80 - 120	107

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226912.002	TRH C10-C14	µg/L	50	1000	1200	60 - 140	85
	TRH C15-C28	µg/L	200	1100	1200	60 - 140	94
	TRH C29-C36	µg/L	200	1200	1200	60 - 140	102
	TRH F Bands						
	TRH >C10-C16	µg/L	60	1100	1200	60 - 140	90
	TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	104
	TRH >C34-C40 (F4)	µg/L	500	580	600	60 - 140	97

VOCs in Water
Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226894.002	Halogenated						
	1,1-dichloroethene	µg/L	0.5	38	45.45	60 - 140	84
	Aliphatics						
	1,2-dichloroethane	µg/L	0.5	44	45.45	60 - 140	96
	Trichloroethene (Trichloroethylene, TCE)	µg/L	0.5	41	45.45	60 - 140	90
	Halogenated						
	Chlorobenzene	µg/L	0.5	45	45.45	60 - 140	100
	Monocyclic						
	Benzene	µg/L	0.5	50	45.45	60 - 140	109
	Aromatic						
	Toluene	µg/L	0.5	49	45.45	60 - 140	109
	Ethylbenzene	µg/L	0.5	49	45.45	60 - 140	108
	m/p-xylene	µg/L	1	98	90.9	60 - 140	108
	o-xylene	µg/L	0.5	49	45.45	60 - 140	109
Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.3	10	60 - 140	103
	d8-toluene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
	Bromofluorobenzene (Surrogate)	µg/L	-	9.7	10	70 - 130	97
Trihalomethan	Chloroform (THM)	µg/L	0.5	48	45.45	60 - 140	105

Volatile Petroleum Hydrocarbons in Water
Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB226894.002	TRH C6-C10	µg/L	50	870	946.63	60 - 140	92
	TRH C6-C9	µg/L	40	670	818.71	60 - 140	81
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.3	10	60 - 140	103
	d8-toluene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
	Bromofluorobenzene (Surrogate)	µg/L	-	9.7	10	70 - 130	97
	VPH F Bands						
	TRH C6-C10 minus BTEX (F1)	µg/L	50	570	639.67	60 - 140	90



MATRIX SPIKES

SE220656 R0

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.

VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220656.001	LB226894.023	Monocyclic	Benzene	µg/L	0.5	51	<0.5	45.45	111
			Toluene	µg/L	0.5	49	<0.5	45.45	109
		Aromatic	Ethylbenzene	µg/L	0.5	48	<0.5	45.45	105
			m/p-xylene	µg/L	1	95	<1	90.9	104
			o-xylene	µg/L	0.5	48	<0.5	45.45	106
		Polycyclic	Naphthalene	µg/L	0.5	54	<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.9	10.2	-	109
			d8-toluene (Surrogate)	µg/L	-	10.3	9.4	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	9.9	10.2	-	99

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE220656.001	LB226894.023		TRH C6-C10	µg/L	50	840	<50	946.63	89
			TRH C6-C9	µg/L	40	750	<40	818.71	91
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.9	10.2	-	109
			d8-toluene (Surrogate)	µg/L	-	10.3	9.4	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	9.9	10.2	-	99
		VPH F	Benzene (F0)	µg/L	0.5		<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	550	<50	639.67	87



MATRIX SPIKE DUPLICATES

SE220656 R0

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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Page 1 of 1

Company Name:	Sullivan Environmental Sciences Pty Ltd
Address:	PO Box 5248, Turramurra NSW 2074
Contact Name:	Adam Sullivan

Project Name/No:	SES_590 (Regents Park)
Purchase Order No:	
Results Required By:	Standard TAT
Telephone:	0400500264
Facsimile:	
Email Results:	adam@sullivan-es.com.au and sean@sullivan-es.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS														
GW01	11/6/21	1	X			5	X													
QC01		2				5	X													
GW02		3				5	X	X	X											
GW03		4				4	X	X												
GW04		5				4	X	X												
GW05		6				5	X	X	X											
Rinse-HA		7				5	X		X											
Rinse-Pump		8				5	X		X											
Trip Blank/Trip Spike/2/6/21		9/10	X			2	X			X										
Relinquished By: G.S. Adam Sullivan			Date/Time: 11/6/21 5:30pm			Received By: [Signature]			Date/Time: 11-6-21 5:15											
Relinquished By:			Date/Time:			Received By:			Date/Time:											
Samples Intact: Yes/No			Temperature: Ambient / Chilled 17.0			Sample Cooler Sealed: Yes/No			Laboratory Quotation No: 242708											
			Comments: Please filter GW02 for metals.																	



ANALYTICAL REPORT



Accreditation No. 2562

CLIENT DETAILS

Contact **Huong Crawford**
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NSW 2015**

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Project **SES_590 (Regents Park)**
Order Number **SE220656**
Samples **10**

LABORATORY DETAILS

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Laboratory **SGS Melbourne EH&S**
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Email **Au.SampleReceipt.Melbourne@sgs.com**

SGS Reference **ME321013 R0**
Date Received **17 Jun 2021**
Date Reported **21 Jun 2021**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(14420).

MA1523: Some surrogate recovery is outside of the acceptance criteria due to sample matrix interference.

SIGNATORIES

Adam ATKINSON
Australian Chemistry Manager



ANALYTICAL REPORT

ME321013 R0

Parameter	Units	LOR	Sample Number	ME321013.001	ME321013.002	ME321013.003	ME321013.004
			Sample Matrix	Water	Water	Water	Water
			Sample Date	06 Nov 2021	06 Nov 2021	11 Jun 2021	06 Nov 2021
			Sample Name	SE220656.001	SE220656.002	SE220656.003	SE220656.004

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	-	0.016	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	-	0.0008	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	-	0.0040	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	-	0.0017	-
Perfluorooctanoic acid (PFOA)	µg/L	0.0005	-	-	0.0009	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	-	-	<0.001	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	-	<0.001	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-	-	<0.001	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-	-	<0.001	-
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	-	-	<0.001	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	-	<0.001	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	-	<0.002	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-	-	0.002	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-	-	<0.001	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-	-	0.0012	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-	-	<0.0002	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-	-	0.0006	-
Sum of PFHxS and PFOS	µg/L	0.0002	-	-	0.0018	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-	-	<0.0005	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-	-	<0.0005	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-	-	<0.0005	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-	-	<0.0005	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-	-	<0.0005	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-	-	<0.0005	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-	-	<0.002	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-	-	<0.0025	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-	-	<0.0025	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-	<0.0025	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-	<0.0025	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-	-	<0.0025	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-	-	<0.0025	-
Total PFAS (n=30)	µg/L	0.006	-	-	0.027	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-	100	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-	98	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-	95	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-	96	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-	104	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-	108	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-	103	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-	112	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-	118	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-	140	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-	183	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-	90	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-	106	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-	95	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	83	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	66	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-	67	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	60	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	71	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-	76	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	65	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-	65	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	68	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-	66	-



ANALYTICAL REPORT

ME321013 R0

Parameter	Units	LOR	Sample Number	ME321013.005	ME321013.006	ME321013.007	ME321013.008
			Sample Matrix	Water	Water	Water	Water
			Sample Date	06 Nov 2021	11 Jun 2021	11 Jun 2021	11 Jun 2021
			Sample Name	SE220656.005	SE220656.006	SE220656.007	SE220656.008

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	0.0034	<0.0005	<0.0005
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	0.0088	<0.0005	<0.0005
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	0.0088	<0.0005	<0.0005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	0.0043	<0.0005	<0.0005
Perfluorooctanoic acid (PFOA)	µg/L	0.0005	-	0.0044	<0.0005	<0.0005
Perfluorononanoic acid (PFNA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	<0.001	<0.001	<0.001
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	<0.002	<0.002	<0.002
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-	0.003	<0.001	<0.001
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-	0.003	<0.001	<0.001
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-	0.0079	<0.0002	<0.0002
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-	0.0003	<0.0002	<0.0002
Sum of PFHxS and PFOS	µg/L	0.0002	-	0.0082	<0.0002	<0.0002
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-	<0.0005	<0.0005	<0.0005
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-	<0.002	<0.002	<0.002
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-	<0.0025	<0.0025	<0.0025
Total PFAS (n=30)	µg/L	0.006	-	0.042	<0.0060	<0.0060
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	102	99	101
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	136	95	97
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	83	112	102
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	84	104	108
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	99	99	101
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	108	105	106
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	114	122	121
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	126	113	83
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	140	132	93
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	195	146	138
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	372	269	221
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	85	117	93
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	94	100	100
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	100	95	100
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	64	127	86
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	58	105	80
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	53	113	83
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	56	83	82
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	66	110	76
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	74	122	108
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	57	106	102
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	52	104	95
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	58	100	100
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	65	94	87



ANALYTICAL REPORT

ME321013 R0

		Sample Number	ME321013.009	ME321013.010
		Sample Matrix	Water	Water
		Sample Date	06 Feb 2021	06 Feb 2021
		Sample Name	SE220656.009	SE220656.010
Parameter	Units	LOR		

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523 Tested: 21/6/2021

Perfluorobutanoic acid (PFBA)	µg/L	0.0005	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.0005	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.0005	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0005	-	-
Perfluorooctanoic Acid (PFOA)	µg/L	0.0005	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001	-	-
Perfluoroundecanoic acid (PFUnA)	µg/L	0.001	-	-
Perfluorododecanoic acid (PFDoA)	µg/L	0.001	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	-	-
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.002	-	-
Perfluorobutane sulfonate (PFBS)	µg/L	0.001	-	-
Perfluoropentane sulfonate (PFPeS)	µg/L	0.001	-	-
Perfluorohexane sulfonate (PFHxS)	µg/L	0.0002	-	-
Perfluoroheptane sulfonate (PFHpS)	µg/L	0.0002	-	-
Perfluorooctane sulfonate (PFOS)	µg/L	0.0002	-	-
Sum of PFHxS and PFOS	µg/L	0.0002	-	-
Perfluorononane sulfonate (PFNS)	µg/L	0.0005	-	-
Perfluorodecane sulfonate (PFDS)	µg/L	0.0005	-	-
Perfluorododecane sulfonate (PFDoS)	µg/L	0.0005	-	-
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	µg/L	0.0005	-	-
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	µg/L	0.0005	-	-
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	µg/L	0.0005	-	-
Perfluorooctane sulfonamide (PFOSA)	µg/L	0.002	-	-
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.0025	-	-
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.0025	-	-
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.0025	-	-
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.0025	-	-
N-Ethylperfluorooctanesulfonamidoacetic Acid	µg/L	0.0025	-	-
Total PFAS (n=30)	µg/L	0.006	-	-
(13C4-PFBA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C5-PFPeA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C5-PFHxA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C4-PFHpA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C4_PFOA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C9-PFNA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C6-PFDA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C7-PFUDa) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-PFDoA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2_PFTeDA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-PFHxDA) Isotopically Labelled Internal Recovery	%	-	-	-
(13C3-PFBS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C3-PFHxS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C8-PFOS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery	%	-	-	-
(13C8-PFOSA) Isotopically Labelled Internal Recovery	%	-	-	-
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery	%	-	-	-
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery	%	-	-	-
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery	%	-	-	-
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery	%	-	-	-
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery	%	-	-	-



QC SUMMARY

ME321013 R0

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples - Low Level Method: MA-1523

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Perfluorobutanoic acid (PFBA)	LB042213	µg/L	0.0005	<0.0005	4%	NA
Perfluoropentanoic acid (PFPeA)	LB042213	µg/L	0.0005	<0.0005	12%	NA
Perfluorohexanoic acid (PFHxA)	LB042213	µg/L	0.0005	<0.0005	4%	NA
Perfluoroheptanoic acid (PFHpA)	LB042213	µg/L	0.0005	<0.0005	14%	103%
Perfluorooctanoic Acid (PFOA)	LB042213	µg/L	0.0005	<0.0005	22%	129%
Perfluorononanoic acid (PFNA)	LB042213	µg/L	0.001	<0.001	0%	150%
Perfluorodecanoic acid (PFDA)	LB042213	µg/L	0.001	<0.001	0%	142%
Perfluoroundecanoic acid (PFUnA)	LB042213	µg/L	0.001	<0.001	0%	147%
Perfluorododecanoic acid (PFDoA)	LB042213	µg/L	0.001	<0.001	0%	146%
Perfluorotridecanoic acid (PFTriDA)	LB042213	µg/L	0.001	<0.001	0%	150%
Perfluorotetradecanoic acid (PFTeDA)	LB042213	µg/L	0.001	<0.001	0%	144%
Perfluorohexadecanoic acid (PFHxDA)	LB042213	µg/L	0.002	<0.002	0%	NA
Perfluorobutane sulfonate (PFBS)	LB042213	µg/L	0.001	<0.001	0%	NA
Perfluoropentane sulfonate (PFPeS)	LB042213	µg/L	0.001	<0.001	0%	NA
Perfluorohexane sulfonate (PFHxS)	LB042213	µg/L	0.0002	<0.0002	38%	NA
Perfluoroheptane sulfonate (PFHpS)	LB042213	µg/L	0.0002	<0.0002	0%	NA
Perfluorooctane sulfonate (PFOS)	LB042213	µg/L	0.0002	<0.0002	89%	142%
Sum of PFHxS and PFOS	LB042213	µg/L	0.0002	<0.0002	26%	NA
Perfluorononane sulfonate (PFNS)	LB042213	µg/L	0.0005	<0.0005	0%	NA
Perfluorodecane sulfonate (PFDS)	LB042213	µg/L	0.0005	<0.0005	0%	NA
Perfluorododecane sulfonate (PFDoS)	LB042213	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorohexane sulfonate (4:2) (4:2 FTS)	LB042213	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorooctane sulfonate (6:2) (6:2 FTS)	LB042213	µg/L	0.0005	<0.0005	0%	NA
1H,1H,2H,2H-Perfluorodecane sulfonate (8:2) (8:2 FTS)	LB042213	µg/L	0.0005	<0.0005	0%	NA
Perfluorooctane sulfonamide (PFOSA)	LB042213	µg/L	0.002	<0.002	0%	78%
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	LB042213	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	LB042213	µg/L	0.0025	<0.0025	0%	NA
2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	LB042213	µg/L	0.0025	<0.0025	0%	NA
2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	LB042213	µg/L	0.0025	<0.0025	0%	NA
N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	LB042213	µg/L	0.0025	<0.0025	0%	NA
N-Ethylperfluorooctanesulfonamidoacetic Acid (N-EtFOSAA)	LB042213	µg/L	0.0025	<0.0025	0%	NA
Total PFAS (n=30)	LB042213	µg/L	0.006	<0.0060		
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	100%	1%	98%
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	92%	2%	98%
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	106%	1%	119%
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	109%	3%	118%
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	106%	4%	104%
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	104%	8%	99%
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	105%	9%	101%
(13C7-PFUDA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	93%	11%	82%
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	100%	12%	90%
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	121%	5%	123%
(13C2-PFHxDA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	106%	37%	103%
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	101%	0%	130%
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	102%	1%	100%
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	110%	6%	97%
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	107%	11%	124%
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	102%	12%	102%
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	99%	7%	84%
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	89%	1%	96%
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	93%	5%	97%
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	103%	5%	94%
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	89%	6%	110%
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	91%	2%	102%
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	103%	1%	97%
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	LB042213	%	-	107%	9%	96%



METHOD SUMMARY

ME321013 R0

METHOD

MA-1523

METHODOLOGY SUMMARY

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

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
***	Indicates that both * and ** apply.	-	The sample was not analysed for this analyte
		NVL	Not Validated

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

SE220656

CLIENT DETAILS

Contact ADAM SULLIVAN
Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED
Address PO BOX 5248
TURRAMURRA NSW 2074

Telephone (Not specified)
Facsimile (Not specified)
Email ENQUIRIES@SULLIVAN-ES.COM.AU

Project **SES_590 (Regents Park)**
Order Number (Not specified)
Samples 10

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 Fri 11/6/2021
Report Due Mon 21/6/2021
SGS Reference **SE220656**

SUBMISSION DETAILS

This is to confirm that 10 samples were received on Friday 11/6/2021. Results are expected to be ready by COB Monday 21/6/2021. Please quote SGS reference SE220656 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	10 Water
Date documentation received	11/6/2021	Type of documentation received	COC
Number of eskies/boxes received		Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	17.0°C
Sufficient sample for analysis	Yes	Turnaround time requested	Standard

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. Results may be delayed.

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SAMPLE RECEIPT ADVICE

SE220656

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	GW01	1	22	7	9	11	7
002	QC01	1	22	7	9	11	7
003	GW02	1	22	7	9	78	7
004	GW03	1	22	7	9	78	7
005	GW04	1	22	7	9	78	7
006	GW05	1	22	7	9	78	7
007	Rinse_HA	1	22	7	9	11	7
008	Rinse_Pump	1	22	7	9	11	7
009	Trip Blank	-	-	-	-	11	-
010	Trip Spike	-	-	-	-	11	-

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

SE220656

CLIENT DETAILS

Client SULLIVAN ENVIRONMENTAL SCIENCES PTY. LIMITED

Project SES_590 (Regents Park)

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
003	GW02	56
006	GW05	56
007	Rinse_HA	56
008	Rinse_Pump	56

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 G Surveyor Drawings

Our Ref : 6042-4

24 June 2021

Hallmark Constructions Pty Ltd
2A Gregory Place
HARRIS PARK NSW 2150

Attention : Raymond Raad



20/1-5 Jacobs Street
Bankstown NSW 2200

PO Box 3530
Centro Bankstown
NSW 2200

P 02 9708 5719

admin@geometra.com.au
www.geometra.com.au

RE: SURVEY LOCATION OF MONITORING WELLS
PROPERTY: 30-46 AUBURN ROAD, REGENTS PARK

As requested by you I have surveyed and located the six monitoring wells that are located within the subject property.

The location and heights of the PVC pipes of each of the monitoring wells has been surveyed and are shown in the form of MGA co-ordinates, for location, and Australian Height Datum (AHD) levels for heights.

These MGA co-ordinates and AHD levels as calculated by me are as shown in the accompanying plan.

Should you have any further queries on this matter please contact this office.

Yours faithfully

A handwritten signature in blue ink, appearing to read "John Bottaro", with a long horizontal flourish extending to the right.

John Bottaro
Surveyor Registered Under
Surveying and Spatial Information Act 2002

SURVEY MONITORING OF MONITORING WELLS

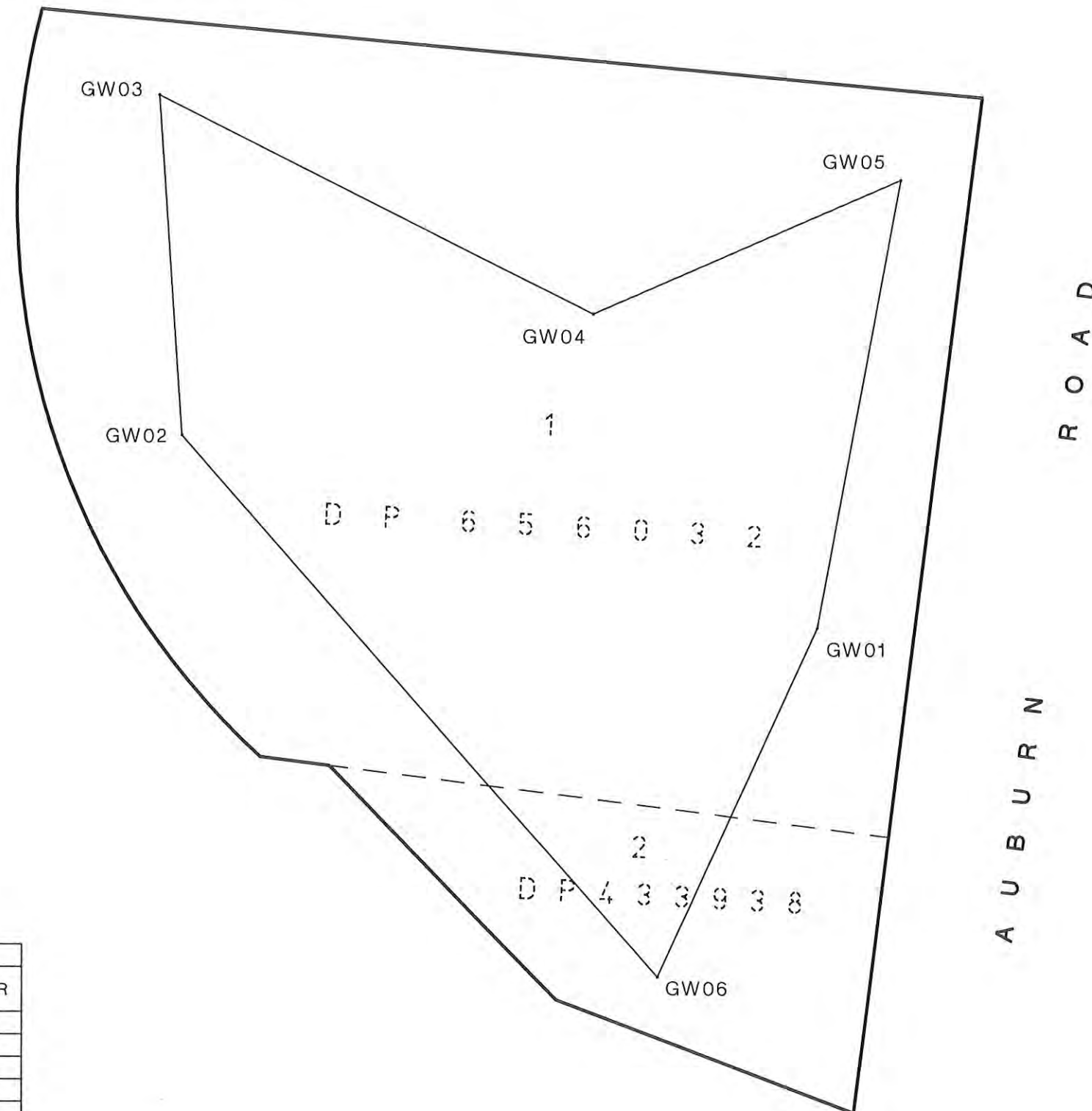
THE LOCATION OF THE SUBJECT PROPERTY BOUNDARIES SHOWN
IS DIAGRAMATIC ONLY

MONITORING POINTS MGA COORDINATES			
Pt.	EASTING	NORTHING	RL (AHD)
GW03	317005.397	6248634.204	31.37
GW02	317009.449	6248573.847	32.09
GW06	317094.115	6248477.558	35.81
GW01	317122.792	6248539.472	32.34
GW04	317082.755	6248595.301	31.98
GW05	317137.704	6248619.045	31.31

ALL LEVELS SHOWN ARE ON AUSTRALIAN HEIGHT DATUM (AHD)

ALL MONITORING WELL LEVELS SHOWN (RL) ARE TAKEN TO THE
TOP OF THE PVC PIPE OF EACH MONITORING WELL

GW02 DENOTES MONITORING WELL IDENTIFICATION NUMBER



MGA CO-ORDINATES ADOPTED

ESTABLISHED MGA SURVEY MARKS ADOPTED				
MARK	MGA COORDINATES		CLASS	ORDER
	EASTING	NORTHING		
SSM 61888	317200.425	6248692.540	C	D
PM 3466	317039.095	6248421.274	B	LC
DATE OF SCIMS CO-ORDINATES 21 JUNE 2021				
MGA ZONE : 56 MGA DATUM : GDA2020				
COMBINED SCALE FACTOR (CSF) : 1.000003				

GEOMETRA
Consulting

20/1-5 Jacobs Street
Bankstown NSW 2200
Ph: 9708 5719
Fax: 9708 4362
admin@geometra.com.au
www.geometra.com.au
ABN 69 074 616 087

LAND SURVEYORS - DEVELOPMENT CONSULTANTS

PLAN SHOWING SURVEY LOCATION OF
MONITORING WELLS TO DETERMINE
THEIR POSITION AND HEIGHTS AT

**30-46 AUBURN ROAD
REGENTS PARK**

LOT 2 DP 433938 &
LOT 1 IN DP 656032

A3

1:250
units-metres

DATUM AHD
PM 3466
RL : 38.328

ALL DIMENSIONS
SHOWN ARE IN
METRES

SHEET 1 OF 1 SHEETS

John Bottaro

JOHN BOTTARO
REGISTERED SURVEYOR

OUR REFERENCE: 6042-4
SURVEY DATE: 24-06-2021