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DEICORP PROJECTS (TALLAWONG STATION) PTY LTD

Detailed Site Investigation

Tallawong Station Precinct South, Rouse Hill NSW

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Executive Summary

Background

Deicorp Projects (Tallawong Station) Pty Ltd Pty Ltd engaged EI Australia (EI) to conduct a Detailed Site Investigation for the property located at Tallawong Station Precinct South, Rouse Hill NSW ('the site').

The site was located approximately 34 km north west of the Sydney central business district, and situated within the Local Government Area of Blacktown City Council, (**Figure A.1**), the site covers a total area of approximately 7.8 ha. Based on current site conditions, some internal roads and car parking have previously been constructed reducing the assessment area to 4.33 ha as depicted in **Figure A.2**. At the time of the investigation the assessment area was cleared of all structures.

Objectives

The proponent is required to meet the requirements of a Secretary's Environment Assessment Requirements (SEARs) for development of a State Significant Development (SDD). The primary objectives of this investigation were therefore to:

- Evaluate the potential for site contamination on the basis of historical land uses, anecdotal and documentary evidence of possible pollutant sources;
- To investigate the degree of any potential contamination by means of limited intrusive sampling and laboratory analysis, for relevant contaminants of potential concern; and
- Where site contamination is confirmed, make recommendations for the appropriate management of any contaminated soils and/or groundwater.

Findings

The work was conducted with reference to the regulatory framework outlined in **Section 1.3** of this report and assessment findings indicated the following:

- The site comprised an irregularly shaped block, covering a total area of approximately 4.33 hectares. The site was bisected by Conferta Avenue and bound by Themeda Avenue (north), Cudegong Road (east), Schofield Road (south) and open aired car park (west);
- The site was historically occupied by four (4) rural residential properties, with an indication of agricultural and livestock use throughout prior to acquisition, then used as a holding yard for the Sydney Metro Northwest Project ;
- The site was free of statutory notices issued by the NSW EPA;
- Soil sampling and analysis were conducted at 58 targeted test bore locations (BH1M – TP58). Sampling regime was considered to be appropriate and comprised judgemental and systematic (triangular grid) sampling patterns, with allowance for structural obstacles (e.g. building walls, underground and overhanging services and other physical obstructions in use by existing operating businesses);
- The sub-surface layers comprised of anthropogenic fill underlain by residual clays and shale bedrock at depth;
- All contaminant concentrations were found to be below the adopted human health criteria, indicating a low to minimal risk to human health posed by soil;

- Asbestos was detected in fill at location TP26 and TP50. Asbestos impacted fill will require removal during redevelopment;
- Groundwater was encountered at depths ranging from 1.8 to 8.6 mBGL;
- The heavy metals, copper, nickel, zinc and manganese were detected in groundwater at levels above the adopted GILs. EI considers the reported concentrations to pose a low probability of unacceptable risk to be present, and the presence of a complete migration pathway to the end users of the building was low due to the availability of a reticulated water supply in the area;
- TRHs were found at levels above the adopted guidelines at wells BH2M, BH2M, BH7M and BH13M;
- On review of the Conceptual Site Model (CSM) developed as part of this DSI, it was concluded that the model remains valid for the proposed development. Analytical testing of the site media did not report concentrations of many of the identified potential contaminants of concern (Section 5) as highlighted within the CSM (**Table 5-5**). Overall, the actual likelihood for complete exposure pathways to exist as highlighted within the CSM was low.

Recommendations

In view of the above findings and in accordance with the NEPM 2013 guidelines; it is considered that the site can be made suitable for the proposed development on completion of the following recommendations:

1. Preparation of a Remediation Action Plan (RAP) detailing the following:
    a. Management and testing of waste on site
    b. Closure of any data gaps
    c. Detailing of an unexpected finds protocol
2. Additional groundwater investigation in the vicinity of BH2M to confirm and delineate TRH impacts;
3. Surveying of onsite groundwater wells to accurately model groundwater flow direction;
4. Management of the asbestos impacted material in accordance with the EPA (2014) *Waste Classification Guidelines*. Any area where asbestos is removed must be validated in accordance with the WaDOH (2009) Guidelines; and
5. Classification of any soils to be disposed of off-site in accordance with the EPA (2014) *Waste Classification Guidelines*.

1. INTRODUCTION

1.1 Background and Purpose

Deicorp Projects (Tallawong Station) Pty Ltd engaged EI Australia (EI) to conduct a Detailed Site Investigation for the property located at Tallawong Station Precinct South, Rouse Hill NSW ('the site'). The site can also be legally identified as Lot 293 and 294 in DP1213279.

The site was located approximately 34 km north west of the Sydney central business district, and situated within the Local Government Area of Blacktown City Council, (**Figure A.1**), the site covers a total area of approximately 7.8 ha. Based on current site conditions, some internal roads and car parking have previously been constructed reducing the assessment area to 4.4 ha as depicted in **Figure A.2**. At the time of the investigation the assessment area was cleared of all structures.

EI understands that redevelopment of the site is a State Significant Development (SSD), a Secretary's Environment Assessment Requirements (SEARs) was prepared for the site. This report has been prepared to support the SEARS for the development of the site for mixed commercial and residential use and to enable the proponent to meet their obligations under the *Contaminated Land Management Act 1997* (CLM Act), for the assessment and management of contaminated soil and/or groundwater.

1.2 Proposed Development

EI understands that the proposed development involves the construction of 16 mixed-use apartment towers overlying a three-level basement car park (as illustrated in the proposed development plans attached in **Appendix D**).

1.3 Regulatory Framework

The following regulatory framework and guidelines were considered during the preparation of this report:

- ANZECC & ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality;
- DEC (2007) Guidelines for the Assessment and Management of Groundwater Contamination;
- DEC (2017) Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme (3nd Edition);
- EPA (1995) Sampling Design Guidelines;
- NEPC (2013) Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater;
- NEPC (2013) Schedule B(2) Guideline on Site Characterisation;
- *Contaminated Land Management Act* (1997);
- *State Environment Planning Policy* – Remediation of Land (SEPP 55);
- *State Environmental Planning Policy* (Sydney Region Growth Centres) 2006
- OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites; and
- WADOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.

The report also considered the:

- Concept State Significant Development Application Sydney Metro Northwest Tallawong Station Precinct South SSD 9063 Volume 1 (July 2018)

1.4 Project Objectives

The proponent is required to meet the requirements of SEPP 55 for submission with any future land development applications. The primary objectives of this investigation were therefore to:

- Evaluate the potential for site contamination on the basis of historical land uses, anecdotal and documentary evidence of possible pollutant sources;
- To investigate the degree of any potential contamination by means of limited intrusive sampling and laboratory analysis, for relevant contaminants of potential concern; and
- Where site contamination is confirmed, make recommendations for the appropriate management of any contaminated soils and/or groundwater.

1.5 Scope of Works

To achieve the above objectives, the scope of works included:

- Preparation of a Work, Health, Safety & Environment Plan;
- A review of existing underground services on site and carry out an underground search for buried services using elector-magnetic equipment;
- A review of relevant hydrogeological and soil landscape maps for the project area;
- A review of any previous environmental reports;
- A detailed site walkover inspection, including clearance of areas identified to contain visual evidence of contamination;
- Excavation of test pits at 58 locations distributed in a broad grid pattern across accessible areas of the site;
- Drilling of boreholes to assess Acid Sulfate Soils (ASS) at 4 locations (2 in each site) and Salinity at 6 locations (2 in the northern and 4 in the southern site) to approx. 1m below the proposed bulk excavation (approx. 15 mBGL or prior refusal on bedrock);
- Drilling of seven groundwater monitoring bores (3 in the northern site and 4 in the southern site) drilled to a maximum depth of 12m (or refusal) both up gradient and downgradient of the proposed redevelopment area. Groundwater monitoring bores will be installed to standard environmental protocols to investigate the potential for groundwater contamination, and potential migration of contaminants off-site;
- Multiple level soil sampling within fill and natural soils and one round of groundwater sampling from the seven newly constructed groundwater monitoring bores;
- Collection of representative surface soil samples from the following areas where previous stockpiled soils (specifically the large stockpile located in the south west corner of the site) were located;
- Collection of representative water and sediment samples from the dams onsite;
- Laboratory analysis of selected soil samples for relevant analytical parameters as determined from the site history survey and field observations during the investigation program; and

Data interpretation and reporting.

2. SITE DESCRIPTION

2.1 Property Identification, Location and Physical Setting

The site identification details and associated information are presented in **Table 2-1**, while the site locality is shown in **Figure A.1**.

Table 2-1 Site Identification, Location and Zoning

Attribute	Description
Street Address	1-15 & 2-12 Conferta Avenue, Rouse Hill 2155
Location Description	Approx. 34 km north west of Sydney CBD, the site was bisected by Conferta Avenue and bound by Themeda Avenue (north), Cudegong Road (east), Schofield Road (south) and open aired car park (west). North Eastern corner of site: GDA2020-MGA56 Easting: 306009.624, Northing: 6270038.315 (Source: http://maps.six.nsw.gov.au).
Site Area	Approx. 4.33 ha (43, 300 m^2) Source: http://maps.six.nsw.gov.au)
Lot and Deposited Plan (DP)	Lot 293 and 294 in DP1213279
State Survey Marks	Seven State Survey (SS) marks were situated in close proximity to the site: - SS191467 - SS176099 - SS176097 - SS176090 - SS191464 - SS164963D - SS13866D All markers were located off the southern boundary of site on Schofield road and Amarco Crescent (Source: http://maps.six.nsw.gov.au).
Local Government Authority	Blacktown City Council
Parish	Gidley
County	Cumberland
Current Zoning	North of Conferta Avenue: B4 – Mixed Use South of Conferta Avenue: R3 – Medium Density Residential South east corner of site: SP2 – Infrastructure Source: State Environmental Planning Policy (Sydney Regional Growth Centres) Amendment (Area 20 Precinct), 2015
Current Land Uses	At the time of the investigation the site was vacant and cleared of all structures.

During the assessment the north and south portions of the site (separated by Conferta Avenue) were fenced off with hoarding. A dam was present on the southern portion of site and was also fenced off. The assessment area is illustrated in **Figure A.2**.

2.2 Surrounding Land Use

The site was situated within an area of mixed land uses and current uses. Current uses of surrounding land are described in **Table 2-2**.

Table 2-2 Surrounding Land Uses

Direction Relative to Site	Land Use Description
North	Themeda Avenue followed by Tallawong Metro Station
East	Cudgegong Road followed by Endeavour Energy Sub Station
South	Schofields Road and Amarco Crescent followed by individual residential dwellings
West	On grade open air car parks

Sensitive land uses in proximity to the site were identified as the Ponds School, located 680m south east of the site. The nearest sensitive environmental receptor is Second Ponds Creek approximately 200 m east of the site.

2.3 Regional Setting

Regional topography, geology, soil landscape and hydrogeological information are summarised in **Table 2-3**.

Table 2-3 Regional Setting Information

Attribute	Description
Ground Topography	The site sloped to the south east, with the northern portion of site appearing to have been substantially filled. The northwest portion of the site had a level of approx. 58mAHD with the lowest elevation in the south east corner having an elevation of 50 mAHD (ADE, 2018)
Site Drainage	Site drainage is likely to consist of mostly surface infiltration. Any run off would be expected to flow into the dam (in the case of the southern portion of the site) or to municipal stormwater pits on Schofields Road and Conferta Avenue and then flow to the nearest drainage line.
Regional Geology	With reference to the 1:100,000 scale Geological Series Sheet 9130 (Penrith), the site lies on the border of two members of the Wianamatta Group, being; Bringelly Shale (Rwb) and Ashfield Shale (Rwa). The two formations are separated by the Minchinbury Sandstone. Bringelly Shale (Rwb) consists of shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff. Minchinbury Sandstone (Rwm) Fine to medium grained quartz lithic sandstone. Ashfield Shale (Rwa) consists of dark grey to black claystone-siltstone and fine sandstone-siltstone laminite.

Attribute	Description
Soil Landscapes	The Soil Conservation Service of NSW Soil Landscapes of the Sydney 1:100,000 Sheet (Chapman and Murphy, 2002) indicates that the site overlies the Blacktown (bt) residual landscape, which is described as gently undulating rises on Wianamatta Group shales. Local relief to 30 m, slopes usually >5%. Broad rounded crests and ridges with gently inclined slopes. Cleared Eucalypt woodland and tall open-forest (dry schlerophyll forest). Soils are described as consisting of shallow to moderately deep (>100 cm) hardsetting mottled texture contrast soils, red and brown podzolic soils (Dr3.21, Dr3.31, Db2.11, Db2.21) on crests grading to yellow podzolic soils (Dy2.11, Dy3.11) on lower slopes and in drainage lines.
Acid Sulfate Soil Risk	The Blacktown LEP 2015 does not specify risk associated with acid sulfate soils. With reference to the Acid Sulfate Soil Risk Maps (1:25,000 scale; Murphy, 1997), the site was not present on any of the maps. EI conducted an acid sulfate soil assessment during works to investigate of ASS/PASS.
Nearest Surface Water Feature	Second Ponds Creek, located approximately 182m east of the site.
Inferred Groundwater Flow Direction	Groundwater flow has been inferred through gauging of installed groundwater wells as discussed in **Section 9.2**. Groundwater was inferred to flow towards the east towards Second Ponds Creek.

2.4 Groundwater Bore Records and Groundwater Use

An online search of registered groundwater bores was conducted by EI on 11 February 2020 through the NSW Office of Water (Ref. http://allwaterdata.water.nsw.gov.au/water.stm). There were no registered bores within 500 m of the site.

2.5 Site Inspection

EI staff made a number of observations during a detailed site inspection on 24 January 2020. The recorded observations are summarised in **Table 2-4.**

Table 2-4 Summary of Buildings and Infrastructure

Allotment	Buildings	USTs/ASTs	Observations
Tallawong Station Precinct South, Rouse Hill NSW	During the investigation the site had been cleared of all previous structures.	No USTs/ASTs or associated infrastructure were observed.	The northern and southern portions of the site were separated by a road. The two halves of the site were isolated by hoarding. There was a dam present on the southern portion of the site which had been further fenced off to prevent any public access. Imported engineered road base material was present on the entry of the northern lot to allow vehicle access. The site was sporadically covered with surface vegetation that did not appear distressed. The client informed EI that vegetation was cleared at an earlier date to allow site access.

3. PREVIOUS INVESTIGATIONS

3.1 Available documents

EI was provided with the following previous reports conducted for the site:

- ADE Consulting Group (2018) *Phase 1 Preliminary Site Investigation, Cudgegong Road Station Precinct South, Rouse Hill, NSW* Ref: STC-1023-13390/PSI1/v3f, dated: 7 March 2018.
  - *EI note Cudgegong Road Station Precinct South is now known as Tallawong Station Precinct South.*

The ADE (2018) report is summarised below, in **Table 3-1**.

Table 3-1 Summary of previous reports

Assessment Details	Project Task and Findings
Preliminary Site Investigation (ADE, 2018)	
Background	The purpose of the ADE PSI report was to assess the environmental condition of the site and suitability for the proposed future land use. This was undertaken through: ▪ Review of the Site's history; and ▪ A site walkover and visual inspection The site walkover and visual inspection was undertaken by an experienced environmental consultant on the 16th of January 2018. The ADE PSI report summarises the findings from the site walkover and discusses the outcomes of the desktop investigation.
Objectives	The scope of work required to achieve the objectives of the investigation involved the following: ▪ Completion of a Health & Safety Plan; ▪ Desktop Site review of: o Land title records; o Section 149 Planning Certificates; o Environment Protection Agency (EPA) contaminated lands register for notations and list of sites notified to EPA; o Dial Before You Dig service search; o Review of past and current activities on the Site; o Review of past and current activities on neighbouring sites and identification of any potential on-site/off-site sources of contamination; o Review of past aerial photographs of the Site and its surrounds to identify the locations of any previous buildings and/or other infrastructure associated with activities that could be onsite/off-site sources of contamination; o Review of local geology and hydrogeology (including groundwater bore search); ▪ Site inspection by an experienced environmental consultant; ▪ Preparation of a Phase I PSI report outlining: o Detailed information on the results of the desktop review and site inspection; o Conclusions regarding the potential for contamination at the Site; o Conclusions regarding measures to ensure the Site is suitable for the proposed development; and o Recommendations for a Phase II Detailed Site Investigation (DSI), should it be warranted.
Site History	Historical searches indicate the Site was privately owned until 2012-2013, when Transport for NSW purchased the property to construct Cudgegong Road Metro Station (now known as Tallawong Metro Station) and Cudgegong Road Station

Assessment Details	Project Task and Findings
	Precinct South (now known as Tallawong Station Precinct South). According to the historical aerial photographs, the Site was predominantly used as four (4) rural residential properties, with an indication of agricultural and livestock use throughout prior to acquisition. During the construction phase of the North West Rapid Transit project, much of the topsoil appears to have been scraped back and potentially stockpiled within the south west corner of Site, with fill material imported. The surrounding area was predominantly rural residential properties until development, with large scale construction works now surrounding the Site.
Conclusions and Recommendations	Areas that may be impacted by potential contamination were identified on the basis of the available Site information and during the Site inspection undertaken on the 16th January 2018. The qualitative assessment of the Site undertaken during this investigation has indicated the potential for contamination to be low with regards to the development and use of land as a town centre. Based on the information available it is likely that the Site can be made suitable. A previous report conducted by Environmental Earth Sciences (2014), found the potential for contamination within the Site to be low, however did note that some ACM material was identified on the surface of the Site. A previous report conducted by ADE (2017) concluded that the soil within the dam in the centre of the Site was found to contain asbestos. In 2012 Transport for NSW purchased the Site as part of the North West Rail Link project. The Site has been predominantly cleared, with extensive cut and fill activities raising the site by up to 8 m. Two (2) dams are located within the Site, where surface water runoff is expected to flow. A large stockpile of topsoil material was observed in the south west corner of site, with presumed ACM fragments observed on the surface. Given the current earthworks and the construction of Cudgegong Road Metro Station (now known as Tallawong Metro Station), constant alterations to the Site condition make it problematic to fully assess the Sites' suitability for future plans of development of Cudgegong Road Station Precinct South (now known as Tallawong Station Precinct South). On Completion of current development works, a Detailed Site Investigation (DSI) targeting imported fill material onto site, stockpiled material within the south west of the Site, and two dam footprints should be conducted to confirm the suitability of the Site for the proposed development. Based on the information available it is likely that the Site can be made suitable for the proposed development. Measures to ensure the Site is suitable for the intended land use are available, in accordance with the State Environmental Planning Policy No.55 - Remediation of Land. Following completion of works on Site associated with the Sydney Metro North West proposal, and prior to further development applications associated with the proposal, a Phase II Detailed Site Investigation of soil and groundwater in accordance with National Environmental Protection Measure (NEPM 2013), Acid Sulfate Soils Assessment Guidelines (Acid Sulfate Soil Management Advisory Committee ((ASSMAC 1998) and ESS (2014) recommendations is required. The DSI should include, but is not limited to, an intrusive subsurface investigation of the following; ▪ The fill materials both historically placed and as part of the current development of the Site in order to determine the vertical and lateral extent (if any) of potential contaminants of concern (i.e. Asbestos, Heavy Metals, PAHs, TRH, OCPs, OPPs, PCBs); ▪ ASS assessment to a maximum of one (1) metre beyond the proposed design depth as per the ASSMAC (1998); ▪ Salinity assessment (both soil and groundwater) of soil material to be collected and analysed prior to the construction phase. This will determine potential impacts of soil salinity on structures i.e. foundations and basements; ▪ The two (2) dam footprints including fill material for dam wall construction and sediments within; and ▪ The large soil stockpile within the south-western sector of the site. Due to the Site's constant evolution as part of the Sydney Metro Northwest Project, the full extent of contamination is unable to be determined. A revision of the information within this report, and intrusive works for the Phase II DSI should be undertaken following completion of earthworks within the Site.

4. SITE HISTORY AND SEARCHES

4.1 Site Land Titles Information / Historic Aerial Review

A historical title and aerial photograph review was carried out during the ADE (2018) PSI (Summarised in **Table 3-1**). The historical aerial review found that the site was predominantly used as four (4) rural residential properties, with an indication of agricultural and livestock use throughout prior to acquisition. The site was then used for a holding and processing yard for the Sydney Metro North West Project which included excavated dams (shown in **Figure A.2**), equipment storage, site sheds and car parking. One of the dams (shown in **Photograph 1** below and shaded blue on **Figure A.2**) has since been filled in. The site surface was significantly altered during the time it was in use by the Sydney Metro North West Project as shown in **Photograph 2** below.

Photograph 1: Dam from previous site activities. Located in the south eastern corner of site. Photograph taken 16 August 2018 (ADE, 2018)

Photograph 2: Aerial photograph of the site showing altered service and former dam. Dated: 12 March 2017 (ADE, 2018)

4.2 EPA Online Records

On 4 March 2020, an on-line search of the contaminated land public record of NSW Environment Protection Authority (EPA) Notices was conducted. This search confirmed that the NSW OEH had no regulatory involvement in relation to the area of investigation, or properties in proximity (<500m) to the site. The contaminated land public record is a searchable database of:

- Orders made under Part 3 of the *Contaminated Land Management Act 1997* (CLM Act);
- Approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the EPA has not been revoked;
- Site Audit Statements provided to the EPA under Section 53B of the CLM Act that relate to significantly contaminated land;
- Where practicable, copies of any documentation formerly required to be part of the public record; and
- Actions taken by the EPA under Sections 35 and 36 of the *Environmentally Hazardous Chemicals Act 1985*.

A search through the List of NSW Contaminated Sites notified to the EPA under Section 60 of the CLM Act 1997 was also conducted on 21 January 2020. This list is maintained by NSW EPA and includes properties on which contamination has been identified. Not all notified land is deemed to be impacted significantly enough to warrant regulation by the EPA. The site, or properties in proximity (<500m) to the site, have not been notified as contaminated to the EPA.

A search of the Protection of the Environment Operations (POEO) Act public register, regarding environmental protection licences, applications, notices, audits, pollution studies, and reduction programmes, did not identify any record for the site.

Two POEO licences were found for operations in vicinity to the site. These licenses were as follows:

- Blacktown City Council (licence number: 5800 – Now surrendered). The licenced was in regards to discharge of water from a shale pit on Schofields Road into storm water. The licence was surrendered on 18 February 2020.
- John Holland Pty Ltd (licence number 20544 – Now surrendered). The licence was issues for crushing, grinding or separating and railway activities for the North West rail link. The licence also included discharge and monitoring at the outlet of sediment basins. The licence was surrendered on 29 May 2019.

5. CONCEPTUAL SITE MODEL

In accordance with NEPM (2013) *Schedule B2 – Guideline on Site Characterisation* and to aid in the assessment of data collection for the site, EI developed a conceptual site model (CSM) assessing plausible pollutant linkages between potential contamination sources, migration pathways and receptors. The CSM provides a framework for the review of the reliability and useability of the data collected and to identify data gaps in the existing site characterisation.

5.1 Contamination Sources

Base on the site history and the site inspection, the primary contaminant sources considered to be present at the site are outlined in **Table 5-1**.

Table 5-1 Contaminant Sources

Contaminant Source	Potential Impacts
Surface filling	A wide range of potential inorganic and organic chemicals and asbestos
Demolition of former buildings	Potential paint and fibrous cement sheeting fragments potentially containing asbestos
Degradation of building surfaces (including fences)	Priority metals particularly Cu, Pb & Zn, paint fragments and asbestos fines.
Pesticide use in building footprints	Potential pesticide contamination of surface soils
Contamination form off-site sources	Potential groundwater contamination from off-site sources

5.2 Potential Contaminants

Based on the findings of the site contamination appraisal, the potential contaminants at the site and the potential media impacts are outlined in **Table 5-2**. For definitions and abbreviations see glossary at end of report.

Table 5-2 Contaminants of Potential Concern

Contaminant	Soil Impacts[1]	Air Quality[1] Impacts	Groundwater Impacts[1]
Priority metals As, Cd, Cr, Cu, Hg, Ni, Pb, & Zn also commonly known as heavy metals (HMs)	M	L	M
Other metals Be, Co, Cr^{VI}, Mn, Se	L	L	L
Total recoverable hydrocarbons (TRH)	M	L	M
Monocyclic aromatic hydrocarbon compounds benzene, toluene, ethyl benzene and xylenes (BTEX)	M	L	M
Polycyclic aromatic hydrocarbons (PAH) including B(a)P TEQ	M	L	M
Volatile organic compounds (VOCs) including Chlorinated volatile organic compounds (CVOCs)	L	L	L
Organochlorine and Organophosphate pesticides (OCP/ OPP)	M	L	L

Contaminant	Soil Impacts[1]	Air Quality[1] Impacts	Groundwater Impacts[1]
Polychlorinated biphenyls (PCB)	L	L	L
Asbestos	M	L	L
LNAPL or DNAPL	L	N/A	L
Others (See section 5.3)	L	L	L

Note 1 L – low risk, M – medium/moderate risk, H – high risk, N/A – not applicable (or "-")

5.3 Other Contaminants

5.3.1Per or poly-fluoroalkyl substances (PFAS)

The NSW EPA (2017) auditor guidelines require that PFAS is considered in assessing contamination. EI use the following decision tree (**Table 5-3**) based on EnRisk (2016) for prioritising the potential for PFAS to be present on site and whether PFAS sampling of soil and water is required and the information provided in the National Environmental Management Plan for PFAS (NEMP, 2018).

Table 5-3 PFAS Decision Tree

Preliminary Screening	Decision
Is the past or present site activity listed in the NEMP (2018)[2]. If so list activity: _____.	L
Is the past or present off-site activity up-gradient or adjacent to the site listed in the NEMP (2018)[5]. If so list activity: _____ .	L
Did fire training involving the use of suppressants occur on-site?	L
Did fire training occur up-gradient of or adjacent to the site? [3]	L
Have "fuel" fires ever occurred on-site? e.g. ignition of fuel (solvent, petrol, diesel, kero) tanks?	L
Have PFAS been used in manufacturing or stored on-site ?[4]	L
Could PFAS have been imported to the site in fill materials from a site with activity listed in NEMP (2018)?	L
Could PFAS-contaminated groundwater or run-off have migrated on to the site?	L
Is the site or adjacent sites listed in the NSW EPA PFAS Investigation Program? [5]	L
If the probability is medium or high in any of the rows, does the site analytical suite need to be optimised to include preliminary sampling and testing for PFAS in soil (incl. ASLP testing) and waters?	**Y/N**

Note 1 Probability: L – low (all necessary documentation has been reviewed and there is no recorded instance or compelling rationale), M – medium/moderate (all necessary documentation has been reviewed and there is potential evidence of a recorded instance with compelling rationale); H – high (all necessary documentation has been reviewed and there is evidence of a recorded instance with compelling rationale); risk, N/A – not applicable (or "-")
Note 2 Activities listed in Appendix B of the NEMP (2018). Further information, refer to https://www.oecd.org/env/ehs/risk-management/PFC_FINAL-Web.pdf
Note 3 Runoff from up-gradient PFAS use may impact surface water, soil, sediment and groundwater.
Note 4 PFAS is used wide range of industrial processes and consumer products, including in the manufacture of non-stick cookware, specialised garments and textiles, Scotchguard™ and similar products (used to protect fabric, furniture, leather and carpets from oils and stains), metal plating and in some types of fire-fighting foam (https://www.nicnas.gov.au/chemical-information/factsheets/chemical-name/perfluorinated-chemicals-pfas)
Note 5 https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program

5.3.2 Emerging chemicals

The NSW EPA uses chemical control orders (CCOs) as a primary legislative tool under the EHC Act (1985) to selectively and specifically control particular chemicals of concern, and limit their potential impact on the environment. CCOs provide the EPA a rapid and flexible mechanism for responding to emerging chemical issues. As with PFAS, EI has considered chemicals controlled by CCOs and other potential emerging chemicals in this assessment as outline in **Table 5-4**.

Table 5-4 Emerging or Controlled Chemicals

Chemicals of Concern (CCO or emerging)	Decision
Were aluminium smelter wastes used or stored on site (CCO, 1986)?	No
Do dioxin contaminated wastes (CCO, 1986) have the potential to impact the site? [1]	No
Were organotin products (CCO, 1989) used or stored on site ?[2]	No
Were polychlorinated biphenyls (PCBs) used or PCB wastes (CCO, 1997) stored on-site?[3]	No
Were scheduled chemical or wastes (CCO, 2004) used or stored[4]	Yes *If pesticides were used onsite*
Are other emerging chemicals suspected?[5]	No
If Yes to any questions, has site sampling suite been optimised to include specific sampling for other chemicals of concern in soil, air and water	Yes

Note 1 From burning of certain chemicals, smelting or chemical manufacturing or fire on or near the site.
Note 2 From anti-fouling paints used or removed at boat & ship yards and marinas.
Note 3 From older transformer oils & electrical capacitors
Note 4 Twenty-four mostly organochlorine pesticides and industrial by-products
Note 5 Other chemicals considered as emerging e.g. 1,4 dioxane (associated with some cVOCs),

5.4 Potential Sources, Exposure Pathways and Receptors

Potential contamination sources, exposure pathways and human and environmental receptors that were considered relevant for this assessment are summarised along with a qualitative assessment of the potential risks posed by complete exposure pathways in **Table 5-5**.

Table 5-5 Conceptual Site Model

Potential Sources	Impacted Media	Contaminants of Potential Concern	Transport mechanism	Exposure pathway	Potential receptor
▪ Imported fill soils ▪ Contamination derived from historical site uses ▪ Weathering of previous exposed building structures ▪ Long-term application of pesticides ▪ Contamination (soil and groundwater) derived from previously unidentified offsite sources	Soil	HM, TRH, PAH, OCP/OPP, PCB, BTEXN, VOC, asbestos	Disturbance of surface and subsurface soils during site redevelopment, future site maintenance and future use of the site post redevelopment	Ingestion Dermal contact Inhalation of dust particulates	Construction and maintenance workers End users of the site (residential development)
			Atmospheric dispersion n from soil to outdoor and indoor air spaces	Inhalation of particulates	
		F1 and F2 TRH, BTEXN and VOCs	Volatilisation of contamination from soil and diffusion to indoor air spaces	Inhalation of vapours from impacted soil	
	Groundwater	HMs, TRH, BTEXN, and VOCs	Volatilisation of contamination from groundwater to indoor or outdoor air spaces (onsite and offsite)	Inhalation of vapours	Basement / End users of the site (residential-development)) Construction and maintenance workers
			Migration of dissolved phase impacts in groundwater	Biota uptake, Ingestion Dermal contact	Aquatic ecosystems
			Potential seepage into deep basement intercepting water table (on and offsite)	Dermal contact Ingestion	Residential / Basement users Construction and maintenance workers

5.5 Data Gaps

Based on information from the site walkover inspection and site history review, EI considered a programme of intrusive investigation was warranted to conduct targeted sampling at locations of known, potential sources of contamination (as listed in **Section 5.1**), with systematic sampling coverage in site areas where operational site history was not documented.

6. SAMPLING AND ANALYSIS QUALITY PLAN (SAQP)

The SAQP ensures that the data collected as part of this, and ongoing environmental works carried out at the site are representative, and provide a robust basis for site assessment decisions. This SAQP includes the following:

- Data quality objectives, including a summary of the objectives of the ESA;
- Investigation methodology including media to be sampled, details of analytes and parameters to be monitored and a description of intended sampling points;
- Sampling methods and procedures;
- Field screening methods;
- Analysis Methods;
- Sample handling, preservation and storage; and
- Analytical QA/QC.

6.1 Data Quality Objectives (DQO)

In accordance with the USEPA (2006) *Data Quality Assessment* and the EPA (2017) *Guidelines for the NSW Site Auditor Scheme*, the process of developing Data Quality Objectives (DQO) was used by the EI assessment team to determine the appropriate level of data quality needed for the specific data requirements of the project. The DQO process that was applied for this assessment is documented in **Table 6-1**.

Table 6-1 Summary of Project Data Quality Objectives

DQO Steps	Details
1. State the Problem Summarise the contamination problem that will require new environmental data, and identify the resources available to resolve the problem; develop a conceptual site model	The site is to be developed for up to 16 buildings of varying heights, to a maximum of eight storeys overlying a 3 level basement. Historical information and site inspection identified the potential for contamination to be present in site soil and/or groundwater, contributed by various potential sources listed in **Section 5.1**. In light of the information derived from the available site history information and site observations, a conceptual site model has also been developed (**Table 5-5**). The investigation sampling must provide supportive information on the contamination status of the site to determine the site's suitability for the proposed development.
2. Identify the Goal of the Study (Identify the decisions) Identify the decisions that need to be made on the contamination problem and the new environmental data required to make them	Based on the objectives outlined in **Section 1.4** the decisions that need to be made are: ▪ Has the nature, extent and source of any onsite contamination been defined? ▪ What impact do the site specific, geologic and hydrogeological conditions have on the fate and transport of any impacts that may be identified? ▪ Does the level of impact coupled with the fate and transport of identified COPCs represent an unacceptable risk to identified human and/or environmental receptors on or offsite? ▪ Does the collected data provide sufficient information to allow the selection and design of an appropriate remedial strategy, if necessary?
3. Identify Information Inputs (Identify inputs to decision) Identify the information needed to support any decision and specify which inputs require new environmental measurements	Inputs to the decision making process include: ▪ Proposed development plans and future land use; ▪ Available historical site information and site information; ▪ Areas of concern identified during the site inspection prior to intrusive investigations; ▪ National and NSW EPA guidelines endorsed under the NSW Contaminated Land Management Act 1997; ▪ Investigation sampling (soils and groundwater) and laboratory analysis for COPCs to verify the presence of onsite contamination and to evaluate the potential risks to sensitive receptors; and ▪ At the end of the assessment, a decision must be made regarding whether the soils and groundwater are suitable for the proposed development, or if additional investigation or remedial works are required to make the site suitable for proposed use).
4. Define the Boundaries of the Study Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision	Lateral – The boundaries of the study are defined as shown in **Figure A.2**. Vertical – From the existing ground level, fill and natural soils. Temporal – Results are valid on the day of data and sample collection and remain valid as long as no changes occur on site or contamination (if present) does not migrate on site or on to the site from off-site sources.

DQO Steps	Details
5. Develop the Analytic Approach (Develop a decision rule) To define the parameter of interest, specify the action level, and integrate previous DQO outputs into a single statement that describes a logical basis for choosing from alternative actions	The decision rules for the investigation were: • What are the characteristics of soil at the site? Soil boreholes will be advanced to natural, sampled and logged to characterise underlying conditions. • What are the characteristics of groundwater at the site? Groundwater monitoring wells will be installed to determine physical characteristics, chemical composition and flow direction of groundwater underlying the site. • Is the site contaminated by historic and/or current land use activities? Soil and groundwater samples will be analysed for contaminants of potential concern and compared to relevant screening criteria. • Is the site suitable for the proposed land use? If the concentrations of contaminants in the soil data are below the relevant health-based and ecological criteria for the intended land use; then the site will be deemed suitable for the proposed development. • Is additional information required to determine the suitability of the site for its proposed use? Should additional information be required as determined by the conceptual site model (CSM), then appropriate recommendations will be provided. ▪ Decision criteria for analytical data are defined by the Data Quality Indicators (DQI) in **Table 6-2**.
6. Specify Performance or Acceptance Criteria (Specify limits on decision errors) Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data	Specific limits for this project are to be in accordance with NEPM, appropriate data quality indicators (DQIs) for assessing the useability of the data, and EI standard procedures for field sampling and handling. To assess the useability of the data, pre-determined DQIs for completeness, comparability, representativeness, precision and accuracy, as presented below in **Table 6-2**. If any of the DQIs are not met, further assessment will be necessary to determine whether the non-conformance will significantly affect the useability of the data. Corrective actions may include requesting further information from samplers and/or analytical laboratories, downgrading of the quality of the data or alternatively, re-collection of samples.
7. Develop the Detailed Plan for Obtaining Data (Optimise the design for obtaining data) Identify the most resource-effective sampling and analysis design for general data that are expected to satisfy the DQOs	Site history indicates the potential for contamination to exist. To achieve the decision rules, the intrusive investigation included: • Sampling of locations in a grid-based pattern across the site, targeting potential source areas identified from site history, site walkover and observations at the site made by EI. • Installation and sampling of groundwater wells in a semi-triangular formation of the site to determine flow direction; • An upper soil profile sample will be collected at each borehole and test pit location and tested for contaminants of potential concern, to assess the conditions of the fill layer, and impacts from commercial and industrial activities at ground level. Further sampling would also be carried out at deeper soil layers. Samples will be selected based on field observations (including visual and olfactory evidence, as well as soil vapour screening in headspace samples) with consideration of subsurface stratigraphy. • Representative groundwater samples will be collected and analysed for groundwater characterisation; and Review of the results will be undertaken to determine if further intrusive investigation and additional sampling is warranted.

6.2 Data Quality Indicators

To ensure that the investigation data collected was of an acceptable quality, the investigation data set was assessed against the data quality indicators (DQI) outlined in **Table 6-2**, which related to both field and laboratory-based procedures. The assessment of data quality is discussed in **Section 8**.

Table 6-2 Data Quality Indicators

Data Quality Objective	Data Quality Indicator	Acceptable Range
Accuracy	Field – Trip blank (laboratory prepared) Laboratory – Laboratory control spike and matrix spike	< laboratory limit of reporting (LOR) Prescribed by the laboratories
Precision	Field – Blind replicate and spilt duplicate Laboratory – Laboratory duplicate and matrix spike duplicate	< 30 % relative percentage difference (RPD [%]) Prescribed by the laboratories
Representativeness	Field – Trip blank (laboratory prepared) Laboratory – Method blank	< laboratory limit of reporting (LOR) Prescribed by the laboratories
Completeness	Completion (%)	-

7. ASSESSMENT METHODOLOGY

7.1 Sampling Rationale

With reference to the preliminary CSM described in Table 5-5, soil and groundwater investigation works were planned in accordance with the following rationale:

- Sampling fill and natural soils from 58 test bore locations located systematically across the site using a grid-based sampling pattern to characterise in-situ soils;
- Sampling groundwater during a single groundwater monitoring event (GME) at seven (7) monitoring wells located close to the up gradient and down gradient site boundaries to assess for potential groundwater impacts; and
- Laboratory analysis of representative soil and groundwater samples for the identified chemicals of concern.

7.2 Assessment Criteria

The assessment criteria proposed for this project are outlined in **Table 7-1**. These were selected from available published guidelines that are endorsed by national or state regulatory authorities, with due consideration of the exposure scenario that is expected for various parts of the site, the likely exposure pathways and the identified potential receptors.

Table 7-1 Adopted Investigation Levels for Soil and Groundwater

Environmental Media	Adopted Guidelines	Rationale
Soil	NEPM, 2013 Soil HILs, EILs, HSLs, ESLs & Management Limits for TPHs DLWC, 2002 ASSMAC, 1998	**Soil Health-based Investigation Levels (HILs)** Samples were assessed against the NEPM 2013 HIL-B thresholds for residential with limited access to soils. **Ecological Investigation Levels (EILs)** EILs / ESLs only apply to the top 2.0 m of soil, being the accepted "root zone" in the northern portion of site where a public park is proposed (as shown in **Figure A.2**). EI derived site-specific ecological criteria, were based on the prescribed methods by NEPM (2013), using the sum of the ambient background concentration (ABC) and the added contaminant limit (ACL) of certain contaminants, for an old high traffic residential suburb. The adopted ESL were based on conservative, fine grained strata types. The EIL applied for the screening of benzo(a)pyrene was based on criteria published by CRC Care (2017). *Risk-based management and remediation guidance for benzo(a)pyrene.* **Soil Health-based Screening Levels (HSLs)** The NEPM 2013 Soil criteria for vapour intrusion specifies the criteria applied should be determined by the primary use of the ground floor of the structure. The proposed plans indicate that basement excavations will occur across the site; however the areas where basements will occur are unspecified. HSL A&B for residential settings have been applied as a conservative measure. Asbestos in soil analysis was compared to the NEPM 2013 Soil HSL thresholds for "all forms of asbestos". **Management Limits for Petroleum Hydrocarbons** Should the ESLs and HSLs be exceeded for petroleum hydrocarbons, soil samples would also assessed against the NEPM

Environmental Media	Adopted Guidelines	Rationale
		2013 *Management Limits* for the TRH fractions F1 – F4 to assess propensity for phase-separated hydrocarbons (PSH), fire and explosive hazards& aesthetics. **Soil Salinity** Soil salinity classes were calculated from the Indicators of Urban Salinity (DLWC). Soil aggressively to concrete and steel was determined using Australian Standard AS2159-2009 for piling design and installation. **Acid Sulfate Soils** The Acid Sulfate Soils Management Guidelines (1998) screening values were used to assess site soils for ASS/PASS.
Groundwater	NEPM, 2013 GILs for Marine Waters	**Groundwater Investigation Levels (GILs) for Fresh Water** NEPM 2013 provides GILs for typical, slightly-moderately disturbed aquatic ecosystems, which are based on the ANZECC & ARMCANZ 2000 Trigger Values (TVs) for the 95% level of protection of aquatic ecosystems; however, the 99% TVs were applied for the bio-accumulative metals *cadmium* and *mercury*. The fresh water criteria were considered relevant as Second Ponds Creek was the closest surface water receptor to the site.
	NEPM, 2013 Groundwater HSLs for Vapour Intrusion	**Health-based Screening Levels (HSLs)** The HSL *A&B* thresholds for residential sites were applied for groundwater due to the unspecified ground floor plans for the site. Where no marine based criteria were available, The NEPM (2013) GILs for drinking water quality were applied for specific parameters, for which freshwater/marine GILs were not provided. These were based on the Australian Drinking Water Guidelines (Ref. NHMRC, 2011).

For the purposes of this investigation, the adopted soil assessment criteria are referred to as the Soil Investigation Levels (SILs) and the adopted groundwater assessment criteria are referred to as the Groundwater Investigation Levels (GILs). SILs and GILs are presented alongside the analytical results in the corresponding summary tables, which are discussed in **Section** 9.

7.3 Soil Investigation

The soil investigation works conducted at the site are described in **Table 7-2**. Test locations are illustrated in **Figure A.2**.

Table 7-2 Summary of Soil Investigation Methodology

Activity/Item	Details
Fieldwork	The site investigation was conducted from 22 January 2020 to 4 February 2020. All test bores were completed to target depth or refusal.
Drilling Method	Test bore BH1M – BH13 was drilled using a solid flight auger drilling rig. TP14 – TP58 was completed with using an excavator.

Activity/Item	Details
Soil Logging	Drilled soils were classified in the field with respect to lithological characteristics and evaluated on a qualitative basis for odour and visual signs of contamination. Soil classifications and descriptions were based on and Australian Standard (AS) 1726 - 2017. Bore logs are presented in **Appendix C**.
Field Observations (including visual and olfactory signs of potential contamination)	A summary of field observations is provided, as follows: ▪ Hydrocarbon odours were detected in TP42 along with elevated PID readings; ▪ fibre cement sheet fragments were not observed in any drilling cuttings; and ▪ Charcoal and ash were noted in fill at test locations: TP16, TP36, TP42, TP44, TP51 and TP56.
Soil Sampling	▪ Soil samples were collected using a dry grab method (unused, dedicated nitrile gloves) & placed into laboratory-supplied, acid-washed, solvent-rinsed glass jars. ▪ Blind field duplicates was separated from the primary samples and placed into glass jars. ▪ A small amount of duplicate was collected from each soil samples and placed into zip-lock bag for Photo-ionisation Detector (PID) screening. ▪ A small amount of surface material was collected from all borehole locations and placed into a zip-lock bag for asbestos analysis.
Decontamination Procedures	*Drilling Equipment* - The drilling rods were decontaminated between sampling locations with potable water until the augers were free of all residual materials. *Sampling Equipment* – Dedicated gloves were used for each sample, and any trowel or shovel used was decontaminated between uses.
Sample Preservation	Samples were stored in a refrigerated (ice-filled) chest, whilst on-site and in transit to the laboratory. All samples were submitted and analysed within the required holding period, as documented in laboratory reports discussed in a later section.
Management of Soil Cuttings	Soil cuttings were used as backfill for completed boreholes.
Quality Control & Laboratory Analysis	A number of soil samples were submitted for analysis of previously-identified COPC by SGS Laboratories (SGS). QA/QC testing comprised intra-laboratory duplicates ('field duplicates') tested blind by SGS and an inter-laboratory field duplicate tested blind by Envirolab Services (Envirolab). All samples were transported under strict Chain-of-Custody (COC) conditions and COC certificates and laboratory sample receipt documentation were provided to EI for confirmation purposes, discussed in **Section 9**.
Soil Vapour Screening	Screening for potential VOCs in collected soil samples was conducted using a Photo-ionisation Detector (PID), as volatile odours were not detected at most sampling location during the course of the fieldwork (with the exception of TP42).

7.4 Groundwater Investigation

The groundwater investigation works conducted at the site are described in **Table 7-3**. Monitoring well locations are illustrated in **Figure A.2**.

Table 7-3 Summary of Groundwater Investigation Methodology

Activity/Item	Details
Fieldwork	Groundwater monitoring wells were installed and developed from 22 January 2020 to 4 February 2020; whereas, water level gauging, well purging, field testing and groundwater sampling was conducted on 21 and 26 February 2020.
Well Construction	Test bores were converted to groundwater monitoring wells as follows: ▪ One, 7.1m deep, onsite well identified as BH1M; ▪ One, 8.0 m deep, onsite well identified as BH2M; ▪ One, 10.0 m deep, onsite well identified as BH3M ▪ One, 8.0m deep, onsite well identified as BH7M; ▪ One, 7.0 m deep, onsite well identified as BH8M; ▪ One, 11.6 m deep, onsite well identified as BH11M; ▪ One, 7.0 m deep, onsite well identified as BH13M; Drilled by Geosense using a track-mounted, Hanjin D+B, mechanical, solid-flight auger and NMLC core rig. Well construction details are tabulated in **Table 9-2** and documented in the bore logs presented in **Appendix C**.
Well Construction (continued)	Well construction was in general accordance with the standards described in the National Uniform Drillers Licensing Committee(NUDLC), 2012 *Minimum Construction Requirements for Water Bores in Australia,* and involved: ▪ The use of 50 mm, Class 18 uPVC, threaded, machine-slotted screen and casing, with slotted intervals positioned to screen at least 500 mm above the standing water level to allow sampling of phase-separated hydrocarbon product, if present; ▪ Base and top of each well was sealed with a uPVC cap; ▪ Annular, graded sand filter was used to approximately 300 mm above top of screen interval; ▪ Granular bentonite was applied above annular filter to seal the screened interval; ▪ Drill cuttings were used to backfill the bore annulus to just below ground level; and ▪ Surface completion comprised a PVC stick-up pipe, with plastic cap.
Well Development	Well development was conducted for each well directly following installation. This involved agitation within the full length of the water column using a dedicated, HDPE, disposable bailer, followed by removal of water and accumulated sediment using a 12V, HDPE submersible bore pump (Proactive Environmental, model Super Twister). Pumping was continued until no further reduction in suspended sediment was observed (i.e. after removal of several well volumes).
Well Gauging & Groundwater Flow Direction	On 21 and 26 February 2020, EI completed the groundwater monitoring event (GME). The monitoring wells were gauged for the depth to groundwater (standing water level, SWL) prior to purging, and the measured SWLs are shown in **Table 9-2**. PSH was not detected in any well. Groundwater was anticipated to flow in an easterly direction towards Second Ponds Creek.
Well Purging & Field Testing	No volatile or organic odours were detected during any stage of well purging or sampling. The measurement of water quality parameters was conducted repeatedly during purging and the details were recorded onto field data sheets, once water quality parameters stabilised. Field measurements for Dissolved Oxygen (DO), Electrical Conductivity (EC) and pH of the purged water were also recorded during well purging. Purged water volumes removed from each well and field test results are summarised in **Table 9-3.**

Activity/Item	Details
Groundwater sampling	Groundwater was sampled using a micro-purge system (With the exception of BH1m, BH2M and BH3M which were sampled using a HDPE bailer due to low volumes of water available in the installed well). Water was continuously measured for four parameters (Temperature, EC, Redox, DO, pH). Once three consecutive field measurements were recorded for the purged waters to within ± 10% for DO, ± 3% for EC , ± 0.2 for pH, ± 0.2° for temperature and ± 20 for redox, this was considered to indicate that representative groundwater quality had been achieved and final physio-chemical measurements were recorded. Groundwater samples were then collected from the micro-purge sampling pump discharge point.
Decontamination Procedure	▪ The micro-purge pump is decontaminated in a solution of potable water and Decon 90 and then rinsed with potable water between each location. ▪ The micro-purge system employs a disposable bladder and tubing system to further minimise potential cross contamination. ▪ All sample containers were supplied by the laboratory and were only opened once, immediately prior to sampling. ▪ Ice packs kept in an insulated chest were used to keep the samples cool; and. ▪ The water level probe and sampling kit were washed in a solution of potable water and Decon 90 and then rinsed with potable water between measurements/wells.
Sample Preservation	Sample containers were supplied by the laboratory with the following preservatives: ▪ One, 1 litre amber glass, acid-washed and solvent-rinsed bottle; ▪ Two, 40ml glass vials, pre-preserved with dilute hydrochloric acid, Teflon-sealed; and ▪ One, 250mL, HDPE bottle, pre-preserved with dilute nitric acid (1 mL). Samples for metals analysis were field-filtered using 0.45 µm pore-size filters. All containers were filled with sample to the brim then capped and stored in ice-filled chests, until completion of the fieldwork and during sample transit to the laboratory.
Quality Control & Laboratory Analysis	All groundwater samples were submitted for analysis of previously-identified chemicals of concern by SGS Laboratories (SGS). QA/QC testing comprised intra-laboratory duplicates ('field duplicates') tested blind by SGS and an inter-laboratory field duplicate tested blind by Envirolab Services (Envirolab). All samples were transported under strict Chain-of-Custody (COC) conditions and COC certificates and laboratory sample receipt documentation were provided to EI for confirmation purposes.
Sample Transport	After sampling, refrigerated sample chests were transported to SGS Australia Pty Ltd using strict Chain-of-Custody (COC) procedures. Inter-laboratory duplicate (ILD) samples were forwarded to Envirolab Services Pty Ltd (Envirolab) for QA/QC analysis. A Sample Receipt Advice (SRA) was provided by each laboratory to document sample condition upon receipt. Copies of SRA and COC certificates are presented in **Appendix E**.

8. QUALITY ASSURANCE / QUALITY CONTROL

8.1 Quality Control Process

The assessment of data quality is defined as the scientific and statistical evaluation of environmental data to determine if the data meets the objectives for the project (USEPA 2006). Data quality assessment included an evaluation of the compliance of the field sampling, field and laboratory duplicates and laboratory analytical procedures and an assessment of the accuracy and precision of these data from the laboratory quality control measurements. The findings of the data quality assessment in relation to the current investigation at the site are discussed in detail in **Appendix F**.

The QC measures generated from the field sampling and laboratory analytical program are summarised in **Table 8-1**:

Table 8-1 Quality Control Process

Data Quality	Control	Conformance [Yes, Part, No]	Report Sections
Preliminaries	Data Quality Objectives established	Yes	See DQO/DQI
Field work	Suitable documentation of fieldwork observations including borehole logs, sample register, field notes, calibration forms	Yes	See Appendices
Sampling Plan	Use of relevant and appropriate sampling plan (density, type, and location)	Yes	See sample rationale
	All media sampled and duplicates collected	Yes	See Appendix H
	Use of approved and appropriate sampling methods (soil, groundwater, air quality)	Yes	See methodology
	Selection of soil samples according to field PID readings (where VOCs are present)	Yes	See methodology
	Preservation and storage of samples upon collection and during transport to the laboratory	Yes	See methodology
	Appropriate Rinsate, Field and Trip Blanks taken	Yes	See Appendix H
	Completed field and analytical laboratory sample COC procedures and documentation	Yes	See laboratory reports
Laboratory	Sample holding times within acceptable limits	Part	See laboratory QA
	Use of appropriate analytical procedures and NATA-accredited laboratories	Yes	See laboratory report
	LOR/PQL low enough to meet adopted criteria	Yes	See laboratory appendix
	Laboratory blanks	Yes	See laboratory QA/QC

Data Quality	Control	Conformance [Yes, Part, No]	Report Sections
	Laboratory duplicates	Part	See laboratory QA/QC
	Matrix spike/matrix spike duplicates (MS/MSDs)	Part	See laboratory QA/QC
	Surrogates (or System Monitoring Compounds)	Part	See laboratory QA/QC
	Analytical results for replicated samples, including field and laboratory duplicates and inter-laboratory duplicates, expressed as Relative Percentage Difference (RPD)	Part	See QA Tables Appendix F
	Checking for the occurrence of apparently unusual or anomalous results, e.g. laboratory results that appear to be inconsistent with field observations or measurements	Yes	See Appendix F.
Reporting	Report reviewed by senior staff to assess project meets desired quality, EPA guidelines and project outcomes.	Yes	See document control

8.2 Quality Overview

On the basis of the field and analytical data validation procedure employed, the overall quality of the analytical data produced for the site was considered to be of an acceptable standard for interpretive use and preparation of a conceptual site model (CSM).

9. RESULTS

9.1 Soil Investigation Results

9.1.1 Site Geology and Subsurface Conditions

The general site geology encountered during the drilling of the soil investigation can be described as a layer of anthropogenic filling overlying residual clays then weathered shale. The geological information obtained during the investigation is summarised in **Table 9-1** and borehole logs from these works are presented in **Appendix C**.

Table 9-1 Generalised Subsurface Profile

Layer	Description	Depth (top-bottom in, mBGL)
Fill	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	0.0 – 1.0 (Max 4.5 – Observed at BH2M)
Natural	Silty CLAY; medium to high plasticity, pale grey mottled red-brown to orange, with fine to medium, rounded to sub-rounded ironstone gravels, grading to weathered shale, no odour.	1.0 – 3.0
Bedrock	Shale	3.0 – 20.9 +

Notes: + Termination depth of borehole (depths observed during geotechnical investigation, by EI, Ref: E24445.G03, dated: 9 March 2020)

9.1.2 Field Observations and PID Results

Soil samples were obtained from the test bores at various depths ranging between 0.1 m to 6.45 mBGL. All examined soil samples were evaluated on a qualitative basis for odour and visual signs of contamination (e.g. hydrocarbon odours, oil staining, petrochemical filming, asbestos fragments, ash, charcoal) and the following observations were noted:

- Fibre cement sheet fragments were not observed in any drilling cuttings or within test pits. A fragment was observed at surface at TP26, this sample was analysed and found to contain asbestos;
- Charcoal and ash were noted in fill at test locations: TP16, TP36, TP42, TP44, TP51 and TP56; and
- Elevated VOC concentrations were observed during field-screening using a portable PID fitted with a 10.9 eV lamp along with hydrocarbon odours were observed at TP42.The PID results are shown in the borehole logs (**Appendix C**).PID were readings generally <2 ppm with the exception of sample TP42_2.1-2.2which returned a reading of 51.6 ppm.

▪

9.2 Groundwater Investigation Results

9.2.1 Monitoring Well Construction

A total of seven (7) groundwater monitoring wells were installed across the site. Well construction details for the installed groundwater monitoring wells are summarised in **Table 9-2**.

Table 9-2 Monitoring Well Construction Details

Well ID	Bore Depth (mBGL)	Stick up (m)	Screen Interval (mBGL)	Lithology Screened
BH1M	7.1	1.0	4.1 – 7.1	Shale
BH2M	8.0	0.92	5.0 – 8.0	Shale
BH3M	10.0	0.7	7.0 – 10.0	Shale
BH7M	8.0	1.0	2.0 – 8.0	Shale
BH8M	7.0	0.6	4.0 – 7.0	Fill/Silty Clay/Shale
BH11M	11.6	0.4	5.6 – 11.6	Shale
BH13M	7.0	1.0	4.0 – 7.0	Shale

Notes:
mBGL - metres below ground level.
RL - Reduced Level – Surveyed elevation in metres relative to Australian Height Datum (mAHD).
TOC - top of well casing.
RL (TOC) - Extrapolated elevation at TOC in mAHD from survey plans.

9.2.2 Field Observations and Water Test Results

Groundwater monitoring was carried out on 21 and 26 February 2020. Standing water levels (SWLs) were measured within each well prior to well purging, the results of which were recorded with well purge volumes and field-based water test results. A summary of the recorded field data is presented in **Table 9-3**.

Table 9-3 Groundwater Field Data

Well ID	SWL (mBTOC)	SWL (mBGL)	Purge Volume (L)	DO (mg/L)	Field pH	Field EC (µS/cm)	Temp (°C)	Redox (mV)	Odours / Turbidity
BH1M	7.8	6.8	-	2.96	7.72	3351	24.29	268.2	None/High
BH2M	7.5	6.58	-	1.22	7.14	1776	21.21	212.8	None/High
BH3M	9.3	8.6	-	3.89	7.71	7167	23.22	212.71	None/High
BH7M	2.44	1.44	1.5	0.20	6.56	9402	24.02	151.3	None/Low
BH8M	3.48	2.88	1.5	0.56	5.95	11530	24.34	285.6	None/Low
BH11M	4.91	4.51	1.5	0.69	7.08	7439	22.91	261.6	None/Low
BH13M	2.80	1.8	1.5	0.26	6.77	14457	23.83	216.5	None/Low

Notes:
GME – Groundwater monitoring event.
SWL – Standing Water Levels as measured from TOC (top of well casing) prior to groundwater sampling.
m BTOC – metres below top of well.
RL (TOC) – Reduced Level, elevation at TOC in metres relative to Australian Height Datum (m AHD).
† WL = Calculated groundwater level, in m AHD (calculated as RL – SWL)
L – Litres (referring to volume of water purged from the well prior to groundwater sample collection).
EC – groundwater electrical conductivity as measured onsite using portable EC meter.
µS/cm – micro Siemens per centimetre (EC units).
DO – Dissolved Oxygen in units of milligrams per litre (mg/L)
Redox - adjusted to Standard Hydrogen Electrode (SHE) by adding field electrode potential (205mV).
All groundwater parameters (pH, EC, redox and DO) were tested on site.

With reference to **Table 9-3**, the field pH data indicated that the groundwater was acidic to neutral (pH ranged from 7.72 to 5.95). Electrical Conductivity (EC) measurements were recorded in the range 1,776 to 14,457 µS/cm indicating that the groundwater was saline to extremely saline in terms of water salinity.

9.3 Laboratory Analytical Results

9.3.1 Soil Analytical Results

A summary of laboratory results showing test sample quantities, minimum/maximum analyte concentrations and samples found to exceed the SILs, is presented in **Table 9-4**.

More detailed tabulations of results showing the tested concentrations for individual samples alongside the adopted soil criteria are presented in **Tables B.1** at the end of this report. Completed documentation used to track soil sample movements and laboratory receipt (i.e. COC and SRA forms) are copied in **Appendix E** and all laboratory analytical reports for tested soil samples are presented in Appendix F.

Table 9-4 Summary of Soil Analytical Results

No. of primary samples	Analyte	Min. Conc. (mg/kg)	Max. Conc. (mg/kg)	Sample locations exceeding investigation levels
Hydrocarbons				
105	F1	<25	<25	None
105	F2	<25	1300	None
105	F3	<90	1300	None
105	F4	<120	<120	None
105	Benzene	<0.1	<0.1	None
105	Toluene	<0.1	<0.1	None
105	Ethyl benzene	<0.1	<0.1	None
105	Total xylenes	<0.3	<0.3	None
PAHs				
105	Carcinogenic PAHs	<0.3	0.5	None
105	Total PAH	<0.8	15	None
105	Benzo(a)pyrene	<0.1	0.3	None
105	Naphthalene	<0.1	0.2	None
OCPs				
105	Aldrin & Dieldrin	<0.1	<0.1	None
105	Chlordane	<0.1	<0.1	None
105	DDT+DDD+DDE	<0.1	<0.1	None
105	Heptachlor	<0.1	<0.1	None
OPPs				
105	Total OPPs	<1.7	<1.7	None
PCBs				
105	Total PCBs	<1.0	<1.0	None
Heavy Metal				
105	Arsenic	<1	13	None
105	Cadmium	<0.3	0.3	None
105	Chromium (Total)	1.6	44	None
105	Copper	6	58	None
105	Lead	6	300	None
105	Mercury	<0.05	0.09	None
105	Nickel	1.4	87	None
105	Zinc	9.8	290	None

No. of primary samples	Analyte	Min. Conc. (mg/kg)	Max. Conc. (mg/kg)	Sample locations exceeding investigation levels
Asbestos				
106	Asbestos	No asbestos detected	Asbestos detected	TP26_surface fragment and TP50_0.2-0.3

Heavy Metals

With reference to **Table B.1**, all heavy metals concentrations were below the corresponding health and environmental based SILs.

TPHs

As shown in **Table B.1**, all total recoverable hydrocarbons (TRH) concentrations were below the corresponding NEPM 2013 health-based HSL and ESL levels, which were the adopted SILs for TPHs.

BTEX and Naphthalene

All results for BTEX compounds and naphthalene were below the corresponding SILs and ESLs, as shown in **Table B.1**.

PAHs

As summarised in **Table B.1** there were no exceedances of the adopted health based SILs/EILs for PAHs.

Asbestos

As summarised in **Table B.1**, asbestos (as ACM) was detected in fill at locations TP26 and TP50.

OCPs, OPPs and PCBs

With reference to **Table B.1**, no detectable concentration of any of the screened OCP, OPP and PCB compounds was identified in any of the tested samples. All laboratory PQLs were also within the corresponding SILs and EILs.

9.3.2Soil salinity

Laboratory analytical results for soil samples are summarised in **TableB.4**. Completed documentation used to track groundwater sample movements and laboratory receipt (COC and SRA forms) are copied in **Appendix E**. Copies of the laboratory analytical reports are attached in **Appendix F**.

Laboratory results indicated that natural soils on site were moderately saline to slightly saline with one sample returning very saline results. Soils were found to be sodic. Soils were non-aggressive to mild to reinforced concrete piles and non-aggressive to steel.

9.3.3Acid Sulfate Soils

Laboratory analytical results for soil samples are summarised in **Table B.5**. Completed documentation used to track groundwater sample movements and laboratory receipt (COC and SRA forms) are copied in **Appendix E**. Copies of the laboratory analytical reports are attached in **Appendix F**.

Laboratory results indicated that ASS/PASS were not present on site.

9.3.4Groundwater Analytical Results

A summary of laboratory results showing test sample quantities, minimum/maximum analyte concentrations and samples found to exceed the GILs, is presented in Table 9-5.

Laboratory analytical results for groundwater samples are summarised in **Table B.2**, which also include the adopted GILs. Completed documentation used to track groundwater sample movements

and laboratory receipt (COC and SRA forms) are copied in **Appendix E**. Copies of the laboratory analytical reports are attached in **Appendix F**.

Table 9-5 Summary of Groundwater Analytical Results

No. of primary samples	Analyte	Min. Conc. (µg/L)	Max. Conc. (µg/L)	Sample locations exceeding investigation levels
Hydrocarbons				
7	F1	<50	<50	None
7	F2	<60	7200	BH1M, BH2M, BH7M and BH13M
7	F3	<500	3900	BH2M
7	F4	<500	810	BH2M
7	Benzene	<0.5	<0.5	None
7	Toluene	<0.5	<0.5	None
7	Ethyl benzene	<0.5	<0.5	None
7	Total xylenes	<1.5	<1.5	None
PAHs				
7	Total PAH	<1	820	None
7	Benzo(a)pyrene	<0.1	6.1	None
7	Naphthalene	<0.1	87	None
Heavy Metal				
7	Arsenic	2	6	None
7	Cadmium	<0.1	0.2	None
7	Chromium (Total)	<1	1	None
7	Copper	<1	41	BH3M, BH7M, BH8M, BH11M and BH13M
7	Lead	<1	1	None
7	Mercury	<0.1	<0.1	None
7	Nickel	7	46	BH7M, BH8M, BH11M and BH13M
7	Zinc	<5	100	BH8M, BH11M and BH13M
7	Manganese	410	3,800	BH7M and BH8M

Heavy Metals

With reference to **Table B.2** concentrations in excess of the adopted GILs were identified in samples BH3M (Cu), BH7M (Cu, Ni and Mn), BH8M (Cu, Ni, Zn and Mn), BH11M (Cu, Ni and Zn), and BH13M (Cu, Ni and Zn).

Heavy metals are consistent across multiple wells, showing that concentrations within groundwater are likely a background condition. The future development will have a reticulated water supply available; the opportunity for human exposure to groundwater is low. Metals within groundwater and not seen as a cause of concern for human health.

TRHs and BTEX

As shown in **Table B.2**, tested TRH exceeded the adopted criteria at groundwater wells BH2M, BH2M, BH7M and BH13M.

PAHs and Phenols

As shown in **Table B.2**, concentrations of naphthalene exceeded the adopted GILs at location BH2M.

9.3.5Dam Water Results

Laboratory analytical results for groundwater samples are summarised in **Table B.3**. Completed documentation used to track groundwater sample movements and laboratory receipt (COC and SRA forms) are copied in **Appendix E**. Copies of the laboratory analytical reports are attached in **Appendix F**.

With reference to **Table B.3** concentrations in excess of the adopted freshwater were identified both samples. Sample DAM-NE exceeded the criteria for zinc; sample DAM-S exceeded the criterial for aluminium and zinc.

These exceedances were considered to be resultant from background conditions of an urbanised area and do not pose an unacceptable risk to human health or the environment.

10.SITE CHARACTERISATION

10.1 Review of Conceptual Site Model

On the basis of investigation findings the preliminary CSM discussed in **Section** 5 was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential onsite and offsite receptors. The site was relatively undisturbed terrain overlying residual soils and shale bedrock at depth. Previously known data gaps, as outlined in **Section 5.5** have largely been addressed.

10.2 Asbestos

Asbestos was detected in fill at location TP26 and TP50. The extent of asbestos in fill soils will require further investigation once the concrete slab across the area has been removed. Any asbestos impacted soil that may be removed from the site must adhere to the requirements of the EPA (2014) *Waste Classification Guidelines.*

10.3 Groundwater

The heavy metals, copper (Cu), mercury (Hg), nickel (Ni) and zinc (Zn) were detected in groundwater at levels above the adopted GILs. The proposed basement does not intercept groundwater and a reticulated water supply is available in the area. EI considers a low probability of an unacceptable risk to be posed to users of the site and surrounds, as a result of the heavy metal contaminants within groundwater.

TRH concentrations in groundwater were found to exceed the adopted guidelines at groundwater wells BH2M, BH2M, BH7M and BH13M. With the exception of BH2M, all these exceedances were low level and did not breach the human health criteria.

The concentration of TRH at location BH2M exceeded the adopted criteria for F2, F3 and F4. The concentrations of F3 and F4 were of low risk, as analysis showed these compounds consisted of long chain aliphatic organic compounds which have a low volatility. The concentration of F2 reported at this location is a potential hazard to future occupants and warrants further investigation.

11.Conclusions

The property located at Tallawong Station Precinct South, Rouse Hill NSW (the site) was the subject of a Detailed Site Investigation, conducted to assess the nature and degree of on-site contamination associated with current and former uses of the land. Based on the findings of this assessment it was concluded that:

- The site comprised an irregularly shaped block, covering a total area of approximately 4.33 hectares. The site was bisected by Conferta Avenue and bound by Themeda Avenue (north), Cudegong Road (east), Schofield Road (south) and open aired car park (west);
- The site was historically occupied by four (4) rural residential properties, with an indication of agricultural and livestock use throughout prior to acquisition, then used as a holding yard for the Sydney Metro Northwest Project;
- The site was free of statutory notices issued by the NSW EPA;
- Soil sampling and analysis were conducted at 58 targeted test bore locations (BH1M – TP58). Sampling regime was considered to be appropriate and comprised judgemental and systematic (triangular grid) sampling patterns, with allowance for structural obstacles (e.g. building walls, underground and overhanging services and other physical obstructions in use by existing operating businesses);
- The sub-surface layers comprised of anthropogenic fill underlain by residual clays and shale bedrock at depth;
- All contaminant concentrations were found to be below the adopted human health criteria, indicating a low to minimal risk to human health posed by soil;
- Asbestos was detected in fill at location TP26 and TP50. Asbestos impacted fill will require removal during redevelopment;
- Groundwater was encountered at depths ranging from 1.8 to 8.6 mBGL;
- The heavy metals, copper, nickel, zinc and manganese were detected in groundwater at levels above the adopted GILs. EI considers the reported concentrations to pose a low probability of unacceptable risk to be present, and the presence of a complete migration pathway to the end users of the building was low due to the availability of a reticulated water supply in the area;
- TRHs were found at levels above the adopted guidelines at wells BH2M, BH2M, BH7M and BH13M;
- On review of the Conceptual Site Model (CSM) developed as part of this DSI, it was concluded that the model remains valid for the proposed development. Analytical testing of the site media did not report concentrations of many of the identified potential contaminants of concern (Section 5) as highlighted within the CSM (**Table 5-5**). Overall, the actual likelihood for complete exposure pathways to exist as highlighted within the CSM was low.

Based on the findings of this report, and with consideration of the Statement of Limitations (**Section 13**), EI conclude that widespread contamination was not identified at the site during this investigation. It is concluded that the site can be made suitable for the proposed land use activities, being *residential with minimal access to soil,* as defined by NEPM 2013. The site is suitable for the proposed development, subject to completing the recommendations provided in **Section 12**.

12.RECOMMENDATIONS

In view of the above findings and in accordance with the NEPM 2013 guidelines; it is considered that the site can be made suitable for the proposed development on completion of the following recommendations:

6. Preparation of a Remediation Action Plan (RAP) detailing the following:
    a. Management and testing of waste on site
    b. Closure of any data gaps
    c. Detailing of an unexpected finds protocol
7. Additional groundwater investigation in the vicinity of BH2M to confirm and delineate TRH impacts;
8. Surveying of onsite groundwater wells to accurately model groundwater flow direction;
9. Management of the asbestos impacted material in accordance with the EPA (2014) *Waste Classification Guidelines*. Any area where asbestos is removed must be validated in accordance with the WaDOH (2009) Guidelines; and
10. Classification of any soils to be disposed of off-site in accordance with the EPA (2014) *Waste Classification Guidelines*.

13.STATEMENT OF LIMITATIONS

The findings presented in this report are the result of discrete and specific sampling methodologies used in accordance with best industry practices and standards. Due to the site-specific nature of soil sampling from point locations, it is considered likely that all variations in subsurface conditions across a site cannot be fully defined, no matter how comprehensive the field investigation program.

While normal assessments of data reliability have been made, EI assumes no responsibility or liability for errors in any data obtained from previous assessments conducted on site, regulatory agencies (e.g. Council, EPA), statements from sources outside of EI, or developments resulting from situations outside the scope of works of this project.

Despite all reasonable care and diligence, the ground conditions encountered and concentrations of contaminants measured may not be representative of conditions between the locations sampled and investigated. In addition, site characteristics may change at any time in response to variations in natural conditions, chemical reactions and other events, e.g. groundwater movement and or spillages of contaminating substances. These changes may occur subsequent to EI's investigations and assessment.

EI's assessment is necessarily based upon the result of the site investigation and the restricted program of surface and subsurface sampling, screening and chemical testing which was set out in the proposal. Neither EI, nor any other reputable consultant, can provide unqualified warranties nor does EI assume any liability for site conditions not observed or accessible during the time of the investigations.

This report was prepared for the above named client and no responsibility is accepted for use of any part of this report in any other context or for any other purpose or by other third parties. This report does not purport to provide legal advice.

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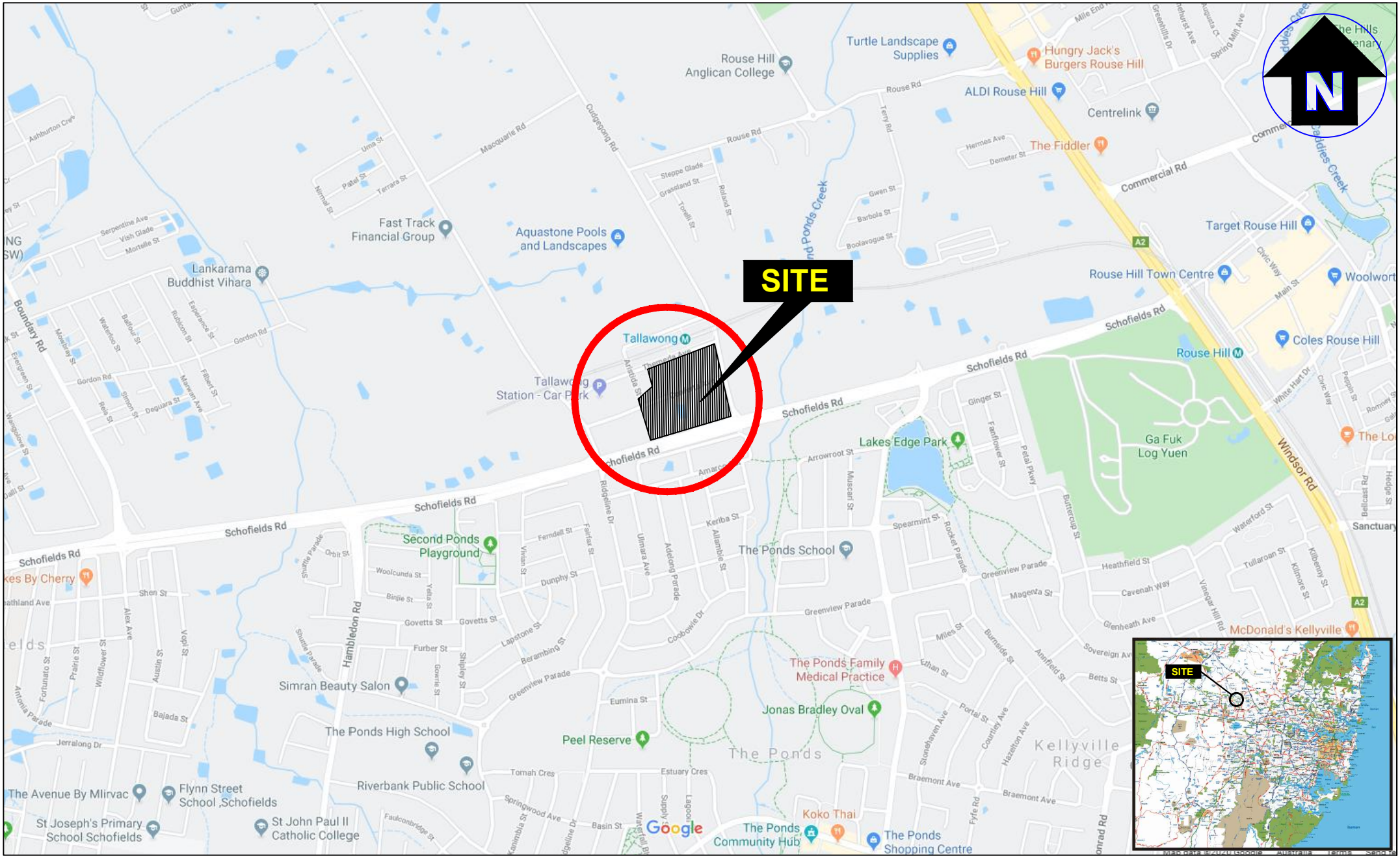
ABBREVIATIONS

ACM	Asbestos-containing materials
ASS	Acid sulfate soils
ANZECC	Australian and New Zealand Environment Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
B(a)P	Benzo(a)Pyrene (a PAH compound), - B(a)P TEQ Toxicity Equivalent Quotient
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
COC	Chain of Custody
cVOCs	Chlorinated Volatile Organic Compounds (a sub-set of the VOC analysis suite)
DEC	Department of Environment and Conservation, NSW (see OEH)
DECC	Department of Environment and Climate Change, NSW (see OEH)
DECCW	Department of Environment, Climate Change and Water, NSW (see OEH)
DA	Development Application
DO	Dissolved Oxygen
DP	Deposited Plan
EC	Electrical Conductivity
Eh	Redox potential
EPA	Environment Protection Authority
EMP	Environmental Management Plan
F1	TRH C_6 – C_{10} less the sum of BTEX concentrations (Ref. NEPM 2013, Schedule B1)
F2	TRH >C_{10} – C_{16} less the concentration of naphthalene (Ref. NEPM 2013, Schedule B1)
GIL	Groundwater Investigation Level
GME	Groundwater Monitoring Event
HIL	Health-based Investigation Level
HSL	Health-based Screening Level
km	Kilometres
LNAPL	Light, non-aqueous phase liquid (also referred to as PSH)
DNAPL	Dense, non-aqueous phase liquid
EIL	Ecological Investigation Level
ESL	Ecological Screening Level
m	Metres
m AHD	Metres Australian Height Datum
m BGL	Metres Below Ground Level
mg/m^3	Milligrams per cubic metre
mg/L	Milligrams per litre
µg/L	Micrograms per litre
mV	Millivolts
MW	Monitoring well
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NSW	New South Wales
OEH	Office of Environment and Heritage, NSW (formerly DEC, DECC, DECCW)
PAHs	Polycyclic Aromatic Hydrocarbons
pH	Measure of the acidity or basicity of an aqueous solution
PSH	Phase-separated hydrocarbons (also referred to as LNAPL)
PQL	Practical Quantitation Limit (limit of detection for respective laboratory instruments)
QA/QC	Quality Assurance / Quality Control
RAP	Remediation Action Plan
SRA	Sample receipt advice (document confirming laboratory receipt of samples)
SWL	Standing Water Level
TDS	Total dissolved solids (a measure of water salinity)
TCLP	Toxicity Characteristics Leaching Procedure
TPH	Total Petroleum Hydrocarbons (superseded term equivalent to TRH)
TRH	Total Recoverable Hydrocarbons (non-specific analysis of organic compounds)

UCL	Upper Confidence Limit of the mean
USEPA	United States Environmental Protection Agency
UPSS	Underground Petroleum Storage System
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds (specific organic compounds which are volatile)

Appendix A- Figures



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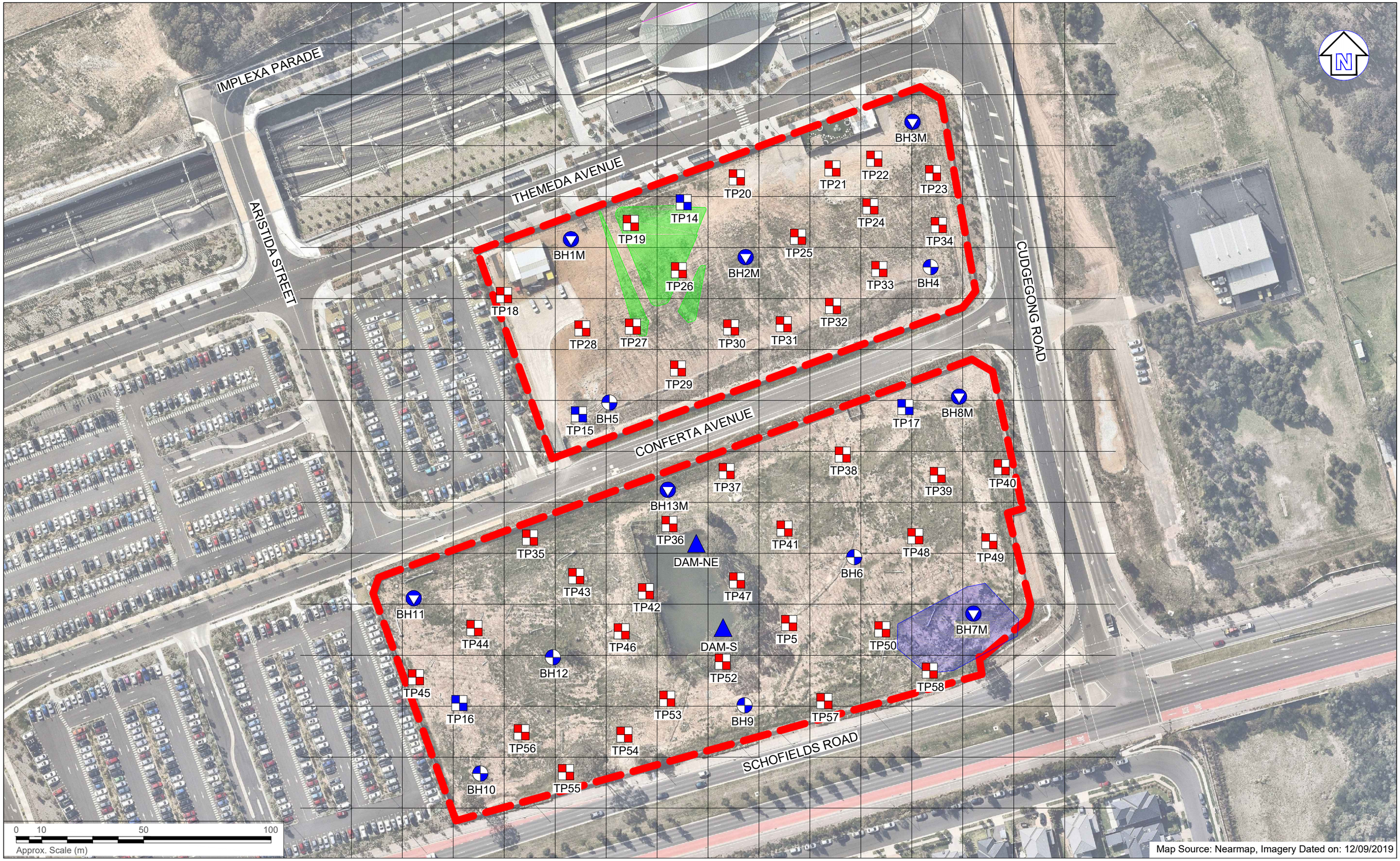
Detailed Site Investigation

Tallawong Station Precinct South, Rouse Hill NSW

Site Locality Plan

Figure: 1

Project: E24445



LEGEND

- Approximate site boundary
- Approximate retained soil area
- Approximate geotechnical borehole location
- Approximate geotechnical test pit location
- Approximate environmental test pit location
- Approximate Surfacewater sampling location
- Approximate monitoring well location
- Approximate previous dam area

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Detailed Site Investigation
Tallawong Station Precinct South, Rouse Hill NSW

Sampling Location Plan

Figure: 2

Project: E24445.E02

Appendix B- Tables

Table B.1 – Summary of Soil Test Results

Sample ID	Sampling Date	Priority Metals								PAHs				BTEX				TRHs				OCPs	OPPs	PCBs	Asbestos	Cations					Alkalinity (mg/CaCO3/kg)
		As	Cd	Cr#	Cu	Pb	Hg	Ni	Zn	Carcinogenic PAHs (as B(α)P TEQ)	**Benzo(α)pyrene**	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4				Presence / absence	Ca	Mg	Na	K	Mn	
Fill																															
BH1_0.1-0.2	22/01/2020	6	<0.3	9.2	20	13	<0.05	13	64	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH2_0.1-0.2		6	<0.3	12	17	16	<0.05	8.8	49	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH2_4.3-4.5		6	<0.3	5.4	20	11	<0.05	3.1	36	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH3_0.1-0.2	23/01/2020	5	<0.3	9.6	22	11	<0.05	14	51	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH4_0.1-0.2		6	<0.3	12	39	13	<0.05	16	53	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH5_0.1-0.2	24/01/2020	7	<0.3	16	17	23	0.05	14	59	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH6_0.1-0.2		8	<0.3	13	12	18	<0.05	5.6	37	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH7_0.1-0.2	28/01/2020	9	<0.3	14	18	21	<0.05	8.2	51	0.3	0.2	1.6	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH8_0.1-0.2		10	<0.3	16	22	23	<0.05	15	57	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH9_0.1-0.2	30/01/2020	7	<0.3	11	13	21	<0.05	6.1	39	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH10_0.1-0.2		9	<0.3	14	9	26	<0.05	5.8	25	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH11_0.1-0.2	31/01/2020	2	<0.3	4.6	7.1	17	<0.05	3.3	120	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH12_0.1-0.2	3/02/2020	4	<0.3	13	11	15	<0.05	5.7	34	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH12_1.3-1.5		4	<0.3	17	9.3	19	<0.05	5.8	41	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH13_0.1-0.2	4/02/2020	9	<0.3	15	19	23	<0.05	11	54	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP14_0.2-0.3	24/01/2020	6	<0.3	8.7	19	17	<0.05	11	51	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP14_1.8-1.9		4	<0.3	7.9	20	19	0.06	10	42	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP15_0.2-0.3		7	<0.3	10	17	17	<0.05	11	39	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP16_0.7-0.8	23/01/2020	7	0.3	11	36	30	<0.05	4.3	49	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP17_0.2-0.3		7	<0.3	13	14	29	<0.05	7.2	40	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP18_0.2-0.3	22/01/2020	7	<0.3	8.8	17	19	<0.05	9.2	47	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP18_2.4-2.5		5	<0.3	4.3	17	12	<0.05	13	67	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP19_0.2-0.3		5	<0.3	8.7	16	14	<0.05	9.4	38	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP20_1.0-1.1		13	<0.3	10	21	23	<0.05	8.6	62	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP21_0.2-0.3		7	<0.3	10	17	19	<0.05	8.2	45	0.4	0.2	1.9	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP22_0.2-0.3		7	<0.3	9	16	22	<0.05	4.9	36	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP22_2.0-2.1		6	<0.3	6.9	21	18	<0.05	12	55	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP23_0.7-0.8		5	<0.3	8.1	21	13	<0.05	7.9	35	<0.3	0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP24_0.2-0.3		4	<0.3	5	31	10	<0.05	8.7	35	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	99	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP24_1.6-1.7		6	<0.3	8	28	17	<0.05	13	49	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP25_0.2-0.3		7	<0.3	44	19	22	<0.05	5.8	41	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP26_0.2-0.3		7	<0.3	11	15	19	<0.05	6.9	39	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP26_0.7-0.8		10	<0.3	16	13	16	<0.05	5.2	32	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP27_0.2-0.3		8	<0.3	12	13	24	<0.05	11	41	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP28_0.2-0.3		7	<0.3	8.1	15	12	<0.05	9.1	46	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP28_1.6-1.7		6	<0.3	11	58	14	<0.05	14	55	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP29_0.2-0.3		6	<0.3	23	19	14	<0.05	19	61	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP30_1.2-1.3		8	<0.3	16	24	14	<0.05	19	60	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP31_0.2-0.3		8	<0.3	13	17	17	<0.05	10	55	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP32_0.2-0.3		7	<0.3	11	15	14	<0.05	10	60	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP33_1.5-1.6		5	<0.3	15	22	12	<0.05	17	60	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP34_0.2-0.3		8	<0.3	11	17	15	<0.05	9.4	55	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP35_0.2-0.3	23/01/2020	8	<0.3	13	18	18	<0.05	7.6	50	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP36_0.7-0.8		5	<0.3	11	22	11	<0.05	17	52	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP37_0.2-0.3		7	<0.3	10	12	16	<0.05	5.6	34	0.5	0.3	1.9	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP38_0.2-0.3		7	<0.3	11	15	17	<0.05	7.7	45	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP39_0.2-0.3		7	<0.3	11	23	31	<0.05	11	70	0.4	0.2	2	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP40_0.2-0.3		7	<0.3	11	10	16	<0.05	5.7	33	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP41_0.2-0.3		7	<0.3	12	13	18	<0.05	8.1	44	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP42_0.2-0.3	24/01/2020	4	<0.3	12	12	300	<0.05	8.9	59	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP42_2.1-2.2		7	<0.3	14	6	15	<0.05	1.9	12	<0.3	<0.1	15	<0.1	<0.1	<0.1	<0.1	<0.3	<25	1300	1300	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP43_0.2-0.3		7	<0.3	13	14	18	<0.05	7.5	49	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP44_1.0-1.1		6	<0.3	11	18	23	<0.05	9.1	54	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP45_0.2-0.3		9	<0.3	13	15	18	<0.05	4.3	36	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP46_0.2-0.3		9	<0.3	16	11	21	<0.05	6.3	47	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP47_0.2-0.3		7	<0.3	17	11	19	<0.05	8.6	43	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	130	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP48_0.2-0.3	23/01/2020	5	<0.3	11	11	16	<0.05	7.3	39	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP49_0.2-0.3		8	<0.3	14	15	20	<0.05	9.2	55	<0.3	0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP50_0.2-0.3		8	<0.3	13	12	20	<0.05	7.2	39	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Yes	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP51_0.9-1.0		8	<0.3	14	21	37	<0.05	19	74	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP52_0.2-0.3		8	<0.3	13	26	22	<0.05	6	40	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP53_0.2-0.3		6	<0.3	7.8	19	14	<0.05	14	68	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP54_0.2-0.3		7	<0.3	12	13	17	<0.05	6.1	35	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP55_0.2-0.3		7	<0.3	12	27	18	<0.05	7.1	37	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP56_0.2-0.3		9	<0.3	12	10	18	<0.05	3.7	25	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP57_0.2-0.3		8	<0.3	12	12	20	<0.05	6.1	54	0.3	0.2	2	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP58_0.2-0.3		6	<0.3	8.3	13	19	<0.05	4.2	32	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Natural																															
BH1_3.8-4.0	22/01/2020	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	310	500	370	440	62	55
BH1_4.2-4.5		7	<0.3	9	25	14	<0.05	32	140	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	1000	860	580	720	1000	68
BH3_6.0-6.45	23/01/2020	2	<0.3	2.9	10	15	<0.05	2	22	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	52	560	920	440	7	51
BH4_3.2-3.45		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	37	860	440	320	17	25
BH4_4.5-4.95		7	<0.3	9.5	31	15	0.07	57	160	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	370	1000	720	460	580	150
BH5_3.0-3.1	24/01/2020	4	<0.3	3	9.7	10	0.09	2	15	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	460	730	360	340	10	<25
BH6_1.5-1.7		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	100	1000	770	380	17	110
BH6_3.0-3.2		3	<0.3	5.9	29	14	<0.05	48	180	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	50	770	990	530	2200	180
BH7_2.8-3.0	28/01/2020	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	5000	2000	770	620	720	670
BH7_3.8-4.0		7	<0.3	10	23	18	<0.05	19	83	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	8800	2200	870	750	740	660
BH8_2.2-2.3		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	450	1100	760	560	440	250
BH8_3.2-3.5		10	<0.3	11	28	19	<0.05	18	81	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	8300	4100	670	720	730	560
BH9_1.8-2.0	30/01/2020	5	<0.3	3.2	12	10	<0.05	1.9	19	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	400	990	1100	320	N.A.	<25
BH9_3.1-3.3		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH10_1.8-2.0		5	<0.3	5.7	34	20	<0.05	8.3	70	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	22	580	690	410	N.A.	33
BH10_3.1-3.25		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	910	1000	730	500	N.A.	<25
BH11_3.0-3.2	31/01/2020	5	<0.3	16	15	33	<0.05	6.2	180	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	4000	1000	520	420	400	<25
BH12_1.8-2.0	3/02/2020	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2500	670	220	330	1100	200
BH12_2.8-3.0		4	<0.3	1.7	7.1	6	<0.05	2	18	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	80	740	1000	410	8	41
BH12_3.5-4.0		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	240	770	820	470	1100	56
BH13_2.8-3.0	4/02/2020	7	<0.3	6.7	39	18	<0.05	87	290	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	74	710	790	550	2400	67
BH13_3.5-4.0		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	860	940	800	610	1100	160
TP16_1.9-2.0	23/01/2020	4	<0.3	3.8	7.5	8	<0.05	1.4	12	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP17_0.9-1.0		3	<0.3	2.9	9.3	9	<0.05	4.3	22	<0.3	<0.1	1.2	0.2	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP35_2.4-2.5		8	<0.3	14	7.2	13	<0.05	3.5	20	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP36_1.4-1.5		10	<0.3	20	15	21	<0.05	5.9	38	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP37_1.2-1.3		6	<0.3	15	8.4	15	<0.05	16	48	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP38_1.0-1.1		7	<0.3	9.7	12	10	<0.05	3	25	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP39_1.2-1.3		3	<0.3	4.5	15	11	<0.05	15	52	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP40_0.9-1.0		8	<0.3	12	13	13	<0.05	6.5	41	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP41_0.8-0.9		2	<0.3	4	14	10	<0.05	7	39	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP42_2.6-2.7	24/01/2020	10	<0.3	26	12	27	<0.05	5.3	33	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP43_1.8-1.9		8	<0.3	15	8.7	14	<0.05	5.5	100	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP44_2.4-2.5		10	<0.3	9.4	16	9	<0.05	4.3	57	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP45_2.4-2.5		13	<0.3	20	21	19	<0.05	7.6	80	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP46_1.5-1.6		7	<0.3	16	8.4	13	<0.05	3.9	27	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	91	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP47_0.9-1.0		<1	<0.3	1.6	7.7	7	<0.05	1.6	16	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP48_1.5-1.6	23/01/2020	5	<0.3	8.1	9.7	9	<0.05	2.9	23	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP49_2.7-2.8		9	<0.3	8.1	24	16	<0.05	50	170	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP50_0.9-1.0		5	<0.3	9.1	9.4	11	<0.05	3.6	9.8	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP51_2.2-2.3		11	<0.3	15	18	21	<0.05	6.6	69	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP52_1.4-1.5		5	<0.3	11	6.3	8	<0.05	6	26	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP53_1.1-1.2		7	<0.3	17	7.7	12	<0.05	4.6	34	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP54_0.8-0.9		6	<0.3	10	9.5	9	<0.05	3.1	22	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP55_0.7-0.8		7	<0.3	14	7.8	19	<0.05	3.1	20	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP56_1.2-1.3		7	<0.3	20	7.6	14	<0.05	6.2	30	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP57_1.3-1.4		7	<0.3	21	6.5	11	<0.05	3.1	24	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TP58_0.8-0.9		4	<0.3	5.8	7.5	8	<0.05	1.4	11	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Surface fragment																															
TP26_surface fragment	22/01/2020	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Yes	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Statistical Analysis																															
Maximum concentration		13	0.3	44	58	300	0.09	87	290	0.5	0.3	15	0.2	<0.1	<0.1	<0.1	<0.3	<25	1300	1300	<120	<1	<1.7	<1	Yes	8800	4100	1100	750	2400	670
SILs																															
HIL B - *Residential with minimal soil access*		500	150	500 Cr(VI)	30,000	1,200	120	1,200	60,000	4		400										600		1						14,000	
HIL C - *Recreational*		300	90	300 Cr(VI)	17,000	600	80	1,200	30,000	3		300										400		1						19,000	
HSL A/B - *Low to high density residential* Soil texture classification – Clay		Source depths (0 m to <1 m. BGL)											5	0.7	480	NL	110	50	280												
		Source depths (1 m to <2 m. BGL)											NL	1	NL	NL	310	90	NL												
		Source depths (2 m to <4 m. BGL)											NL	2	NL	NL	NL	150	NL												
		Source depths (4 m + BGL)											NL	3	NL	NL	NL	290	NL												
HSL D - Commercial / Industrial Soil texture classification – Clay		Source depths (0 m to <1 m. BGL)											NL	4	NL	NL	NL	310	NL												
		Source depths (1 m to <2 m. BGL)											NL	6	NL	NL	NL	480	NL												
		Source depths (2 m to <4 m. BGL)											NL	9	NL	NL	NL	NL	NL												
		Source depths (4 m + BGL)											NL	20	NL	NL	NL	NL	NL												
EILs / ESLs - *Urban Residential and Public Open Space* [1, 2]		100		400	60	1,100		170	180		33 [3]		170	65	105	125	45	180	120	1,300	5,600	180									
Management Limits – *Residential, parkland and public open space* [1]																		800	1,000	3,500	10,000										
Asbestos																									Yes						

Notes:

(yellow)	Highlighted values exceed HIL / HSL
(green)	Highlighted values exceed EIL / ESL
(orange)	Highlighted values asbestos detected

Results are recorded in mg/kg, with the exception of E-Coli which is recorded in MPN/g.

HIL A	NEPC 1999 Amendment 2013 'HIL A'- Health based Residential with garden / accessible soil, also includes children's day care centres, preschools and primary schools.
HIL B	NEPC 1999 Amendment 2013 'HIL B' - Health based Residential with minimal opportunities for soil access including dwellings with fully and permanenetly paved yard space such as high-rise buildings and apartments.
HSL A & B	NEPC 1999 Amendment 2013 'HSL A & B' Health Based Screening Levels applicable for vapour intrusion values applicable for low-high density residential settings.
HSL D	NEPC 1999 Amendment 2013 'HSL D' Health Based Screening Levels applicable for vapour intrusion values applicable for commercial / industrial settings.
EIL	Ecological Investigation Level for urban residential and public open space land use.
ESL	Ecology Screening Level for urban residential and public open space land use.
#	Thresholds are for Chromium VI.
NA	Not analysed
NL	Not Limiting' If the derived soil vapour limit exceeds the soil concentration at which the pore water phase cannot dissolve any more of the individual chemical
NC	Not calculated
1	As strata is predominantly clay, fine grained soil assessment criteria values were applied.
2	EIL/ESL were calculated based on the most conservative results of pH (4.8) and CEC (7.3 meq/100g)
3	The ecological criteria for benzo(α)pyrene was sourced from CRC Care (2017) Technical Report No. 39 Risk-based management and remediation guidance for benzo(a)pyrene.
F1	To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
F2	To obtain F2 subtract naphthalene from the >C10-C16 fraction.
F3	(>C16-C34)
F4	(>C34-C40)

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Table T2 - Summary of Groundwater Analytical Results

Sample ID	Sampling Date	Metals									Cations				Anions		PAHs			BTEX					TRHs				pH
		As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Mn	Ca	Mg	Na	K	Cl	SO_4	Total PAHs	Benzo(a)pyrene	Naphthalene	Benzene	Toluene	Ethylbenzene	o-xylene	m/p-xylene	F1	F2	F3	F4	
Detailed Site Investigation (EI, 2020)																													
BH1M	26/2/2020	6	<0.1	<1	<1	<1	<0.1	11	<5	1,700	80	94	640	34	750	89	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	120	<500	<500	7.0
BH2M		3	<0.1	<1	<1	<1	<0.1	8	<5	1,200	46	39	310	26	660	150	820	6.1	87	<0.5	<0.5	<0.5	<0.5	<1	<50	7200#	3900#	810#	7.2
BH3M		4	<0.1	1	6	<1	<0.1	7	<5	410	110	290	1,500	38	3,200	400	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	<60	<500	<500	7.8
BH7M	21/2/2020	3	<0.1	<1	5	<1	<0.1	19	<5	3,800	140	230	1,700	30	2,200	230	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	190	<500	<500	6.7
BH8M		2	0.2	<1	41	1	<0.1	46	100	2,100	160	480	2,300	36	6,300	430	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	<60	<500	<500	6.3
BH11M		4	<0.1	<1	13	<1	<0.1	23	42	1,500	110	260	1,100	30	3,400	280	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	<60	<500	<500	6.7
BH13M		3	<0.1	<1	3	<1	<0.1	22	44	1,100	170	390	2,200	49	3,800	200	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	73	<500	<500	6.9
Statistical Analysis																													
Maximum Concentration		6	0.2	1	41	1	<0.1	46	100	3800	170	480	2300	49	6300	430	820	6.1	87	<0.5	<0.5	<0.5	<0.5	<1	<50	7200	3900	810	8
GILs																													
HSL A&B - *Low - High Density Residential* [1]		**2m to <4m**																	NL	5,000	NL	NL	NL	NL	NL	NL			
		4m to <8m																	NL	5,000	NL	NL	NL	NL	NL	NL			
		8m+																	NL	5,000	NL	NL	NL	NL	NL	NL			
GILs	**Fresh Water** [2]	24 (AsIII) 13 (AsV)	0.2	1 (Cr VI)	1.4	3.4	0.06 [5]	11	8 [6]	1900 [6]									16	950	180 [7]	80 [7]	350 [7]	275 [7]	50 [8]	60 [8]	500 [8]	500 [8]	
	Recreational Water [9]	100	20		1,000 *	100	10	200	3,000*	100 *										10	25*	3*	20 *	20 *					

Notes:

Highlighted indicates criteria exceeded

All values are µg/L unless stated otherwise

NL	Not Limiting
NA	'Not Analysed' i.e. the sample was not analysed.
ND	Not Detected - i.e. concentration below the laboratory PQL
F1	To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
F2	To obtain F2 subtract naphthalene from the >C10-C16 fraction.
F3	(>C16-C34)
F4	(>C34-C40)
#	Results after silica gel clean up
1	NEPM (2013) Table 1A(4) Groundwater HSL A&B for vapour intrusion in clay.
2	NEPM (2013) Groundwater Investigation Levels for fresh and marine water quality, based on ANZECC & ARMCANZ (2000).
3	Value dervied from the National Environmental Management Plan for PFAS - 95% species protection for slightly to moderately disturbed systems
4	When pH>6.5
5	Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZG (2018) for further guidance.
6	Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance
7	Low reliability toxicity data, refer to ANZECC & ARMCANZ (2000)
8	In lack of a criteria the laboratory PQL has been used (DEC, 2007).
9	Based on NHMRC (2011 - update August 2018 v.3.5) Drinking Water Guidelines. The lowest of the Health Guideline x10 or the Aesthetic Guideline has been chosen as the assessment criteria. Aesthetic based criteria have been indicated by *

Table B.3 - Summary of Dam Water Investigation Results

Batch Number	Sample Identification	Date	Metals									Cations				Anions		BTEX					PAHs			TRHs				Total Cyanide	Total Phenols	Nutrients					
			Al	As	Cd	Cr [3]	Cu	Pb	Ni	Zn	Hg	Ca	Mg	Na	K	Cl	SO4	Benzene	Toluene	Ethylbenzene	m + p-xylene	o-xylene	Benzo(a)pyrene	Total PAH	Naphthalene	F1	F2	F3	F4			Nitrate	Nitrite	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Total Phosphorus	Ammonia Nitrogen
SE202232.001	DAM-NE	24/01/2020	48	2	<0.1	<1	<1	<1	1	9	<0.1	28,000	18,000	78,000	11,000	93,000	18,000	<0.5	<0.5	<0.5	<1	<0.5	<0.1	<1	<0.1	<50	<60	<500	<500	<4	<50	40	<5	1300	1300	50	50
SE202232.002	DAM-S		120	2	<0.1	<1	<1	<1	1	11	<0.1	28,000	18,000	77,000	11,000	99,000	17,000	<0.5	<0.5	<0.5	<1	<0.5	<0.1	<1	<0.1	<50	<60	<500	<500	<4	<50	21	<5	1700	1700	120	70
Guidelines																																					
ANZG (2018)[1]	**Fresh Water**		55 [6]	24 (As III) 13 (As V)	0.2	3.3 (CrIII) [5] 1.0 (CrVI)	1.4	3.4	11	8	0.06 [5]							950	180	80	275	350			16	50 [4]	60 [4]	500 [4]	500 [4]	7	320	700 [7]					900
NHMRC (2011) [2]	**Recreational Water [2a]**		200*	100	20		1,000 *	100	200	3,000*	10							10	25*	3*	20 *	20 *								800		500,000	30,000				500*

Notes:
All values are µg/L unless stated otherwise
F1 C6-C10 minus BTEX
F2 >C10-C16 minus naphthalene
F3 (>C16-C34)
F4 (>C34-C40)

[1] Groundwater Investigation Levels for fresh, marine, based on ANZG (2018) Australian and New Zealand Guidelines for 95% protection level.
[2] Based on NHMRC (2011 - update August 2018 v.3.5) Drinking Water Guidelines.
[2a] The lowest of the Health Guideline x10 or the Aesthetic Guideline has been chosen as the assessment criteria. Aesthetic based criteria have been indicated by *
[3] Value is for total Chromium
[4] In lack of a criteria the preferred laboratory (SGS Australia) PQL has been used (DEC, 2007).
[5] To account for the bioaccumulating nature of this toxicant, 99% species protection level DGV is used for slightly to moderately disturbed systems. Refer to Warne et al. (2017) for details.
[6] Guideline value provided for when the water pH >6.5
[7] Based on ANZECC and ARMCANZ (2000) Guidelines for Fresh and Marine Water Quality

Highlighted indicates criteria exceeded

Table B.3 – Dam Water Physicochemical Results

Batch Number	Sample Identification	Date Sampled	Physicochemical Properties					
			Electrical Conductivity (µS/cm)	Total Dissolved Solids (mg/L)	pH	Turbidity NTU	Hardness (mg/CaCO3/L)	Alkalinity (mg/CaCO3/L)
SE202232.001	DAM-NE	24/01/2020	620	380	7.8	7.7	140	380
SE202232.002	DAM-S	24/01/2020	620	380	7.7	18	140	180
Guidelines								
ANZG (2018) [1]	**Marine Water**		125 - 2,200 [3]		7.0-8.5 [4]	0.5-10 [3]		
	Fresh Water				6.5-8.0 [4]	1-50 [3]		
NMHRC (2011) [2, 2a]	**Recreational Water**			1200	6.5-8.5	5	500	

Notes:
All values are mg/L unless stated otherwise

[1] Groundwater Investigation Levels for fresh, marine, based on ANZG (2018). In the absence of criteria in ANZG (2018), ANZECC and ARMCANZ (2000) Guidelines for Fresh and Marine Water Quality was used.
[2] Based on NHMRC (2011 - update August 2018 v.3.5) Drinking Water Guidelines.
[2a] Aesthetic criteria used as insufficient data is available to set a guideline value based on health considerations and/or health consideration is not necessary.
[3] Criteria sourced from Table 3.3.3 *Default trigger values for physical and chemical stressors* , in ANZECC/ARMCANZ, 2000.
[4] Criteria sourced from Table 3.3.2 *Default trigger values for physical and chemical stressors* , in ANZECC/ARMCANZ, 2000.
- Sample was not tested

Highlighted indicates criteria exceeded

Sample	pH	Electrical Conductivity (EC - µs/cm)	Soil Texture	ECe (µS/cm)	Adopted Multiplication Factor	ECe (dS/m)	Cation Exchange Capacity (CEC - meq/100)	Exchangeable Sodium Percentage (%)	Chloride	Sulfate	Soil Salinity Class [1]	Piling - Design and Installation[2]		Sodic Soils
												Reinforced Concrete Piles	Steel	
BH1_3.8-4.0	5.8	200	Sandy Clay	2800	14	2.8	7.9	27.5	120	230	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH1_4.2-4.5	6.6	240	Clay Loam	2160	9	2.16	8.2	31	170	140	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH3_6.0-6.45	4.8	540	Medium Clay	3780	7	3.78	8.5	43	770	140	Slightly Saline	Mild	Non-aggresive	Sodic
BH4_3.2-3.45	5	150	Heavy Clay	900	6	0.9	7.6	18	170	47	Non-Saline	Mild	Non-aggresive	Sodic
BH4_4.5-4.95	7	360	Light Clay	3060	8.5	3.06	9.9	35	390	100	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH5_3.0-3.1	4.9	250	Medium Clay	1750	7	1.75	8.5	14.5	240	190	Non-Saline	Mild	Non-aggresive	Sodic
BH6_1.5-1.7	4.9	370	Heavy Clay	2220	6	2.22	12	26.5	400	220	Slightly Saline	Mild	Non-aggresive	Sodic
BH6_3.0-3.2	7.8	740	Medium Clay	5180	7	5.18	13	43.5	770	150	Moderately Saline	Non-aggresive	Non-aggresive	Sodic
BH7_2.8-3.0	8.1	610	Heavy Clay	3660	6	3.66	20	17.5	400	140	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH7_3.8-4.0	8.2	720	Sandy Clay	10080	14	10.08	22	17.9	560	130	Very Saline	Non-aggresive	Non-aggresive	Sodic
BH8_2.2-2.3	7.6	400	Heavy Clay	2400	6	2.4	12	25.1	410	230	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH8_3.2-3.5	8.6	560	Sandy Clay	7840	14	7.84	19	15.8	530	130	Moderately Saline	Non-aggresive	Non-aggresive	Sodic
BH9_1.8-2.0	5.5	810	Heavy Clay	4860	6	4.86	13	39.4	1100	300	Moderately Saline	Mild	Non-aggresive	Sodic
BH9_3.1-3.3	7.9	420	N.A.	5880	14	5.88	9.4	42.1	N.A.	N.A.	Moderately Saline	-	-	-
BH10_1.8-2.0	5	550	Clay Loam	4950	9	4.95	8.2	41.9	720	160	Moderately Saline	Mild	Non-aggresive	Sodic
BH10_3.1-3.25	7.3	350	Light Clay	2975	8.5	2.975	11	31.8	440	64	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH11_3.0-3.2	6.9	320	Medium Clay	2240	7	2.24	12	22.6	280	380	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH12_1.8-2.0	6.4	180	Medium Clay	1260	7	1.26	12	7.1	110	12	Non-Saline	Non-aggresive	Non-aggresive	Sodic
BH12_2.8-3.0	5.5	430	Heavy Clay	2580	6	2.58	9.8	36	390	200	Slightly Saline	Mild	Non-aggresive	Sodic
BH12_3.5-4.0	6.7	380	Light Clay	3230	8.5	3.23	8.4	38.3	410	110	Slightly Saline	Non-aggresive	Non-aggresive	Sodic
BH13_2.8-3.0	7.1	370	Sandy Loam	5180	14	5.18	7.3	39.8	420	45	Moderately Saline	Non-aggresive	Non-aggresive	Sodic
BH13_3.5-4.0	7.5	410	Loamy Sand	4100	10	4.1	9.9	36.4	460	63	Moderately Saline	Non-aggresive	Non-aggresive	Sodic

[1] DLWC (2002)

[2] AS2159-2009

Table B.5 - Soil Analytcial Results: Acid Sulfate Soils

Sample ID	Material	Analysis (Laboratory Testing)						
		pH (Field)	pHfox	pH Difference (pH f - pH fox)	pH_{KCl}	TSA (as %w/w S)	S_{Cr}(as %w/w S)	s-Net Acidity (as %w/w S)
BH1_3.8-4.0	Natural	6	4.8	1.2	NA	NA	NA	NA
BH1_4.2-4.5	Natural	6.6	7.1	-0.5	NA	NA	NA	NA
BH3_6.0-6.45	Natural	5.2	4.2	1.0	NA	NA	NA	NA
BH4_3.2-3.45	Natural	5.1	3.9	1.0	NA	NA	NA	NA
BH4_4.5-4.95	Natural	7.2	8	-1.0	NA	NA	NA	NA
BH5_3.0-3.1	Natural	5.2	4	1.2	4.6	0.06	0.008	0.064
BH6_1.5-1.7	Natural	5.1	3.7	1.4	4.6	0.06	0.006	0.062
BH6_3.0-3.2	Natural	7.4	7.8	-0.3	NA	NA	NA	NA
BH7_2.8-3.0	Natural	8.3	5.7	2.6	NA	NA	NA	NA
BH7_3.8-4.0	Natural	8.6	7.2	1.4	NA	NA	NA	NA
BH8_2.2-2.3	Natural	7.7	6.7	1.1	NA	NA	NA	NA
BH8_3.2-3.5	Natural	8.8	8.6	0.2	NA	NA	NA	NA
BH9_1.8-2.0	Natural	6.3	4.3	2.0	5.3	0.02	0.008	0.024
BH10_1.8-2.0	Natural	5	4	1.0	4.6	0.03	0.008	0.036
BH10_3.1-3.25	Natural	7.5	8.7	-1.2	NA	NA	NA	NA
BH11_3.0-3.2	Natural	6.6	4.9	1.7	NA	NA	NA	NA
BH12_1.8-2.0	Natural	7	4.8	2.2	6.1	<0.01	0.012	0.016
BH12_2.8-3.0	Natural	5.6	4.7	1.0	NA	NA	NA	NA
BH12_3.5-4.0	Natural	6.5	6.5	0.0	NA	NA	NA	NA
BH13_2.8-3.0	Natural	6.9	7.5	-0.6	NA	NA	NA	NA
BH13_3.5-4.0	Natural	7.3	7.5	-0.3	NA	NA	NA	NA
Minimum concentration		5	3.7	NC	NA	NA	NA	NA
SILs								
ASSMAC (1998) Screening Criteria	**Indicator of PASS**	NR	<3.5	>1 pH unit	NR	≥18	NR	NR
	Indicator of AASS	<4.0	NR					

Notes:

	Criteria exceeding
	Exceeding ASSMAC, 1998 criteria

NA	Not Anlaysed
NR	No reference criteria available in current regulatory tools.
NC	Not calculated

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Table B.6 Summary of QA/QC results for Investigation samples

Sample identification	Sampled Date	Description	TRH				BTEX				Heavy Metals							
			F1*	F2**	F3 (>C_{16} - C_{34})	F4 (>C_{34} - C_{40})	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate																		
TP18_0.2-0.3	22/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	7	<0.3	8.8	17	19	<0.05	9.2	47
QD1		Replicate of TP18_0.2-0.3	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	10	<0.3	14	22	24	<0.05	13	66
RPD			***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***35.29***	***0.00***	***45.61***	***25.64***	***23.26***	***0.00***	***34.23***	***33.63***
TP24_0.2-0.3	22/1/2020	Fill	<25	<25	99	<120	<0.1	<0.1	<0.1	<0.3	4	<0.3	5	31	10	<0.05	8.7	35
QD2		Replicate of TP24_0.2-0.3	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	9	<0.3	13	34	20	<0.05	19	75
RPD			***0.00***	***0.00***	***12.50***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	**76.92**	***0.00***	**88.89**	***9.23***	**66.67**	***0.00***	**74.37**	**72.73**
TP50_0.2-0.3	23/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	8	<0.3	13	12	20	<0.05	7.2	39
QD3		Replicate of TP50_0.2-0.3	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	11	<0.3	16	18	26	<0.05	9.2	54
RPD			***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***31.58***	***0.00***	***20.69***	***40.00***	***26.09***	***0.00***	***24.39***	***32.26***
TP17_0.2-0.3	23/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	7	<0.3	13	14	29	<0.05	7.2	40
QD4		Replicate of TP17_0.2-0.3	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	11	<0.3	15	19	27	<0.05	13	77
RPD			***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***44.44***	***0.00***	***14.29***	***30.30***	***7.14***	***0.00***	**57.43**	**63.25**
TP45_0.2-0.3	24/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	9	<0.3	13	15	18	<0.05	4.3	36
QD5		Replicate of TP45_0.2-0.3	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	13	<0.3	16	15	24	<0.05	7	39
RPD			***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***36.36***	***0.00***	***20.69***	***0.00***	***28.57***	***0.00***	***47.79***	***8.00***
TP14_0.2-0.3	24/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	6	<0.3	8.7	19	17	<0.05	11	51
QD6		Replicate of TP14_0.2-0.3	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	8	<0.3	14	27	19	<0.05	16	58
RPD			***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***28.57***	***0.00***	***46.70***	***34.78***	***11.11***	***0.00***	***37.04***	***12.84***
BH8M	21/2/2020	Groundwater	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	2	0.2	<1	41	1	<0.1	46	100
GWQD1		Replicate of BH8M	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	3	0.3	<1	46	1	<0.1	54	100
RPD			***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***40.00***	***40.00***	***0.00***	***11.49***	***0.00***	***0.00***	***16.00***	***0.00***
Inter-laboratory Duplicate																		
TP18_0.2-0.3	22/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	7	<0.3	8.8	17	19	<0.05	9.2	47
QT1		Replicate of TP18_0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<3	9	<0.4	11	19	14	<0.1	11	43
RPD			***0.00***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***25.00***	***NA***	***22.22***	***11.11***	***30.30***	***NA***	***17.82***	***8.89***
TP24_0.2-0.3	22/1/2020	Fill	<25	<25	99	<120	<0.1	<0.1	<0.1	<0.3	4	<0.3	5	31	10	<0.05	8.7	35
QT2		Replicate of TP24_0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<3	4	<0.4	7	24	8	<0.1	11	39
RPD			***0.00***	***NA***	***1.34***	***NA***	***NA***	***NA***	***NA***	***NA***	***0.00***	***NA***	***33.33***	***25.45***	***22.22***	***NA***	***23.35***	***10.81***
TP50_0.2-0.3	23/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	8	<0.3	13	12	20	<0.05	7.2	39
QT3		Replicate of TP50_0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<3	7	<0.4	13	13	16	<0.1	6	30
RPD			***0.00***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***13.33***	***NA***	***0.00***	***8.00***	***22.22***	***NA***	***18.18***	***26.09***
TP17_0.2-0.3	23/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	7	<0.3	13	14	29	<0.05	7.2	40
QT4		Replicate of TP17_0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<3	9	<0.4	13	17	17	<0.1	7	38
RPD			***0.00***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***25.00***	***NA***	***0.00***	***19.35***	**52.17**	***NA***	***2.82***	***5.13***
TP45_0.2-0.3	24/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	9	<0.3	13	15	18	<0.05	4.3	36
QT5		Replicate of TP45_0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<3	10	<0.4	15	16	15	<0.1	5	30
RPD			***0.00***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***10.53***	***NA***	***14.29***	***6.45***	***18.18***	***NA***	***15.05***	***18.18***
TP14_0.2-0.3	24/1/2020	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	6	<0.3	8.7	19	17	<0.05	11	51
QT6		Replicate of TP14_0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<3	5	<0.4	11	24	11	<0.1	10	38
RPD			***0.00***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***18.18***	***NA***	***23.35***	***23.26***	***42.86***	***NA***	***9.52***	***29.21***
BH8M	21/2/2020	Groundwater	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	2	0.2	<1	41	1	<0.1	46	100
GWQT1		Replicate of BH8M	<10	<50	<100	<100	<1	<1	<1	<3	<1	0.2	<1	19	<1	<0.05	42	66
RPD			***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	**80.00**	***0.00***	***0.00***	**73.33**	***0.00***	***NA***	***9.09***	***40.96***
QTB1	24/1/2020	Trip blank	-	-	-	-	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-
QTS1		Trip spike	-	-	-	-	[103%]	[106%]	[107%]	[107%]	-	-	-	-	-	-	-	-
QR1		Rinsate	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	15
GWTB1	21/2/2020	Trip blank	-	-	-	-	<0.5	<0.5	<0.5	<1.5	-	-	-	-	-	-	-	-
GWTS1		Trip spike	-	-	-	-	[95%]	[94%]	[92%]	[93%]	-	-	-	-	-	-	-	-
GWQR1		Rinsate	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	<5

Indicates values where a single result is found to be less than detection, with the duplicate sample found to be over the detection limit.
RPD exceeds 30-50% range referenced from AS4482.1 (2005)

NOTE:
All soil results are reported in mg/kg . All water results are reported in µg/L.
* - to obtain F1 subtract the sum of BTEX concentrations from the C_6-C_{10} fraction
** - to obtain F2 subtract naphthalene from the > C_{10}-C_{16} fraction

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Appendix C– Borehole Logs

BOREHOLE: BH1M

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	22/1/20
Position	Refer to Figure 2			Date Completed	22/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:22/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS (ID: BH1M; Static Water Level)
AD/T	-	GWNE	0		BH1M_0.1-0.2 ES			-	FILL: Gravelly CLAY; low plasticity, brown, with fine grained sand, fine to medium, angular to sub-angular gravels, blue metal, shale and sandstone fragments, no odour.	D		Grout
				1.00	BH1M_1.0-1.1 ES				From 1.0 m, brown mottled orange-red, with fine to medium, rounded to sub-rounded ironstone gravels, no odour.		-	
			2		BH1M_1.8-2.0 ES					M		
				3.00	BH1M_2.8-3.0 ES			-	SHALE; very low strength, pale brown-dark grey, extremely weathered, no odour.			Bentonite
	M		4									uPVC 50 mm Casing
				4.20	BH1M_4.2-4.5 ES				From 4.2 m, very low to low strength, pale brown-dark grey, distinctly weathered, no odour.			
	H		6							-	-	uPVC 50 mm Screen; Sand
				7.10					Borehole Terminated at 7.10 mBGL; Target Depth Reached.			
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH2M

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	22/1/20
Position	Refer to Figure 2			Date Completed	23/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:22/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS (ID: BH2M; Static Water Level)
AD/T	-	22/1/20	0					-	FILL: Gravelly CLAY; low to medium plasticity, brown, with fine grained sand, fine to medium, angular to sub-angular gravels, blue metal, shale and sandstone fragments, no odour.	D		
				1.20					From 1.2 m, with ironstone gravels, no odour.			
			2							M (<PL)	-	Sand
			4									Bentonite
				4.50				-	SHALE; very low strength, pale brown, distinctly weathered, with some ironstaining, no odour.	M (>PL)		uPVC 50 mm Casing
			6							-	-	Sand
												uPVC 50 mm Screen
			8	8.00					Borehole Terminated at 8.00 mBGL; Target Depth Reached.			
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH3M

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	23/1/20
Position	Refer to Figure 2			Date Completed	23/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:23/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS (ID: BH3M; Static Water Level)
AD/T	-	23/1/20	0		BH3M_0.1-0.2 ES			-	FILL: Gravelly CLAY; low to medium plasticity, brown, with fine grained sand, fine to medium, angular to sub-angular gravels, blue metal, shale and sandstone fragments, no odour.	D		Sand
				0.50					From 0.5 m, brown mottled orange-red, with fine to medium, rounded to sub-rounded ironstone gravels, no odour.	M (<PL)	-	
			2									
			4									
				4.50				CI	Silty CLAY; medium plasticity, red-brown to grey, grading to weathered shale, no odour.	M (<PL)	-	
				5.90								
			6		BH3M_6.0-6.45 ES			-	SHALE; very low strength, pale grey-pale brown, distinctly weathered, no odour.	-	-	Bentonite; uPVC 50 mm Casing
			8									uPVC 50 mm Screen; Sand
			10	10.00					Borehole Terminated at 10.00 mBGL; Target Depth Reached.			
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH4

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	23/1/20
Position	Refer to Figure 2			Date Completed	23/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:23/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	23/1/20	0					-	FILL: Gravelly CLAY; low to medium plasticity, brown, with fine grained sand, fine to medium, angular to sub-angular gravels, blue metal, shale and sandstone fragments, no odour.			FILL
				1.00					From 1.0 m, brown mottled orange-red, with fine to medium, rounded to sub-rounded ironstone gravels, no odour.	-	-	
			2									
				2.50					From 2.5 m, becoming dark grey, no odour.			
				3.20				Cl	Silty CLAY; medium plasticity, red-brown mottled grey-orange, fine to medium, rounded to sub-rounded ironstone gravels, no odour.	M (<PL)	St	RESIDUAL SOIL
			4									
				4.50	BH4_4.5-4.95 ES			-	SHALE; very low strength, pale brown-pale grey, distinctly weathered, no odour.	-	-	BEDROCK
				5.50								
			6						Borehole Terminated at 5.50 mBGL; Target Depth Reached.			
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH5

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Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	24/1/20
Position	Refer to Figure 2			Date Completed	24/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:24/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0					-	FILL: Gravelly CLAY; low to medium plasticity, brown, with fine to medium grained sand, fine to medium, angular to sub-angular gravels, blue metal, shale, and sandstone fragments, no odour.	D		FILL
				0.50					From 0.5 m, fine to medium, angular to sub-angular ironstone gravels, no odour.	M (<PL)	-	
			2									
				2.80				Cl	Silty CLAY; medium plasticity, red-brown to orange mottled grey, grading to weathered shale, no odour.	M (<PL)	VSt	RESIDUAL SOIL
			4									
				4.50				-	SHALE; very low strength, dark grey, distinctly weathered, with ironstaining, no odour.	-	-	BEDROCK
	H			5.50								
			6						Borehole Terminated at 5.50 mBGL; Target Depth Reached.			
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH6

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Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	24/1/20
Position	Refer to Figure 2			Date Completed	28/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:24/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0		BH6_0.1-0.2 ES			-	FILL: Silty CLAY; low to medium plasticity, dark brown mottled orange-red, with fine grained sand, fine to medium, angular to sub-angular ironstone gravels, blue metal and shale fragments, no odour.	M (<PL)	-	FILL
				1.00	BH6_0.8-1.0 ES							
								CI	Silty CLAY; medium plasticity, red-brown to grey, with fine to medium, rounded to sub-rounded ironstone gravels, no odour.	-	F	RESIDUAL SOIL
			2	2.00	BH6_1.5-1.7 ES				From 2.0 m, grading to weathered shale, no odour.			
					BH6_3.0-3.2 ES						H	
			4	4.20								
	H							-	SHALE; very low to low strength, dark grey, distinctly weathered, no odour.	-	-	BEDROCK
				5.40								
			6						Borehole Terminated at 5.40 mBGL; Target Depth Reached.			
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH7M

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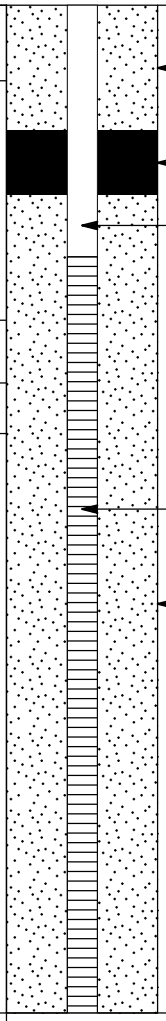
Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	28/1/20
Position	Refer to Figure 2			Date Completed	30/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:28/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling | **Sampling** | **Field Material Description**

METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY
AD/T	-	28/01/20 28/01/20	0	0.60				-	FILL: Silty CLAY; medium plasticity, with fine grained sand, red-brown mottled orange, with fine to medium, angular to sub-angular gravels, blue metal, no odour.	M (<PL)	-
			2	2.50				-	FILL: Gravelly CLAY; low to medium plasticity, with fine grained sand, pale brown, with fine to medium, angular to sub-angular ironstone gravels, blue metal and shale fragments, no odour.	M (<PL) / M (>PL)	-
				3.40				CI	Silty CLAY; medium plasticity, pale grey mottled red-brown, with fine grained sand, fine to medium, rounded to sub-rounded ironstone gravels, no odour.	M (>PL)	- / H
	H		4 / 6	8.00				-	SHALE; very low to low strength, pale brown-dark grey, distinctly weathered, no odour.	-	-
			8 / 10 / 12						Borehole Terminated at 8.00 mBGL; Target Depth Reached.		

PIEZOMETER DETAILS

ID: BH7M — Static Water Level



This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E24445.E02.GPJ <<DrawingFile>> 10/03/2020 14:18 10.0.000 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH8M

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	28/1/20
Position	Refer to Figure 2			Date Completed	29/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:28/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS (ID: BH8M; Static Water Level)
AD/T	-	28/01/20	0						FILL: Gravelly CLAY; low to medium plasticity, brown mottled grey-orange, with fine grained sand, fine to coarse, angular to sub-angular ironstone gravels, blue metal, shale and sandstone fragments and wood pieces, no odour.	M (<PL)	-	Sand
				1.10					From 1.1 to 1.3 m, shale layer, dark grey, no odour.			
				1.70				CI-CH	Silty CLAY ; medium to high plasticity, pale grey mottled red-brown to orange, with fine to medium, rounded to sub-rounded ironstone gravels, no odour.	M (<PL)	S	
		28/01/20	2									
				3.10				-	SHALE; very low to low strength, dark grey, distinctly weathered, no odour.		H	Bentonite
	H		4							-	-	uPVC 50 mm Casing; Sand; uPVC 50 mm Screen
			6									
				7.00								
			8						Borehole Terminated at 7.00 mBGL; Target Depth Reached.			
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH9

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	30/1/20
Position	Refer to Figure 2			Date Completed	30/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:30/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0	0.50	BH9_0.1-0.2 ES			-	FILL: Silty CLAY; low to medium plasticity, brown mottled orange-red, with fine grained sand, fine to medium, angular to sub-angular gravels, blue metal, shale and sandstone fragments, no odour.	D	-	FILL
				1.00	BH9_0.8-1.0 ES				From 0.5 m, fine to medium, rounded to sub-rounded ironstone gravels, no odour.			
			2	3.00	BH9_1.8-2.0 ES			CI-CH	Silty CLAY; medium to high plasticity, pale grey mottled red-brown to orange, with fine to medium, rounded to sub-rounded ironstone gravels, grading to weathered shale, no odour.	M (<PL)	- / St	RESIDUAL SOIL
	M		4	3.50				-	SHALE; very low strength, pale brown mottled pale grey-orange, extremely weathered, with ironstone bands, no odour.	-	-	WEATHERED ROCK
									From 3.5 m, low strength, pale brown, distinctly weathered, no odour.			
	H			5.20								
			6						Borehole Terminated at 5.20 mBGL; Target Depth Reached.			
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH10

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	30/1/20
Position	Refer to Figure 2			Date Completed	31/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:30/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0	0.80				-	FILL: Silty CLAY; low to medium plasticity, brown mottled orange-red, with fine grained sand, fine to medium, angular to sub-angular ironstone gravels, blue metal, no odour.	D	-	FILL
			2	1.50				CI-CH	Silty CLAY; medium to high plasticity, pale grey to red-brown mottled orange, with fine to medium, rounded to sub-rounded ironstone gravels, no odour.			RESIDUAL SOIL
				2.60					From 1.5 m, becoming pale grey mottled red-brown, grading to weathered shale, no odour.	M (<PL)	VSt	
	H			3.10	BH10_3.0-3.45 ES			-	SHALE; very low strength, pale grey-pale brown, very low strength, extremely weathered, no odour.	-	-	WEATHERED ROCK
				3.50					From 3.1 m, low strength, pale brown, distinctly weathered, no odour.			
			4						Borehole Terminated at 3.50 mBGL; Target Depth Reached.			
			6									
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH11M

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	31/1/20
Position	Refer to Figure 2			Date Completed	31/1/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:31/1/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS (ID: BH11M; Static Water Level)
AD/T	-	GWNE	0		BH11M_0.1-0.2 ES			-	FILL: Silty CLAY; low to medium plasticity, brown mottled orange-red to pale grey, with fine grained sand, fine to medium, angular to sub-angular ironstone gravels, blue metal, no odour.			
				1.00	BH11M_0.8-1.0 ES				From 1.0 m, shale and sandstone fragments, no odour.	D	-	
			2	2.20				CI-CH	Silty CLAY; medium to high plasticity, red-brown mottled pale grey, with fine to medium, rounded to sub-rounded ironstone gravels, no odour.			Sand
				3.00	BH11M_3.0-3.2 ES				From 3.0 m, becoming pale grey mottled red-brown to orange, grading to weathered shale, no odour.	M (<PL)	St	
			4	4.00				-	SHALE; very low strength, pale brown, distinctly weathered, no odour.			
	M			4.60					From 4.6 m, low strength, pale brown, distinctly weathered, no odour.			Bentonite
												uPVC 50 mm Casing
			6									
	H		8							-	-	uPVC 50 mm Screen; Sand
			10									
				11.60					Borehole Terminated at 11.60 mBGL; Target Depth Reached.			
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH12

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	3/2/20
Position	Refer to Figure 2			Date Completed	3/2/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:3/2/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0		BH12_0.1-0.2 ES			-	FILL: Silty CLAY; low to medium plasticity, brown to red-brown mottled orange, with fine grained sand, fine to medium, angular to sub-angular ironstone gravels, blue metal, shale and sandstone fragments, no odour.	M (<PL)	-	FILL
				0.70					From 0.7 m, becoming brown mottled dark grey-orange, no odour.			
				1.00					From 1.0 m, becoming dark grey, with some odour.			
					BH12_1.3-1.5 ES					M (>PL)		
				1.80								
			2		BH12_1.8-2.0 ES			CI	Silty CLAY; medium plasticity, pale grey mottled red-brown, with fine to medium, rounded to sub-rounded ironstone gravels, grading to weathered shale, no odour.	M (<PL)	-	RESIDUAL SOIL
					BH12_2.8-3.0 ES							
				3.50								
					BH12_3.5-4.0 ES			-	SHALE; very low strength, pale brown, distinctly weathered, no odour.	-	-	BEDROCK
				4.00								
			4						Borehole Terminated at 4.00 mBGL; Target Depth Reached.			
			6									
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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BOREHOLE: BH13M

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Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date Started	4/2/20
Position	Refer to Figure 2			Date Completed	4/2/20
Job No.	E24445.E02	Contractor	Geosense Drilling	Logged BK	Date:4/2/20
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Drill Rig	Hanjin DB8	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS ID Static Water Level BH13M
AD/T	-	GWNE	0					-	FILL: Gravelly CLAY; low plasticity, brown, with fine to medium grained sand, fine to medium, angular to sub-angular gravels, shale and sandstone fragments, no odour.	D	-	Sand
				0.90								
				1.10				-	FILL: Silty CLAY; low to medium plasticity, brown mottled orange-red, with fine grained sand, fine to medium, angular to sub-angular gravels, shale and sandstone fragments, no odour.	D	-	
			2					CI-CH	Silty CLAY; medium to high plasticity, pale grey mottled orange-red, with fine to medium, rounded to sub-rounded ironstone gravels, grading to weathered shale, no odour.	M (<PL)	St	
				2.60				-	SHALE; very low strength, pale brown, extremely weathered, with ironstaining, no odour.			Bentonite
				3.20					From 3.2 m, low strength, pale brown, distinctly weathered, no odour.			uPVC 50 mm Casing
	H		4							-	-	uPVC 50 mm Screen Sand
			6									
				7.00					Borehole Terminated at 7.00 mBGL; Target Depth Reached.			
			8									
			10									
			12									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP14

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	24/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP14_0.2-0.3 ES PID=1.6ppm	■						
				0.80				-	FILL: Gravelly CLAY; medium plasticity, dark grey and red, with sub-angular to angular gravels, no odour.			
			1.0									
			1.5									
					TP14_1.8-1.9 ES PID=1.2ppm	■						
			2.0	2.20								
									Hole Terminated at 2.20 mBGL; Refusal on SHALE			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP15

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	24/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP15_0.2-0.3 ES PID=0.8ppm	■						
			1.0	1.20	TP15_1.1-1.2 ES PID=0.6ppm	■						
			1.5						Hole Terminated at 1.20 mBGL; Refusal on SHALE			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP16

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP16_0.2-0.3 ES PID=1.9ppm	■		-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.50	TP16_0.7-0.8 ES PID=1.6ppm	■		-	FILL: Silty CLAY; medium to high plasticity, dark grey and brown, with trace gravel, charcoal and ash, no odour.			
			1.0									
			1.5	1.80								
			2.0	2.10	TP16_1.9-2.0 ES PID=0.4ppm	■		CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
				2.20				-	Weathered SHALE.			BEDROCK
			2.5						Hole Terminated at 2.20 mBGL; Target depth reached			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP17

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
				0.30	TP17_0.2-0.3 ES PID=1.3ppm	■						
			0.5		TP17_0.4-0.5 ES PID=0.5ppm	■		-	FILL: Gravelly CLAY; low plasticity, light grey, with medium to coarse and sub-angular to angular gravels, no odour.			
				0.80				-	SHALE.			BEDROCK
			1.0	1.00	TP17_0.9-1.0 ES PID=0.5ppm	■			Hole Terminated at 1.00 mBGL; Refusal on SHALE			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP18

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
					TP18_0.2-0.3 ES PID=0.8ppm	■						
			0.5									
			1.0		TP18_1.0-1.1 ES PID=1.2ppm	■						
			1.5		TP18_1.6-1.7 ES PID=0.9ppm	■						
			2.0									
			2.5	2.50	TP18_2.4-2.5 ES PID=0.9ppm	■						
			3.0						Hole Terminated at 2.50 mBGL; Refusal on FILL			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP19

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0 0.5 1.0 1.5	*1.70*	TP19_0.2-0.3 ES PID=0.7ppm TP19_1.0-1.1 ES PID=0.9ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			2.0 2.5 3.0						Hole Terminated at 1.70 mBGL; Refusal on FILL			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP20

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP20_0.2-0.3 ES PID=1.2ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.80				-	FILL: CLAY; medium to high plasticity, brown mottled orange, with trace medium to coarse and sub-angular to angular gravels, no odour.			
			1.0	1.30	TP20_1.0-1.1 ES PID=2ppm			-	FILL: Gravelly CLAY; medium to high plasticity, brown, grey and yellow, with medium to coarse and sub-angular to angular gravels, no odour.			
			1.5									
			2.0	2.20	TP20_2.0-2.1 ES PID=1.1ppm							
			2.5						Hole Terminated at 2.20 mBGL; Refusal on FILL			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP21

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0 0.5 1.0	*1.40*	TP21_0.2-0.3 ES PID=1ppm TP21_1.0-1.1 ES PID=1.4ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			1.5 2.0 2.5 3.0						Hole Terminated at 1.40 mBGL; Refusal on FILL			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP22

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		
		Bucket Size			

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP22_0.2-0.3 ES PID=0.8ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5									
			1.0		TP22_1.0-1.1 ES PID=1.2ppm							
			1.5									
			2.0		TP22_2.0-2.1 ES PID=1.5ppm							
			2.5		TP22_2.6-2.7 ES PID=0.7ppm							
				2.80					Hole Terminated at 2.80 mBGL; Refusal on FILL			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP23

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP23_0.2-0.3 ES PID=0.8ppm			-	FILL: Gravelly CLAY; low plasticity light brown, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.50	TP23_0.7-0.8 ES PID=1.5ppm			-	FILL: Gravelly SAND; fine to medium grained, grey, with medium to coarse and sub-angular to angular gravels, with shale fragments, no odour.			
			1.0	1.00				-	FILL: Gravelly CLAY; medium to high plasticity, brown, grey and yellow, with medium to coarse and sub-angular to angular gravels, no odour.			
			1.5	1.80	TP23_1.7-1.8 ES PID=0.8ppm							
			2.0						Hole Terminated at 1.80 mBGL; Refusal on FILL			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP24

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP24_0.2-0.3 ES PID=1.5ppm	■						
			1.0	1.20	TP24_1.0-1.1 ES PID=0.5ppm	■		-	FILL: Gravelly CLAY; medium to high plasticity, brown, grey and yellow, with medium to coarse and sub-angular to angular gravels, no odour.			
			1.5	1.80	TP24_1.6-1.7 ES PID=1.7ppm	■						
			2.0						Hole Terminated at 1.80 mBGL; Refusal on FILL			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP25

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP25_0.2-0.3 ES PID=1.6ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5									
			1.0		TP25_1.2-1.3 ES PID=1ppm							
			1.5									
			2.0	2.00	TP25_1.9-2.0 ES PID=0.8ppm				Hole Terminated at 2.00 mBGL; Refusal on FILL			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP26

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP26_0.2-0.3 ES PID=1.4ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.50				-	FILL: CLAY; medium to high plasticity, brown mottled orange, with trace medium to coarse and sub-angular to angular gravels, no odour.			
				0.80	TP26_0.7-0.8 ES PID=0.2ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.			
			1.0		TP26_1.1-1.2 ES PID=0.8ppm							
			1.5	1.70								
									Hole Terminated at 1.70 mBGL; Refusal on FILL			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP27

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
					TP27_0.2-0.3 ES PID=0.5ppm	■						
			0.5									
			1.0									
					TP27_1.3-1.4 ES PID=1.2ppm	■						
			1.5	1.50					Hole Terminated at 1.50 mBGL; Refusal due to hole collapse			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP28

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP28_0.2-0.3 ES PID=1.9ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.50	TP28_0.6-0.7 ES PID=1.1ppm			-	FILL: Gravelly CLAY; low to medium plasticity, black and dark grey, with medium to coarse and sub-angular to angular gravels, with bitumen fragments, no odour.			
			1.0									
			1.5	1.50	TP28_1.6-1.7 ES PID=0.8ppm			-	FILL: Gravelly SAND; fine to medium grained, grey, with medium to coarse and sub-angular to angular gravels, with shale fragments, no odour.			
			2.0	2.20								
			2.5						Hole Terminated at 2.20 mBGL; Refusal on FILL			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP29

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
					TP29_0.2-0.3 ES PID=0.8ppm	■						
			0.5									
			1.0									
					TP29_1.3-1.4 ES PID=1.2ppm	■						
			1.5									
			2.0	2.00								
									Hole Terminated at 2.00 mBGL; Refusal on SHALE			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP30

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP30_0.2-0.3 ES PID=1.4ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5									
			1.0		TP30_1.2-1.3 ES PID=1.3ppm							
			1.5									
			2.0									
			2.5	2.60	TP30_2.5-2.6 ES PID=1.9ppm							
			3.0						Hole Terminated at 2.60 mBGL; Refusal on FILL			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP31

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	22/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0 0.5 1.0 1.5	*1.50*	TP31_0.2-0.3 ES PID=0.6ppm TP31_1.2-1.3 ES PID=1.5ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			2.0 2.5 3.0						Hole Terminated at 1.50 mBGL; Refusal on FILL			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP32

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0 0.5 1.0 1.5	*1.80*	TP32_0.2-0.3 ES PID=1.4ppm TP32_1.2-1.3 ES PID=1.4ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			2.0 2.5 3.0						Hole Terminated at 1.80 mBGL; Refusal on FILL			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP33

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	22/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP33_0.2-0.3 ES PID=0.7ppm	■						
			1.0									
			1.5	1.60	TP33_1.5-1.6 ES PID=1.4ppm	■						
									Hole Terminated at 1.60 mBGL; Refusal on FILL			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP34

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	22/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP34_0.2-0.3 ES PID=1.3ppm	■						
			1.0	1.40	TP34_1.3-1.4 ES PID=0.2ppm	■						
			1.5						Hole Terminated at 1.40 mBGL; Refusal on FILL			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP35

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP35_0.2-0.3 ES PID=1.6ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5									
			1.0		TP35_1.1-1.2 ES PID=1.1ppm							
			1.5									
			2.0									
				2.30				CI-CH	Silty CLAY; medium to high plasticity, yellow and brown mottled red, no odour.			RESIDUAL SOIL
			2.5	2.50	TP35_2.4-2.5 ES PID=0.8ppm				Hole Terminated at 2.50 mBGL; Target depth reached			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP36

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP36_0.2-0.3 ES PID=0.9ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.50	TP36_0.7-0.8 ES PID=1.1ppm			-	FILL: Silty CLAY; medium to high plasticity, dark grey and brown, with trace gravel, charcoal and ash, no odour.			
			1.0	1.30				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			1.5	1.50	TP36_1.4-1.5 ES PID=0.7ppm				Hole Terminated at 1.50 mBGL; Target depth reached			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP37

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
				0.30	TP37_0.2-0.3 ES PID=1ppm	■		-	FILL: Gravelly CLAY; low plasticity, dark brown and dark grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.			
			0.5		TP37_0.7-0.8 ES PID=1.2ppm	■						
			1.0	1.00				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
				1.30	TP37_1.2-1.3 ES PID=1.9ppm	■						
			1.5						Hole Terminated at 1.30 mBGL; Target depth reached			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP38

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP38_0.2-0.3 ES PID=1.6ppm	■						
				0.80				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			1.0	1.10	TP38_1.0-1.1 ES PID=0.2ppm	■						
									Hole Terminated at 1.10 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP39

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description						
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.			FILL
			0.5		TP39_0.2-0.3 ES PID=0.6ppm	■						
				0.80				CI-CH	Silty CLAY; medium to high plasticity, grey mottled orange, with trace gravels, no odour.	M	-	RESIDUAL SOIL
			1.0		TP39_1.2-1.3 ES PID=0.8ppm	■						
			1.5	1.80								
			2.0						Hole Terminated at 1.80 mBGL; Target depth reached			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP40

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.60	TP40_0.2-0.3 ES PID=1.2ppm	■		CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			1.0	1.00	TP40_0.9-1.0 ES PID=0.8ppm	■			Hole Terminated at 1.00 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP41

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP41_0.2-0.3 ES PID=0.9ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.50				CI-CH	Silty CLAY; medium to high plasticity, grey mottled orange, with trace gravels, no odour.			RESIDUAL SOIL
				0.90	TP41_0.8-0.9 ES PID=0.7ppm							
			1.0						Hole Terminated at 0.90 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP42

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	24/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-		0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP42_0.2-0.3 ES PID=0.8ppm	■						
				0.70				-	FILL: Silty CLAY; medium to high plasticity, dark grey and brown, with trace gravel, charcoal and ash, with hydrocarbon odour.			
			1.0		TP42_1.1-1.2 ES PID=1.3ppm	■						
			1.5									
			2.0		TP42_2.1-2.2 ES PID=51.6ppm	■						
				2.40				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
		▷	2.5	2.70	TP42_2.6-2.7 ES PID=2.9ppm	■						
									Hole Terminated at 2.70 mBGL; Target depth reached			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP43

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Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	24/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
					TP43_0.2-0.3 ES PID=0.4ppm	■						
			0.5									
			1.0									
					TP43_1.2-1.3 ES PID=0.6ppm	■						
			1.5									
				1.70								
				1.90	TP43_1.8-1.9 ES PID=0.1ppm	■		CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			2.0						Hole Terminated at 1.90 mBGL; Target depth reached			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP44

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Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	24/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP44_0.2-0.3 ES PID=1.5ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.60				-	FILL: Silty CLAY; medium to high plasticity, dark grey and brown, with trace gravel, charcoal and ash, no odour.			
			1.0		TP44_1.1-1.2 ES PID=0.9ppm							
			1.5									
			2.0	2.20				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			2.5	2.50	TP44_2.4-2.5 ES PID=0.4ppm				Hole Terminated at 2.50 mBGL; Target depth reached			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP45

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Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	24/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP45_0.2-0.3 ES PID=1.6ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5									
			1.0		TP45_1.2-1.3 ES PID=1.2ppm							
			1.5									
			2.0									
				2.20				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			2.5	2.50	TP45_2.4-2.5 ES PID=1.9ppm				Hole Terminated at 2.50 mBGL; Target depth reached			
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP46

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	24/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP46_0.2-0.3 ES PID=1.6ppm	■						
			1.0		TP46_1-1.1.0 ES PID=1.1ppm	■						
				1.30				CI-CH	Silty CLAY; medium to high plasticity, yellow mottled red, no odour.			RESIDUAL SOIL
			1.5	1.60	TP46_1.5-1.6 ES PID=0.4ppm	■			Hole Terminated at 1.60 mBGL; Target depth reached			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP47

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP47_0.2-0.3 ES PID=1ppm	■						
				0.70				CI-CH	Silty CLAY; medium to high plasticity, grey mottled orange, with trace gravels, no odour.			RESIDUAL SOIL
				1.00	TP47_0.9-1.0 ES PID=1.4ppm	■						
			1.0						Hole Terminated at 1.00 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP48

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Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP48_0.2-0.3 ES PID=0.2ppm	■						
			1.0	1.20								
								CI-CH	Silty CLAY; medium to high plasticity, red mottled grey, no odour.			RESIDUAL SOIL
			1.5	1.60	TP48_1.5-1.6 ES PID=0.3ppm	■						
									Hole Terminated at 1.60 mBGL; Target depth reached			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP49

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Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-		0.0		TP49_0.2-0.3 ES PID=1ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5									
			1.0		TP49_1.2-1.3 ES PID=1.4ppm							
			1.5									
			2.0	2.20				-	Weathered SHALE; grey and orange mottled brown, no odour.			BEDROCK
			2.5		TP49_2.7-2.8 ES PID=0.9ppm							
				2.90								
			3.0						Hole Terminated at 2.90 mBGL; Target depth reached			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP50

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Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP50_0.2-0.3 ES PID=1.3ppm	■						
				0.70				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, with shale fragments, no odour.			RESIDUAL SOIL
				1.00	TP50_0.9-1.0 ES PID=1.2ppm	■						
			1.0						Hole Terminated at 1.00 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP51

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	▽	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
					TP51_0.2-0.3 ES PID=1.5ppm	■						
				0.40				-	FILL: Silty CLAY; medium to high plasticity, dark grey and brown, with trace gravel, charcoal and ash, no odour.			
			0.5									
					TP51_0.9-1.0 ES PID=0.6ppm	■						
			1.0									
			1.5									
				1.70				CH	Silty CLAY; high plasticity, yellow mottled grey, with root fibres and trace fine to medium gravels, no odour.			RESIDUAL SOIL
			2.0									
				2.30	TP51_2.2-2.3 ES PID=0.8ppm	■						
									Hole Terminated at 2.30 mBGL; Target depth reached			
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP52

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP52_0.2-0.3 ES PID=0.4ppm	■						
			1.0	1.00				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			1.5	1.50	TP52_1.4-1.5 ES PID=0.6ppm	■			Hole Terminated at 1.50 mBGL; Target depth reached			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP53

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP53_0.2-0.3 ES PID=1.9ppm	■						
				0.90				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			1.0	1.20	TP53_1.1-1.2 ES PID=1ppm	■						
									Hole Terminated at 1.20 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP54

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5		TP54_0.2-0.3 ES PID=0.7ppm	■						
				0.70				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
				0.90	TP54_0.8-0.9 ES PID=0.9ppm	■						
			1.0						Hole Terminated at 0.90 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP55

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP55_0.2-0.3 ES PID=1.6ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
				0.40				CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
			0.5	0.80	TP55_0.7-0.8 ES PID=1.8ppm							
			1.0						Hole Terminated at 0.80 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP56

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP56_0.2-0.3 ES PID=1.9ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.50	TP56_0.7-0.8 ES PID=0.8ppm			-	FILL: Silty CLAY; medium to high plasticity, dark grey and brown, with trace gravel, charcoal and ash, no odour.			
			1.0	1.10	TP56_1.2-1.3 ES PID=1.1ppm			CI-CH	Silty CLAY; medium to high plasticity, red mottled brown, no odour.			RESIDUAL SOIL
				1.30					Hole Terminated at 1.30 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP57

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation			Sheet	1 OF 1
Location	Tallawong Station Precinct South, Rouse Hill NSW			Date	23/1/20
Position	Refer to Figure 2			Logged	LW/NG
Job No.	E24445.E02	Contractor	-	Checked	
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP57_0.2-0.3 ES PID=1ppm			-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5									
			1.0	1.00				CI-CH	Silty CLAY; medium to high plasticity, red brown, no odour.			RESIDUAL SOIL
				1.40	TP57_1.3-1.4 ES PID=0.4ppm							
			1.5						Hole Terminated at 1.40 mBGL; Target depth reached			
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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TEST PIT: TP58

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Contamination | Remediation | Geotechnical

Project	Detailed Site Investigation		
Location	Tallawong Station Precinct South, Rouse Hill NSW		
Position	Refer to Figure 2		
Job No.	E24445.E02	Contractor	-
Client	Deicorp Projects (Tallawong Station) Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	23/1/20
Logged	LW/NG
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0					-	FILL: Gravelly CLAY; low plasticity light brown to grey, with medium to coarse and sub-angular to angular gravel, with brick and concrete fragments, no odour.	M	-	FILL
			0.5	0.60	TP58_0.2-0.3 ES PID=2ppm	■						
				0.90	TP58_0.8-0.9 ES PID=1.3ppm	■		CI-CH	Silty CLAY; medium to high plasticity, grey mottled red and yellow, with trace gravels, no odour.			RESIDUAL SOIL
			1.0						Hole Terminated at 0.90 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

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Appendix D– Proposed Development Plans

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DLCS Quality Endorsed Company ISO 9001:2015, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

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J	16.01.20	YO	PRELIMINARY
K	24/2/20	AH	PRELIMINARY
L	6/2/20	AH	PRELIMINARY
M	11/2/20	YO	PRELIMINARY
N	17/2/20	YO	PRELIMINARY
O	24/2/20	YO	For Coordination
P	6/3/20	YO	For Coordination
Q	13/3/20	YO	For Coordination
R	20/3/20	YO	For Coordination
S	22/3/20	YO	For Coordination
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U	31/3/20	YO	For Coordination
V	8/4/20	YO	For Coordination

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Drawing Title
GA Plans Overall
Basement 03 & 02

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↗
Status	Dwg No.	Rev	
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N	17/2/20	YO	PRELIMINARY
O	24/2/20	YO	For Coordination
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Q	13/3/20	YO	For Coordination
R	20/3/20	YO	For Coordination
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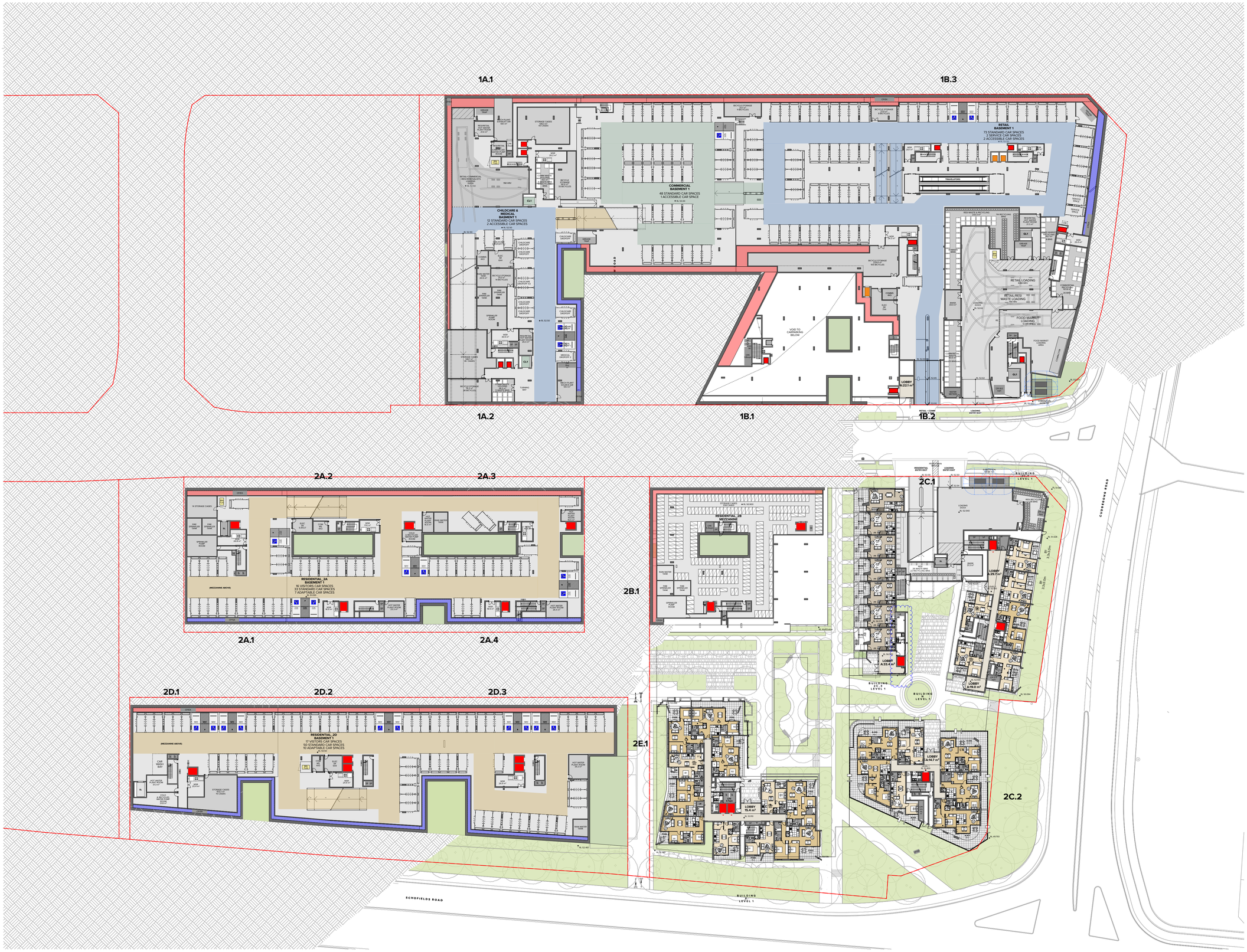

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GA Plans Overall
Basement 01, Mezz. & Level 1

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N	17/2/20	YO	PRELIMINARY
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1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Mezzanines, Level 01 & 02

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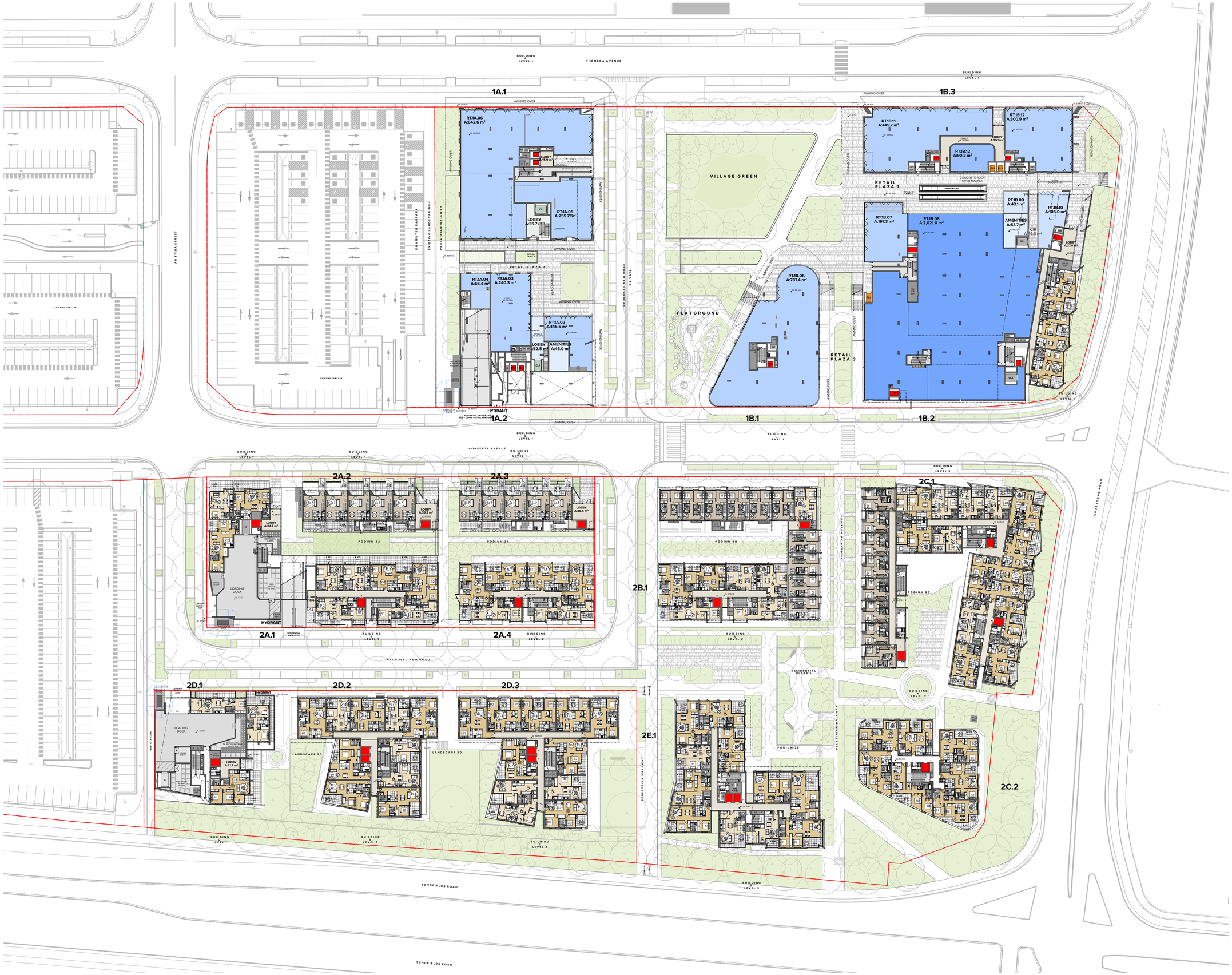

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K	24/2/20	AH	PRELIMINARY
L	6/2/20	AH	PRELIMINARY
M	11/2/20	YO	PRELIMINARY
N	17/2/20	YO	PRELIMINARY
O	24/2/20	YO	For Coordination
P	6/3/20	YO	For Coordination
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R	20/3/20	YO	For Coordination
S	22/3/20	YO	For Coordination
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Drawing Title
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Level 01,02 & 03

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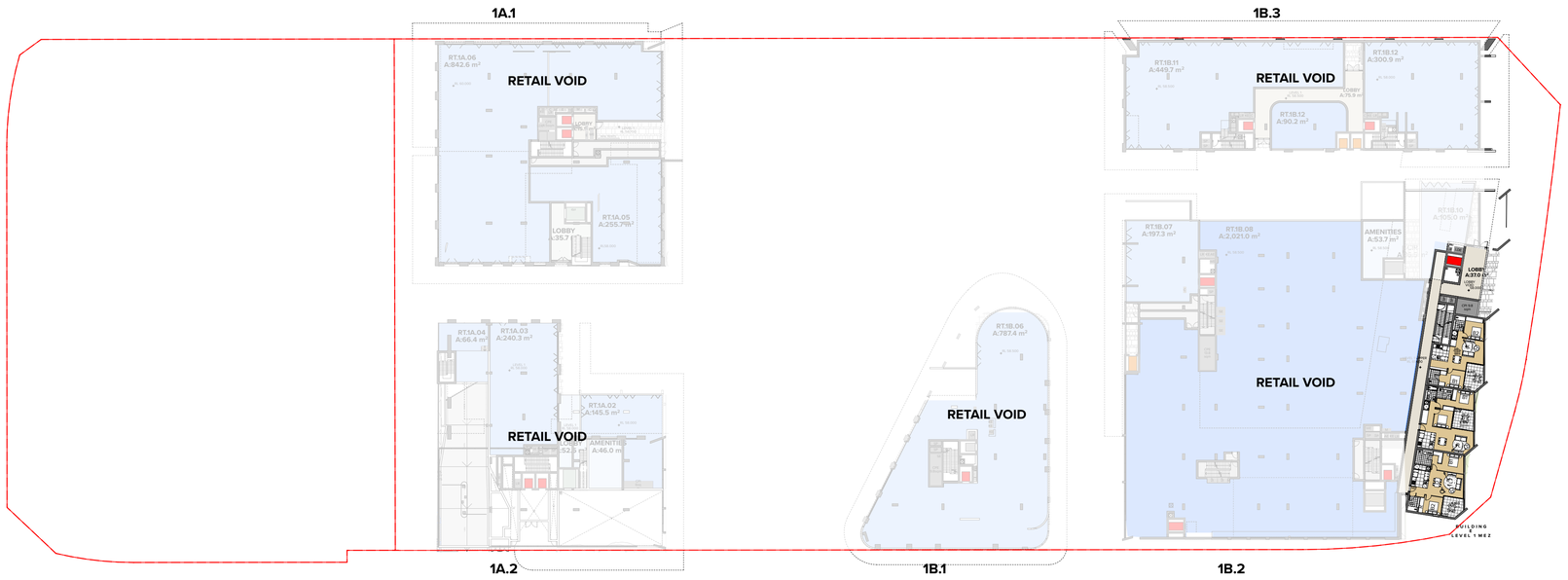

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DLCS Quality Endorsed Company ISO 9001:2015, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

LEGEND

Rev	Date	Approved by	Issue Name
A	11/2/20	YO	PRELIMINARY
B	17/2/20	YO	PRELIMINARY
C	24/2/20	YO	For Coordination
D	6/3/20	YO	For Coordination
E	13/3/20	YO	For Coordination
F	20/3/20	YO	For Coordination
G	22/3/20	YO	For Coordination
H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

CLIENT
Deicorp
Level 4, 161 Redfern Street Redfern NSW 2016 Australia
8665 4100
@deicorp.com.au

Project Title
Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Level 01,02,03 & 04

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↗
Status	Dwg No.	Rev	
For Co-ordination	DA-110-030	J	

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DLCS Quality Endorsed Company ISO 9001:2015, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

LEGEND

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A	11/2/20	YO	PRELIMINARY
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C	24/2/20	YO	For Coordination
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F	20/3/20	YO	For Coordination
G	22/3/20	YO	For Coordination
H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

WIP 06/04/20

CLIENT
Deicorp
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Project Title
Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Level 02,03,04 & 05

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↑
Status: For Co-ordination	Dwg No. DA-110-040	Rev J	

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DLCS Quality Endorsed Company ISO 9001:2015, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

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F	20/3/20	YO	For Coordination
G	22/3/20	YO	For Coordination
H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

CLIENT
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Project Title
Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Level 03,04,05 & 06

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↗
Status: For Co-ordination	Dwg No. DA-110-050	Rev J	

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DLCS Quality Endorsed Company ISO 9001:2015, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

LEGEND

Rev	Date	Approved by	Issue Name
A	11/2/20	YO	PRELIMINARY
B	17/2/20	YO	PRELIMINARY
C	24/2/20	YO	For Coordination
D	6/3/20	YO	For Coordination
E	13/3/20	YO	For Coordination
F	20/3/20	YO	For Coordination
G	22/3/20	YO	For Coordination
H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

CLIENT
Deicorp
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Project Title
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1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Level 04,05,06 & 07

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↑
Status: For Co-ordination	Dwg No. DA-110-060	Rev J	

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Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

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Rev	Date	Approved by	Issue Name
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C	24/2/20	YO	For Coordination
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E	13/3/20	YO	For Coordination
F	20/3/20	YO	For Coordination
G	22/3/20	YO	For Coordination
H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

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Project Title
Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Level 05,06,07 & 08

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↗
Status	Dwg No.	Rev	
For Co-ordination	DA-110-070	J	

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Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

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F	20/3/20	YO	For Coordination
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H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

CLIENT
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Project Title
Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Level 06,07,08 & Roof

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↗
Status	Dwg No.	Rev	
For Co-ordination	DA-110-080	J	

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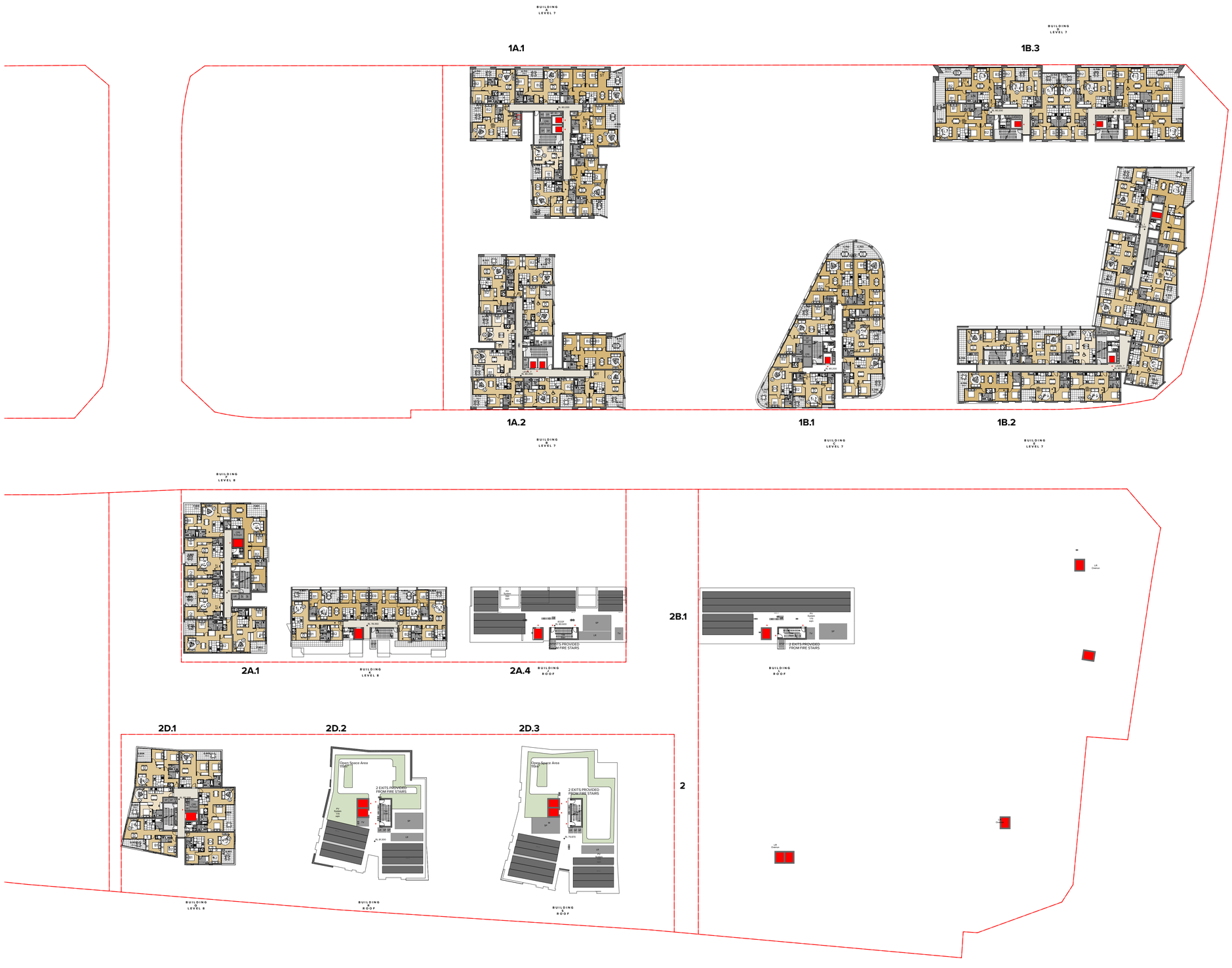

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Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

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C	24/2/20	YO	For Coordination
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H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

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Project Title
Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
GA Plans Overall
Level 07,08 & Roof

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↗
Status	Dwg No.	Rev	
For Co-ordination	DA-110-090	J	

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Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

KEY PLAN

LEGEND

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C	24/2/20	YO	For Coordination
D	6/3/20	YO	For Coordination
E	13/3/20	YO	For Coordination
F	20/3/20	YO	For Coordination
G	22/3/20	YO	For Coordination
H	30/3/20	YO	For Coordination
I	31/3/20	YO	For Coordination
J	8/4/20	YO	For Coordination

CLIENT
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8665 4100
@deicorp.com.au

Project Title

Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title

GA Plans Overall
Level 08 & Roof

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	18095	TURNER	↗
Status	Dwg No.	Rev	
For Co-ordination	DA-110-100	J	

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Appendix E– Chain of Custody and Sample Receipt Forms

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH / pH ox	Soluble cations + anions	Textural classification Manganese	TCLP HM B / PAH
BH9_0.1-0.2	1	J/ZLB	30/01/2020	AM/PM		X		X															
BH9_0.8-1.0	~~2~~	J/ZLB	30/01/2020	AM/PM		X																	
BH9_1.8-2.0	~~3~~ 2	J/ZLB	30/01/2020	AM/PM		X		X							X	X				X	X	X	
BH9_3.1-3.3	~~4~~ 3	J/ZLB	30/01/2020	AM/PM		X									X	X							
BH10_0.1-0.2	~~5~~ 4	J/ZLB	30/01/2020	AM/PM		X		X															
BH10_1.0-1.2	~~6~~	J/ZLB	30/01/2020	AM/PM		X																	
BH10_1.8-2.0	5	J/ZLB	30/01/2020	AM/PM		X		X							X	X				X	X	X	
BH10_3.1-3.25	6	J/ZLB	30/01/2020	AM/PM		X									X	X				X	X	X	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: A.S
Signature: NG	Signature: [signature]
Date: 31/01/2020	Date: 31/01 15:00

Sampler's Comments:

SE202329

eiaustralia
Contamination | Remediation | Geotechnical

Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE202329

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	6

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 31/1/2020
Report Due	Fri 7/2/2020
SGS Reference	**SE202329**

SUBMISSION DETAILS

This is to confirm that 6 samples were received on Friday 31/1/2020. Results are expected to be ready by COB Friday 7/2/2020. Please quote SGS reference SE202329 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	6 Soil
Date documentation received	31/1/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	4.5°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

2 soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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SAMPLE RECEIPT ADVICE

SE202329

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Soluble Anions (1:5) in Soil by Ion Chromatography	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH9_0.1-0.2	29	14	26	11	-	10	11	7
002	BH9_1.8-2.0	29	14	26	11	2	10	11	7
004	BH10_0.1-0.2	29	14	26	11	-	10	11	7
005	BH10_1.8-2.0	29	14	26	11	2	10	11	7
006	BH10_3.1-3.25	-	-	-	-	2	-	-	-

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

SE202329

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity in Soil	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Field pH for Acid Sulphate Soil	Mercury in Soil	Moisture Content	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste
001	BH9_0.1-0.2	-	-	-	-	1	1	-	7
002	BH9_1.8-2.0	4	1	13	4	1	1	1	11
003	BH9_3.1-3.3	-	1	13	-	-	1	1	-
004	BH10_0.1-0.2	-	-	-	-	1	1	-	7
005	BH10_1.8-2.0	4	1	13	4	1	1	1	11
006	BH10_3.1-3.25	4	1	13	4	-	1	1	4

CONTINUED OVERLEAF

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

SE202329

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Soil Texture (AS4419)
001	BH9_0.1-0.2	2	-
002	BH9_1.8-2.0	2	1
004	BH10_0.1-0.2	2	-
005	BH10_1.8-2.0	2	1
006	BH10_3.1-3.25	-	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 .

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH / pH ox	soluble cations + Anions	Textural (Classification + Manganese)	TCLP HM B / PAH
BH11_0.1-0.2	1	J/ZLB	31/01/2020	AM/PM		X		X															
BH11_0.8-1.0		J/ZLB	31/01/2020	AM/PM		X																	
BH11_1.8-2.0		J/ZLB	31/01/2020	AM/PM		X																	
BH11_3.0-3.2	2	J/ZLB	31/01/2020	AM/PM		X		X							X	X				X	X	X	

SE 202374

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Sneha
Signature:	Signature:
Date: 31/01/2020	Date: 03/02/20 @ 3.05

Report with EI Waste Classification Table ☐

Sampler's Comments:

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE202374

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	2

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	Mon 3/2/2020
Report Due	Mon 10/2/2020
SGS Reference	**SE202374**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Monday 3/2/2020. Results are expected to be ready by COB Monday 10/2/2020. Please quote SGS reference SE202374 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	2 Soil
Date documentation received	3/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	5.9°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

2 samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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SAMPLE RECEIPT ADVICE

SE202374

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Soluble Anions (1:5) in Soil by Ion Chromatography	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH11_0.1-0.2	29	14	26	11	-	10	11	7
002	BH11_3.0-3.2	29	14	26	11	2	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

SE202374

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity in Soil	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Field pH for Acid Sulphate Soil	Mercury in Soil	pH in soil (1:5)	Soil Texture (AS4419)	Total Recoverable Elements in Soil/Waste
001	BH11_0.1-0.2	-	-	-	-	1	-	-	7
002	BH11_3.0-3.2	4	1	13	4	1	1	1	12

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
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Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE202374

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
001	BH11_0.1-0.2	2	1
002	BH11_3.0-3.2	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 .

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM[A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM[A] /TRH/BTEX/PAHs	HM[A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH / PH OK	Major Anions + Cations	Textural classification + Manganese	TCLP HM[B] / PAH
BH12_0.1-0.2	1	J/ZLB	03/02/2020	AM/PM		X		X															
BH12_0.8-1.0		J/ZLB	03/02//2020	AM/PM		X																	
BH12_1.3-1.5	2	J/ZLB	03/02//2020	AM/PM		X		X															
BH12_1.8-2.0	3	J/ZLB	03/02//2020	AM/PM		X									X	X				X	X	X	
BH12_2.8-3.0	4	J/ZLB	03/02//2020	AM/PM		X		X							X	X				X	X	X	
BH12_3.5-4.0	5	J/ZLB	03/02//2020	AM/PM		X									X	X				X	X	X	
																		SE202429					

Comments

HM[A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM[B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: ~~31/01/2020~~ 4/2/20	Date: 04/02/20 @ 4.35

Report with EI Waste Classification Table ☐

Sampler's Comments:

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE202429

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	5

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 4/2/2020
Report Due	Tue 11/2/2020
SGS Reference	**SE202429**

SUBMISSION DETAILS

This is to confirm that 5 samples were received on Tuesday 4/2/2020. Results are expected to be ready by COB Tuesday 11/2/2020. Please quote SGS reference SE202429 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	5 Soil
Date documentation received	4/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.2°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

1 soil sample has been placed on hold as no tests have been assigned for it. This sample will not be processed.

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SAMPLE RECEIPT ADVICE

SE202429

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Soluble Anions (1:5) in Soil by Ion Chromatography	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH12_0.1-0.2	29	14	26	11	-	10	11	7
002	BH12_1.3-1.5	29	14	26	11	-	10	11	7
003	BH12_1.8-2.0	-	-	-	-	2	-	-	-
004	BH12_2.8-3.0	29	14	26	11	2	10	11	7
005	BH12_3.5-4.0	-	-	-	-	2	-	-	-

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

SE202429

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity in Soil	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Field pH for Acid Sulphate Soil	Mercury in Soil	Moisture Content	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste
001	BH12_0.1-0.2	-	-	-	-	1	1	-	7
002	BH12_1.3-1.5	-	-	-	-	1	1	-	7
003	BH12_1.8-2.0	4	1	13	4	-	1	1	5
004	BH12_2.8-3.0	4	1	13	4	1	1	1	12
005	BH12_3.5-4.0	4	1	13	4	-	1	1	5

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

SE202429

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Soil Texture (AS4419)
001	BH12_0.1-0.2	2	-
002	BH12_1.3-1.5	2	-
003	BH12_1.8-2.0	-	1
004	BH12_2.8-3.0	2	1
005	BH12_3.5-4.0	-	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 .

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: **SGS Australia**
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH/pH ox	Major Anions + Cations	Textural Classification + Manganese	TCLP HM B / PAH
BH13_0.1-0.2	1	J/ZLB	04/02/2020	AM/PM		X		X															
BH13_0.8-1.0		J/ZLB	04/02//2020	AM/PM		X																	
BH13_1.3-1.5		J/ZLB	04/02//2020	AM/PM		X																	
BH13_2.8-3.0	2	J/ZLB	04/02//2020	AM/PM		X		X							X	X				X	X	X	
BH13_3.5-4.0	3	J/ZLB	04/02//2020	AM/PM		X									X	X				X	X	X	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print Nicholas Grbich	*Print* Suba
Signature	*Signature*
Date 05/02/2020	*Date* 05/02/20 @ 2:20

Sampler's Comments:

eiaustralia
Contamination | Remediation | Geotechnical

Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE202482

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station,Rouse Hill**
Order Number	**E24445.E02**
Samples	3

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 5/2/2020
Report Due	Wed 12/2/2020
SGS Reference	**SE202482**

SUBMISSION DETAILS

This is to confirm that 3 samples were received on Wednesday 5/2/2020. Results are expected to be ready by COB Wednesday 12/2/2020.
Please quote SGS reference SE202482 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	3 Soil
Date documentation received	5/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	11.5°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

2 soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

SAMPLE RECEIPT ADVICE

SE202482

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station,Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Soluble Anions (1:5) in Soil by Ion Chromatography	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH13_0.1-0.2	29	14	26	11	-	10	11	7
002	BH13_2.8-3.0	29	14	26	11	2	10	11	7
003	BH13_3.5-4.0	-	-	-	-	2	-	-	-

CONTINUED OVERLEAF

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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

SE202482

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station,Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity in Soil	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Field pH for Acid Sulphate Soil	Mercury in Soil	pH in soil (1:5)	Soil Texture (AS4419)	Total Recoverable Elements in Soil/Waste
001	BH13_0.1-0.2	-	-	-	-	1	-	-	7
002	BH13_2.8-3.0	4	1	13	4	1	1	1	12
003	BH13_3.5-4.0	4	1	13	4	-	1	1	5

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

SE202482

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station,Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
001	BH13_0.1-0.2	2	1
002	BH13_2.8-3.0	2	1
003	BH13_3.5-4.0	-	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 .

source: [Untitled].pdf page: 1 SGS Ref: SE202242A_COC

Yin, Emily (Sydney)

From: Li Wei - EIAustralia <li.wei@eiaustralia.com.au>
Sent: Thursday, 20 February 2020 10:46 AM
To: AU.Environmental.Sydney (Sydney); AU.SampleReceipt.Sydney (Sydney)
Cc: Benjamin Aggar - EIAustralia; Nicholas Grbich - EIAustralia
Subject: [EXTERNAL] FW: Report Job SE202429/SE202329/SE202242, your reference E24445.E02 Tallawong Station Rouse Hill, order number E24445.E02

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

Hi SGS,

Could I please request a "Chromium reducible sulfur suite" analysis for the following samples:

- BH5_3.0-3.1;
- BH6_1.5-1.7;
- BH9_1.8-2.0;
- BH10_1.8-2.0; and
- BH12_1.8-2.0.

Our reference E24445.E02 Tallawong Station, Rouse Hill, order number E24445.E02. Report Job SE202429, SE202329 and SE202242.

Standard TAT,

Thanks,

Best Regards

SGS EHS Alexandria Laboratory
SE202242A COC
Received: 20-Feb-2020

Li Wei
B.Env.Sc.| M.Env.Eng.
Junior Environmental Engineer
T 02 9516 0722 M 0416 080 578
E li.wei@eiaustralia.com.au
Suite 6.01, 55 Miller Street
Pyrmont, NSW 2009
www.eiaustralia.com.au

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SAMPLE RECEIPT ADVICE

SE202242A

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	100

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 20/2/2020
Report Due	Thu 27/2/2020
SGS Reference	**SE202242A**

SUBMISSION DETAILS

This is to confirm that 100 samples were received on Thursday 20/2/2020. Results are expected to be ready by COB Thursday 27/2/2020.
Please quote SGS reference SE202242A 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	2 Soil
Date documentation received	20/2/2020@10:46am	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	3.7°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

Analysis subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.

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SAMPLE RECEIPT ADVICE

SE202242A

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Acid Neutralising Capacity (ANC)	Chromium Reducible Sulphur (CRS)	Chromium Suite Net Acidity Calculations	HCl Extractable S, Ca and Mg in Soil ICP OES	Moisture Content	TAA (Titratable Actual Acidity)
091	BH5_3.0-3.1	4	2	7	1	1	5
093	BH6_1.5-1.7	4	2	7	1	1	5

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 .

Yin, Emily (Sydney)

From: Li Wei - EIAustralia <li.wei@eiaustralia.com.au>
Sent: Thursday, 20 February 2020 10:46 AM
To: AU.Environmental.Sydney (Sydney); AU.SampleReceipt.Sydney (Sydney)
Cc: Benjamin Aggar - EIAustralia; Nicholas Grbich - EIAustralia
Subject: [EXTERNAL] FW: Report Job SE202429/SE202329/SE202242, your reference E24445.E02 Tallawong Station Rouse Hill, order number E24445.E02

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

Hi SGS,

Could I please request a "Chromium reducible sulfur suite" analysis for the following samples:

- BH5_3.0-3.1;
- BH6_1.5-1.7;
- BH9_1.8-2.0;
- BH10_1.8-2.0; and
- BH12_1.8-2.0.

Our reference E24445.E02 Tallawong Station, Rouse Hill, order number E24445.E02. Report Job SE202429, SE202329 and SE202242.

Standard TAT,

Thanks,

Best Regards

SGS EHS Alexandria Laboratory
SE202329A COC
Received: 20 – Feb – 2020

Li Wei
B.Env.Sc. | M.Env.Eng.
Junior Environmental Engineer
T 02 9516 0722 M 0416 080 578
E li.wei@eiaustralia.com.au
Suite 6.01, 55 Miller Street
Pyrmont, NSW 2009
www.eiaustralia.com.au

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EI Australia is a proud member of the Australian Contaminated Land Consultants Association and the Australian Geomechanics Society.

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SAMPLE RECEIPT ADVICE

SE202329A

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	6

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 20/2/2020
Report Due	Thu 27/2/2020
SGS Reference	**SE202329A**

SUBMISSION DETAILS

This is to confirm that 6 samples were received on Thursday 20/2/2020. Results are expected to be ready by COB Thursday 27/2/2020. Please quote SGS reference SE202329A 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	2 Soil
Date documentation received	20/2/2020@10:46am	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	4.5°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

Analysis. subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.

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SAMPLE RECEIPT ADVICE

SE202329A

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Acid Neutralising Capacity (ANC)	Chromium Reducible Sulphur (CRS)	Chromium Suite Net Acidity Calculations	HCl Extractable S, Ca and Mg in Soil ICP OES	Moisture Content	TAA (Titratable Actual Acidity)
002	BH9_1.8-2.0	4	2	7	1	1	5
005	BH10_1.8-2.0	4	2	7	1	1	5

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 .

Yin, Emily (Sydney)

From: Li Wei - EIAustralia <li.wei@eiaustralia.com.au>
Sent: Thursday, 20 February 2020 10:46 AM
To: AU.Environmental.Sydney (Sydney); AU.SampleReceipt.Sydney (Sydney)
Cc: Benjamin Aggar - EIAustralia; Nicholas Grbich - EIAustralia
Subject: [EXTERNAL] FW: Report Job SE202429/SE202329/SE202242, your reference E24445.E02 Tallawong Station Rouse Hill, order number E24445.E02

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

Hi SGS,

Could I please request a "Chromium reducible sulfur suite" analysis for the following samples:

- BH5_3.0-3.1;
- BH6_1.5-1.7;
- BH9_1.8-2.0;
- BH10_1.8-2.0; and
- BH12_1.8-2.0.

Our reference E24445.E02 Tallawong Station, Rouse Hill, order number E24445.E02. Report Job SE202429, SE202329 and SE202242.

Standard TAT,

Thanks,

Best Regards

SGS EHS Alexandria Laboratory
SE202429A COC
Received: 20 – Feb – 2020

Li Wei
B.Env.Sc. | M.Env.Eng.
Junior Environmental Engineer

T 02 9516 0722 M 0416 080 578
E li.wei@eiaustralia.com.au

Suite 6.01, 55 Miller Street
Pyrmont, NSW 2009

www.eiaustralia.com.au

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SAMPLE RECEIPT ADVICE

SE202429A

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	5

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 20/2/2020
Report Due	Thu 27/2/2020
SGS Reference	**SE202429A**

SUBMISSION DETAILS

This is to confirm that 5 samples were received on Thursday 20/2/2020. Results are expected to be ready by COB Thursday 27/2/2020. Please quote SGS reference SE202429A 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	1 Soil
Date documentation received	20/2/2020@10:46am	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.2°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

Analysis subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.

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SAMPLE RECEIPT ADVICE

SE202429A

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Acid Neutralising Capacity (ANC)	Chromium Reducible Sulphur (CRS)	Chromium Suite Net Acidity Calculations	HCl Extractable S, Ca and Mg in Soil ICP OES	Moisture Content	TAA (Titratable Actual Acidity)
003	BH12_1.8-2.0	4	2	7	1	1	5

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 .

source: [Untitled].pdf page: 1 SGS Ref: SE202232_COC

E-MAILED 29/1 @ 2:47

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	Ammonia, Nitrate, Nitrite TKN, total Nitrogen	Total phosphorus	Soluble cations Soluble anions	TCLP HM B / PAH
DAM-NE	1	S, 2xP, 2xVC	24/01/2020	AM/PM	X										X		X			X	X	X	
DAM-S	2	S, 2xP, 2xVC	24/01/2020	AM/PM	X										X		X			X	X	X	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other

SGS EHS Alexandria Laboratory
SE202232 COC
Received: 28 – Jan – 2020

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2016 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

Yin, Emily (Sydney)

From: AU.Environmental.Sydney (Sydney)
Sent: Thursday, 30 January 2020 9:30 AM
To: AU.SampleReceipt.Sydney (Sydney)
Subject: FW: [EXTERNAL] RE: SE202232 - Analysis

Please cancel

Regards,

Paul Harley
Environment, Health & Safety
Client Manager

Phone: +61 (0)2 8594 0400
Direct: +61 (0)2 8594 0449
Mobile: +61 (0)4 0797 2867

From: Nicholas Grbich - EIAustralia <nicholas.grbich@eiaustralia.com.au>
Sent: Thursday, 30 January 2020 9:25 AM
To: AU.Environmental.Sydney (Sydney) <AU.Environmental.Sydney@sgs.com>
Cc: Benjamin Aggar - EIAustralia <benjamin.aggar@eiaustralia.com.au>
Subject: [EXTERNAL] RE: SE202232 - Analysis

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

Thanks Erin,

Could you please cancel CEC testing n these samples, I'll let you know if we need any further analysis.

Thanks,

Nicholas Grbich

From: AU.Environmental.Sydney (Sydney) [mailto:AU.Environmental.Sydney@sgs.com]
Sent: Thursday, 30 January 2020 8:31 AM
To: Nicholas Grbich - EIAustralia
Subject: FW: SE202232 - Analysis
Importance: High

Hi Nick,

Unfortunately it is not possible to perform CEC analysis in a water sample was there some other test that you were looking for?

Regards,

Erin Adams
Environment, Health & Safety
GBS Coordinator & Customer Service Representative

SAMPLE RECEIPT ADVICE

SE202232

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	2

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 28/1/2020
Report Due	Tue 4/2/2020
SGS Reference	**SE202232**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Tuesday 28/1/2020. Results are expected to be ready by COB Tuesday 4/2/2020. Please quote SGS reference SE202232 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	2 Water
Date documentation received	29/1//2020@2:47pm	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	3.7°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

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SAMPLE RECEIPT ADVICE

SE202232

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity	Anions by Ion Chromatography in Water	Nitrite in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	TKN Kjeldahl Digestion by Discrete Analyser	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	DAM-NE	1	3	1	23	2	9	11	7
002	DAM-S	1	3	1	23	2	9	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

SE202232

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Conductivity and TDS by Calculation - Water	Metals in Water (Dissolved) by ICPOES	pH in water	Total Cyanide in water by Discrete Analyser	Total Dissolved Solids (TDS) in water	Total Phenolics in Water	Total Phosphorus by Kjeldahl Digestion DA in	Trace Metals (Dissolved) in Water by ICPMS	Turbidity
001	DAM-NE	1	1	5	1	1	1	1	1	8	1
002	DAM-S	1	1	5	1	1	1	1	1	8	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
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Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE202232

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water
001	DAM-NE	1
002	DAM-S	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 .

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH / pH ox	soluble cations + Anions	Textural (Classification + Manganese)	TCLP HM B / PAH
BH11_0.1-0.2	1	J/ZLB	31/01/2020	AM/PM		X		X															
BH11_0.8-1.0		J/ZLB	31/01/2020	AM/PM		X																	
BH11_1.8-2.0		J/ZLB	31/01/2020	AM/PM		X																	
BH11_3.0-3.2	2	J/ZLB	31/01/2020	AM/PM		X		X							X	X				X	X	X	

SE 202374

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Sneha
Signature:	Signature:
Date: 31/01/2020	Date: 03/02/20 @ 3.05

Report with EI Waste Classification Table ☐

Sampler's Comments:

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE202374

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	2

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	Mon 3/2/2020
Report Due	Mon 10/2/2020
SGS Reference	**SE202374**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Monday 3/2/2020. Results are expected to be ready by COB Monday 10/2/2020. Please quote SGS reference SE202374 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	2 Soil
Date documentation received	3/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	5.9°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

2 samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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SAMPLE RECEIPT ADVICE

SE202374

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Soluble Anions (1:5) in Soil by Ion Chromatography	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH11_0.1-0.2	29	14	26	11	-	10	11	7
002	BH11_3.0-3.2	29	14	26	11	2	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

SE202374

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity in Soil	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Field pH for Acid Sulphate Soil	Mercury in Soil	pH in soil (1:5)	Soil Texture (AS4419)	Total Recoverable Elements in Soil/Waste
001	BH11_0.1-0.2	-	-	-	-	1	-	-	7
002	BH11_3.0-3.2	4	1	13	4	1	1	1	12

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

SE202374

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
001	BH11_0.1-0.2	2	1
002	BH11_3.0-3.2	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 .

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill

Project No: E24445.E02

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
QT1	1	J	22-1-20	AM/PM		X				X													
QT2	2	↓	22-1-20	↓		↓				↓													
QT3	3		23-1-20																				
QT4	4		23-1-20																				
QT5	5		24-1-20																				
QT6	6	↓	24-1-20	↓		↓				↓													

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 235425
Date Received: 28/1/20
Time Received: 1544
Received by: JO
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (Envirolab) JO
Print: Nicholas Corbett	Print: Jason Day
Signature:	Signature:
Date: 28-1-20	Date: 28/1/20 1544

Sampler's Comments:

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

Sheet 1 of 1

Site: Tallawong station precinct South, Rouse Hill

Project No: E24445

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM[A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM[A] /TRH/BTEX/PAHs	HM[A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	Soluble Cations/Anions	manganese	total	TCLP HM[B] / PAH
BH1M	1	2P, 5, 2VC	26/2/20	AM/PM	X				X							X				X	X		
BH2M	2	↓	↓	↓	X				X							X				X	X		
BH3M	3	↓	↓	↓	X				X							X				X	X		
GWTB2	4	Lab prepared			X																	X	
GWTB2	5				X																	X	

Comments

HM[A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM[B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Name (EI):	Received by (SGS):
Print: Li Wei	Print: PINESH·W
Signature:	Signature:
Date: 27/2/20	Date: 1640 27/02/2020

Report with EI Waste Classification Table ☐

Sampler's Comments:

203349

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE203349

CLIENT DETAILS

Contact	Li Wei
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	li.wei@eiaustralia.com.au
Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	5

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 27/2/2020
Report Due	Thu 5/3/2020
SGS Reference	**SE203349**

SUBMISSION DETAILS

This is to confirm that 5 samples were received on Thursday 27/2/2020. Results are expected to be ready by COB Thursday 5/3/2020. Please quote SGS reference SE203349 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	3 Water
Date documentation received	27/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	13.7°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

2 water samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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

SE203349

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445 Tallawong Station Precinct South,

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity	Anions by Ion Chromatography in Water	Conductivity and TDS by Calculation - Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	pH in water	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH1M	1	2	1	22	1	9	11	7
002	BH2M	1	2	1	22	1	9	11	7
003	BH3M	1	2	1	22	1	9	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

SE203349

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445 Tallawong Station Precinct South,

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Metals in Water (Dissolved) by ICPOES	Trace Metals (Dissolved) in Water by ICPMS
001	BH1M	1	4	8
002	BH2M	1	4	8
003	BH3M	1	4	8

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 .

source: [Untitled]_20200306135833 12.pdf page: 6 SGS Ref: SE203349A_COC

Yin, Emily (Sydney)

From: AU.Environmental.Sydney (Sydney)
Sent: Friday, 6 March 2020 10:03 AM
To: AU.SampleReceipt.Sydney (Sydney)
Subject: FW: [EXTERNAL] RE: Report Job SE203349, your reference E24445 Tallawong Station Precinct South,, order number E24445

Please book this in

Regards,

Paul Harley
Environment, Health & Safety
Client Manager

Phone: +61 (0)2 8594 0400
Direct: +61 (0)2 8594 0449
Mobile: +61 (0)4 0797 2867

SGS EHS Alexandria Laboratory
SE203349A COC
Received: 06 – Mar 2020

-----Original Message-----
From: Nicholas Grbich - EIAustralia <nicholas.grbich@eiaustralia.com.au>
Sent: Friday, 6 March 2020 9:36 AM
To: AU.Environmental.Sydney (Sydney) <AU.Environmental.Sydney@sgs.com>
Cc: Li Wei - EIAustralia <li.wei@eiaustralia.com.au>; Benjamin Aggar - EIAustralia <benjamin.aggar@eiaustralia.com.au>
Subject: [EXTERNAL] RE: Report Job SE203349, your reference E24445 Tallawong Station Precinct South,, order number E24445

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

Dear SGS,

Could we please have a silica gel clean-up for TRH on sample BH2M from this job on 24 hr TAT.

Kind regards,

Nicholas Grbich

-----Original Message-----
From: AU.Environmental.Sydney@SGS.com [mailto:AU.Environmental.Sydney@SGS.com]
Sent: Thursday, 5 March 2020 4:42 PM
To: Laboratory Results - EIAustralia; Li Wei - EIAustralia
Subject: Report Job SE203349, your reference E24445 Tallawong Station Precinct South,, order number E24445

Dear Li,

Please find attached the report for SGS job SE203349, your reference E24445 Tallawong Station Precinct South,, order number E24445.

SAMPLE RECEIPT ADVICE

SE203349A

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	5

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 6/3/2020
Report Due	Mon 9/3/2020
SGS Reference	**SE203349A**

SUBMISSION DETAILS

This is to confirm that 5 samples were received on Friday 6/3/2020. Results are expected to be ready by COB Monday 9/3/2020. Please quote SGS reference SE203349A 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	1 Water
Date documentation received	6/3/2020@10:03pm	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	13.7°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

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

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SAMPLE RECEIPT ADVICE

SE203349A

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445 Tallawong Station Precinct South,

SUMMARY OF ANALYSIS

No.	Sample ID	TRH Silica Gel (Total Recoverable
002	BH2M	9

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 .

Sheet 1 of 1

Site: Tallawong Station Precinct South, Rouse Hill

Project No: E24445

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	Soluble cations/anions	Manganese	Nickel	TCLP HM B / PAH
BH7M	1	3P, 5, 2Vc	21/2/20	AM/PM	X				X						X	X				X	X		
BH8M	2	↓	↓	↓	X				X						X	X				X	X		
BH11M	3				X				X						X	X				X	X		
BH13M	4				X				X						X	X				X	X		
GWQD1	5				X					X													
GWTB1	6	Lab prepared			X						X												
GWTS1	7				X						X												
GWQR1	8	S, 2Vc	21/2/20	AM/PM	X					X													
GWQRB1		S, 2Vc	↓	↓	X																	X	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: Li Wei	Print: DINESH. K
Signature:	Signature:
Date: 21/2/20	Date: 24/02/20 1635

Sampler's Comments:

203216

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE203216

CLIENT DETAILS

Contact	Li Wei
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	li.wei@eiaustralia.com.au
Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	8

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 25/2/2020
Report Due	Tue 3/3/2020
SGS Reference	**SE203216**

SUBMISSION DETAILS

This is to confirm that 8 samples were received on Tuesday 25/2/2020. Results are expected to be ready by COB Tuesday 3/3/2020. Please quote SGS reference SE203216 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	8 Water
Date documentation received	25/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	14.1°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

CEC not analysed in water samples.
1 sample has been placed on hold as no tests have been assigned for it. This sample will not be processed.

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SAMPLE RECEIPT ADVICE

SE203216

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445 Tallawong Station Precinct South,

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity	Anions by Ion Chromatography in Water	Conductivity and TDS by Calculation - Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	pH in water	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH7M	1	2	1	22	1	9	11	7
002	BH8M	1	2	1	22	1	9	11	7
003	BH11M	1	2	1	22	1	9	11	7
004	BH13M	1	2	1	22	1	9	11	7
005	GWQD1	-	-	-	-	-	9	11	7
006	GWTB1	-	-	-	-	-	-	11	-
007	GWTS1	-	-	-	-	-	-	11	-
008	GWQR1	-	-	-	-	-	9	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

SE203216

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445 Tallawong Station Precinct South,

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Metals in Water (Dissolved) by ICPOES	Trace Metals (Dissolved) in Water by ICPMS
001	BH7M	1	4	8
002	BH8M	1	4	8
003	BH11M	1	4	8
004	BH13M	1	4	8
005	GWQD1	1	-	7
008	GWQR1	1	-	7

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 .

Sheet 1 of 1

Site: Tallawong Station Precinct South, Rouse Hill

Project No: E24445

Laboratory: Envirolab Services
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
GWRT1	1	3P, S, 2VC	21/2/20	10am/PM	X					X													

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 237393
Date Received: 24/2/2020
Time Received: 1545
Received By: R
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (Envirolab)
Print: Li Wei	Print: Pray
Signature:	Signature:
Date: 21/2/20	Date: 24/2/2020

Sampler's Comments:

IMPORTANT!
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

E-MAILED 29/1 @ 2-47

Sheet 1 of 1

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	Hold			TCLP HM B / PAH
QD1	1	J	22/01/2020	AM/PM		X				X													
QD2	2	J	22/01/2020	AM/PM		X				X													
QD3	3	J	23/01/2020	AM/PM		X				X													
QD4	4	J	23/01/2020	AM/PM		X				X													
QD5	5	J	24/01/2020	AM/PM		X				X													
QD6	6	J	24/01/2020	AM/PM		X				X													
QR1	7	S, P, 2xVC	24/01/2020	AM/PM	X					X													
QRB1		S, P, 2xVC	24/01/2020	AM/PM	X															X			
TB1	8	VC	LABRATORY PREPARED			X					X												
TS1	9	VC				X					X												

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

CCC March 2019 FORM v.4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE202233

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	9

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 28/1/2020
Report Due	Tue 4/2/2020
SGS Reference	**SE202233**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Tuesday 28/1/2020. Results are expected to be ready by COB Tuesday 4/2/2020. Please quote SGS reference SE202233 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	8 Soil, 1 Water
Date documentation received	29/10202@2:47pm	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	3.7°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

1 water sample has been placed on hold as no tests have been assigned for it. This sample will not be processed.

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SAMPLE RECEIPT ADVICE

SE202233

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	QD1	1	1	7	10	11	7
002	QD2	1	1	7	10	11	7
003	QD3	1	1	7	10	11	7
004	QD4	1	1	7	10	11	7
005	QD5	1	1	7	10	11	7
006	QD6	1	1	7	10	11	7
008	TB1	-	1	-	-	11	-
009	TS1	-	-	-	-	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

SE202233

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
007	QR1	1	7	9	11	7

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 .

source: [Untitled].pdf page: 1 SGS Ref: SE202233A_COC

Yin, Emily (Sydney)

From: AU.Environmental.Sydney (Sydney)
Sent: Tuesday, 4 February 2020 11:59 AM
To: AU.SampleReceipt.Sydney (Sydney)
Subject: FW: [EXTERNAL] RE: Report Job SE202233, your reference E24445.E02 Tallawong Station, Rouse Hill, order number E24445.E02

FYA - Any issues let me know.

Thanks

Kind Regards

Elsa Miguel Barritt
Environment, Health & Safety
Customer Service Representative

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

Phone: +61 (0)2 8594 0400
Direct: +61 (0)2 8594 0455
Fax: +61 (0)2 8594 0499
E-mail: Elsa.MiguelBarritt@sgs.com
Web: www.au.sgs.com

SGS EHS Alexandria Laboratory
SE202233A COC
Received: 04 – Feb – 2020

SGS Sydney will be closed Wednesday 25th and Thursday 26th of December We will also be closed Wednesday 1st of January 2020 for New Year's Day.
The last day for receiving BODs will be Thursday the 19th of December (due to the 5-day incubation time).
SGS Sydney Shut Down Period will be Monday 30th of December 2019 to Friday 10th of January 2020 - Please Note: Skeleton staff on site to accept samples and to conduct short holding time analysis (No Fast Turnarounds during this period).
Monday 13th of January 2020 - Normal trading resumes.
If you have any concerns regarding your samples, please feel free to contact us.

-----Original Message-----
From: Nicholas Grbich - EIAustralia <nicholas.grbich@eiaustralia.com.au>
Sent: Tuesday, 4 February 2020 11:57 AM
To: AU.Environmental.Sydney (Sydney) <AU.Environmental.Sydney@sgs.com>
Cc: Benjamin Aggar - EIAustralia <benjamin.aggar@eiaustralia.com.au>
Subject: [EXTERNAL] RE: Report Job SE202233, your reference E24445.E02 Tallawong Station, Rouse Hill, order number E24445.E02

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

Hi sgs,

Could we please test sample QRB1 for zinc. Standard TAT please

E-MAILED 29/1 @ 2.47

Sheet 1 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP14_0.2-0.3	1	J/ZLB	24/01/2020	AM/PM		X		X															
TP14_1.8-1.9	2	J/ZLB	24/01/2020	AM/PM		X		X															
TP15_0.2-0.3	3	J/ZLB	24/01/2020	AM/PM		X		X															
TP15_1.1-1.2		J/ZLB	24/01/2020	AM/PM		X																	
TP16_0.2-0.3		J/ZLB	23/01/2020	AM/PM		X																	
TP16_0.7-0.8	4	J/ZLB	23/01/2020	AM/PM		X		X															
TP16_1.9-2.0	5	J	23/01/2020	AM/PM		X		X															
TP17_0.2-0.3	6	J/ZLB	23/01/2020	AM/PM		X		X															
TP17_0.4-0.5		J/ZLB	23/01/2020	AM/PM		X																	
TP17_0.9-1.0	7	J/ZLB	23/01/2020	AM/PM		X		X															
TP18_0.2-0.3	8	J/ZLB	22/01/2020	AM/PM		X		X															
TP18_1.0-1.1		J/ZLB	22/01/2020	AM/PM		X																	

Analysis

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):
Print: Nicholas Grbich
Signature:
Date: 29/01/2020

Received by (SGS):
Print: Suba
Signature:
Date: 28/01/20 @ 3.15

Sampler's Comments:

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC March 2018 FORM v 4 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

Sheet 2 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample Matrix / Analysis

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP18_1.6-1.7		J/ZLB	22/01/2020	AM/PM		X																	
TP18_2.4-2.5	9	J/ZLB	22/01/2020	AM/PM		X		X															
TP19_0.2-0.3	10	J/ZLB	22/01/2020	AM/PM		X		X															
TP19_1.0-1.1		J/ZLB	22/01/2020	AM/PM		X																	
TP20_0.2-0.3		J/ZLB	22/01/2020	AM/PM		X																	
TP20_1.0-1.1	11	J/ZLB	22/01/2020	AM/PM		X		X															
TP20_2.0-2.1		J/ZLB	22/01/2020	AM/PM		X																	
TP21_0.2-0.3	12	J/ZLB	22/01/2020	AM/PM		X		X															
TP21_1.0-1.1		J/ZLB	22/01/2020	AM/PM		X																	
TP22_0.2-0.3	13	J/ZLB	22/01/2020	AM/PM		X		X															
TP22_1.0-1.1		J/ZLB	22/01/2020	AM/PM		X																	
TP22_2.0-2.1	14	J/ZLB	22/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table: [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 3 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	Sample Matrix: SOIL	Sample Matrix: OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP22_2.6-2.7		J/ZLB	22/01/2020	AM/PM		X																	
TP23_0.2-0.3		J/ZLB	22/01/2020	AM/PM		X																	
TP23_0.7-0.8	15	J/ZLB	22/01/2020	AM/PM		X		X															
TP23_1.7-1.8		J/ZLB	22/01/2020	AM/PM		X																	
TP24_0.2-0.3	16	J/ZLB	22/01/2020	AM/PM		X		X															
TP24_1.0-1.1		J/ZLB	22/01/2020	AM/PM		X																	
TP24_1.6-1.7	17	J/ZLB	22/01/2020	AM/PM		X		X															
TP25_0.2-0.3	18	J/ZLB	22/01/2020	AM/PM		X		X															
TP25_1.2-1.3		J/ZLB	22/01/2020	AM/PM		X																	
TP25_1.9-2.0		J/ZLB	22/01/2020	AM/PM		X																	
TP26_0.2-0.3	19	J/ZLB	22/01/2020	AM/PM		X		X															
TP26_0.7-0.8	20	J/ZLB	22/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Co, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other _____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@elaustralia.com.au

elaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@elaustralia.com.au

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Sheet 4 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP26_1.1-1.2		J/ZLB	22/01/2020	AM/PM		X																	
TP27_0.2-0.3	21	J/ZLB	22/01/2020	AM/PM		X		X															
TP27_1.3-1.4		J/ZLB	22/01/2020	AM/PM		X																	
TP28_0.2-0.3	22	J/ZLB	22/01/2020	AM/PM		X		X															
TP28_0.6-0.7		J/ZLB	22/01/2020	AM/PM		X																	
TP28_1.6-1.7	23	J/ZLB	22/01/2020	AM/PM		X		X															
TP29_0.2-0.3	24	J/ZLB	22/01/2020	AM/PM		X		X															
TP29_1.3-1.4		J/ZLB	22/01/2020	AM/PM		X																	
TP30_0.2-0.3		J/ZLB	22/01/2020	AM/PM		X																	
TP30_1.2-1.3	25	J/ZLB	22/01/2020	AM/PM		X		X															
TP30_2.5-2.6		J/ZLB	22/01/2020	AM/PM		X																	
TP31_0.2-0.3	26	J/ZLB	22/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @3:05

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

SGS March 2018 Publication - SGS

Sheet 5 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445 E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample Matrix: WATER, SOIL, OTHERS (i.e. Fibro, Paint, etc.)

Analysis: 6

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP31_1.2-1.3		J/ZLB	22/01/2020	AM/PM		X																	
TP32_0.2-0.3	27	J/ZLB	22/01/2020	AM/PM		X		X															
TP32_1.2-1.3		J/ZLB	22/01/2020	AM/PM		X																	
TP33_0.2-0.3		J/ZLB	22/01/2020	AM/PM		X																	
TP33_1.5-1.6	28	J/ZLB	22/01/2020	AM/PM		X		X															
TP34_0.2-0.3	29	J/ZLB	22/01/2020	AM/PM		X		X															
TP34_~~0.2-0.3~~ 1.3-1.4		J/ZLB	22/01/2020	AM/PM		X																	
TP35_0.2-0.3	30	J/ZLB	23/01/2020	AM/PM		X		X															
TP35_1.1-1.2		J/ZLB	23/01/2020	AM/PM		X																	
TP35_2.4-2.5	31	J	23/01/2020	AM/PM		X		X															
TP36_0.2-0.3		J/ZLB	23/01/2020	AM/PM		X																	
TP36_0.7-0.8	32	J/ZLB	23/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @3:15

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

SGS Vers. 2018 FORM-0-SGS

Sheet 6 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibre, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP36_1.4-1.5	33	J	23/01/2020	AM/PM		X		X															
TP37_0.2-0.3	34	J/ZLB	23/01/2020	AM/PM		X		X															
TP37_0.7-0.8		J/ZLB	23/01/2020	AM/PM		X																	
TP37_1.2-1.3	35	J	23/01/2020	AM/PM		X		X															
TP38_0.2-0.3	36	J/ZLB	23/01/2020	AM/PM		X		X															
TP38_1.0-1.1	37	J	23/01/2020	AM/PM		X		X															
TP39_0.2-0.3	38	J/ZLB	23/01/2020	AM/PM		X		X															
TP39_1.2-1.3	39	J	23/01/2020	AM/PM		X		X															
TP40_0.2-0.3	40	J/ZLB	23/01/2020	AM/PM		X		X															
TP40_0.9-1.0	41	J	23/01/2020	AM/PM		X		X															
TP41_0.2-0.3	42	J/ZLB	23/01/2020	AM/PM		X		X															
TP41_0.8-0.9	43	J	23/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @3:15

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

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Sheet 2 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP42_0.2-0.3	44	J/ZLB	24/01/2020	AM/PM		X		X															
TP42_1.1-1.2		J/ZLB	24/01/2020	AM/PM		X																	
TP42_2.1-2.2	45	J/ZLB	24/01/2020	AM/PM		X		X															
TP42_2.6-2.7	46	J	24/01/2020	AM/PM		X		X															
TP43_0.2-0.3	47	J/ZLB	24/01/2020	AM/PM		X		X															
TP43_1.2-1.3		J/ZLB	24/01/2020	AM/PM		X																	
TP43_1.8-1.9	48	J	24/01/2020	AM/PM		X		X															
TP44_0.2-0.3		J/ZLB	24/01/2020	AM/PM		X																	
TP44_1.0-1.1	49	J/ZLB	24/01/2020	AM/PM		X		X															
TP44_2.4-2.5	50	J	24/01/2020	AM/PM		X		X															
TP45_0.2-0.3	51	J/ZLB	24/01/2020	AM/PM		X		X															
TP45_1.2-1.3		J/ZLB	24/01/2020	AM/PM		X																	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 5 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e., Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP45_2.4-2.5	52	J	24/01/2020	AM/PM		X		X															
TP46_0.2-0.3	53	J/ZLB	24/01/2020	AM/PM		X		X															
TP46_1.0-1.1		J/ZLB	24/01/2020	AM/PM		X																	
TP46_1.5-1.6	54	J	24/01/2020	AM/PM		X		X															
TP47_0.2-0.3	55	J/ZLB	24/01/2020	AM/PM		X		X															
TP47_0.9-1.0	56	J	24/01/2020	AM/PM		X		X															
TP48_0.2-0.3	57	J/ZLB	23/01/2020	AM/PM		X		X															
TP48_1.5-1.6	58	J	23/01/2020	AM/PM		X		X															
TP49_0.2-0.3	59	J/ZLB	23/01/2020	AM/PM		X		X															
TP49_1.2-1.3		J/ZLB	23/01/2020	AM/PM		X																	
TP49_2.7-2.8	60	J	23/01/2020	AM/PM		X		X															
TP50_0.2-0.3	61	J/ZLB	23/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite:
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
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eiaustralia
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lab@eiaustralia.com.au

CHAIN OF CUSTODY FORM v4 - SGS

Sheet 9 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP50_0.9-1.0	62	J	23/01/2020	AM/PM		X		X															
TP51_0.2-0.3		J/ZLB	23/01/2020	AM/PM		X																	
TP51_0.9-1.0	63	J/ZLB	23/01/2020	AM/PM		X		X															
TP51_2.2-2.3	64	J	23/01/2020	AM/PM		X		X															
TP52_0.2-0.3	65	J/ZLB	23/01/2020	AM/PM		X		X															
TP52_1.4-1.5	66	J	23/01/2020	AM/PM		X		X															
TP53_0.2-0.3	67	J/ZLB	23/01/2020	AM/PM		X		X															
TP53_1.1-1.2	68	J	23/01/2020	AM/PM		X		X															
TP54_0.2-0.3	69	J/ZLB	23/01/2020	AM/PM		X		X															
TP54_0.8-0.9	70	J	23/01/2020	AM/PM		X		X															
TP55_0.2-0.3	71	J/ZLB	23/01/2020	AM/PM		X		X															
TP55_0.7-0.8	72	J	23/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
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eiaustralia
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PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 10 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	Analysis 6: HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP56_0.2-0.3	73	J/ZLB	23/01/2020	AM/PM		X		X															
TP56_0.7-0.8		J/ZLB	23/01/2020	AM/PM		X																	
TP56_1.2-1.3	74	J	23/01/2020	AM/PM		X		X															
TP57_0.2-0.3	75	J/ZLB	23/01/2020	AM/PM		X		X															
TP57_1.3-1.4	76	J	23/01/2020	AM/PM		X		X															
TP58_0.2-0.3	77	J/ZLB	23/01/2020	AM/PM		X		X															
TP58_0.8-0.9	78	J	23/01/2020	AM/PM		X		X															
TP26_surface fragment	79	ZLB	22/01/2020	AM/PM			X						X										
BH1_0.1-0.2	80	J/ZLB	22/01/2020	AM/PM		X		X															
BH1_1.0-1.1		J/ZLB	22/01/2020	AM/PM		X																	
BH1_1.8-2.0		J/ZLB	22/01/2020	AM/PM		X																	
BH1_2.8-3.0		J/ZLB	22/01/2020	AM/PM		X																	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
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eiaustralia
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PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 11 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibre, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH / pH ox	Soluble cations Soluble anions	TRH wet class fractions Hydrocarbons	TCLP HM B / PAH
BH1_3.8-4.0	81	J/ZLB	22/01/2020	AM/PM		X									X	X				X	X	X	
BH1_4.2-4.5	82	J/ZLB	22/01/2020	AM/PM		X		X							X	X				X	X	X	
BH2_0.1-0.2	83	J/ZLB	22/01/2020	AM/PM		X		X															
BH2_0.8-1.0		J/ZLB	22/01/2020	AM/PM		X																	
BH2_2.3-2.5		J/ZLB	22/01/2020	AM/PM		X																	
BH2_4.3-4.5	84	J/ZLB	22/01/2020	AM/PM		X		X															
BH3_0.1-0.2	85	J/ZLB	23/01/2020	AM/PM		X		X															
BH3_1.1-1.2		J/ZLB	23/01/2020	AM/PM		X																	
BH3_2.1-2.2		J/ZLB	23/01/2020	AM/PM		X																	
BH3_2.8-3.0		J/ZLB	23/01/2020	AM/PM		X																	
BH3_3.5-3.7		J/ZLB	23/01/2020	AM/PM		X																	
BH3_4.3-4.5		J/ZLB	23/01/2020	AM/PM		X																	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
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ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Seba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 12 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH / pHox	Soluble cations + anions	Total Cl, class, free NaCl + total quantity	TCLP HM B / PAH
BH3_6.0-6.45	86	J/ZLB	23/01/2020	AM/PM		X		X							X	X				X	X	X	
BH4_0.1-0.2	87	J/ZLB	23/01/2020	AM/PM		X		X															
BH4_0.8-1.0		J/ZLB	23/01/2020	AM/PM		X																	
BH4_1.8-2.0		J/ZLB	23/01/2020	AM/PM		X																	
BH4_2.8-3.0		J/ZLB	23/01/2020	AM/PM		X																	
BH4_3.2-3.45	88	J/ZLB	23/01/2020	AM/PM		X									X	X				X	X	X	
BH4_4.5-4.95	89	J/ZLB	23/01/2020	AM/PM		X		X							X	X				X	X	X	
BH5_0.1-0.2	90	J/ZLB	24/01/2020	AM/PM		X		X															
BH5_0.8-1.0		J/ZLB	24/01/2020	AM/PM		X																	
BH5_1.8-2.0		J/ZLB	24/01/2020	AM/PM		X																	
BH5_3.0-3.1	91	J/ZLB	24/01/2020	AM/PM		X		X							X	X				X	X	X	
BH6_0.1-0.2	92	J/ZLB	24/01/2020	AM/PM		X		X															

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
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Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Seba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

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Sheet 12 of 13

Site: Tallawong Station, Rouse Hill NSW

Project No: E24445.E02

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS	pH / pH ox	Soluble carbonate/sulfate	Textural classification Moisture	TCLP HM B / PAH
BH6_0.8-1.0		J/ZLB	24/01/2020	AM/PM		X																	
BH6_1.5-1.7	93	J/ZLB	24/01/2020	AM/PM		X									+	+				+	+	+	
BH6_3.0-3.2	94	J/ZLB	24/01/2020	AM/PM		X		X							+	+				+	+	+	
BH7_0.1-0.2	95	J/ZLB	28/01/2020	AM/PM		X		X															
BH7_0.9-1.0		J/ZLB	28/01/2020	AM/PM		X																	
BH7_1.9-2.0		J/ZLB	28/01/2020	AM/PM		X																	
BH7_2.8-3.0	96	J/ZLB	28/01/2020	AM/PM		X									X	X				X	X	X	
BH7_3.8-4.0	97	J/ZLB	28/01/2020	AM/PM		X		X							X	X				X	X	X	
BH8_0.1-0.2	98	J/ZLB	28/01/2020	AM/PM		X		X															
BH8_0.8-1.0		J/ZLB	28/01/2020	AM/PM		X																	
BH8_2.2-2.3	99	J/ZLB	28/01/2020	AM/PM		X									X	X				X	X	X	
BH8_3.2-3.5	100	J/ZLB	28/01/2020	AM/PM		X		X							X	X				X	X	X	

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: Nicholas Grbich	Print: Suba
Signature:	Signature:
Date: 29/01/2020	Date: 28/01/20 @ 3:15

Sampler's Comments:

IMPORTANT:
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eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE202242

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	100

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 28/1/2020
Report Due	Wed 5/2/2020
SGS Reference	**SE202242**

SUBMISSION DETAILS

This is to confirm that 100 samples were received on Tuesday 28/1/2020. Results are expected to be ready by COB Wednesday 5/2/2020.
Please quote SGS reference SE202242 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	99 Soil, 1 Material
Date documentation received	29/1/2020@2:47pm	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	3.7°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

56 soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.
For TP17_0.9-1.0, a separate portion was not supplied for Asbestos analysis. A sub-sample will be used from the jar provided.

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

SE202242

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	TP14_0.2-0.3	29	14	26	11	10	11	7
002	TP14_1.8-1.9	29	14	26	11	10	11	7
003	TP15_0.2-0.3	29	14	26	11	10	11	7
004	TP16_0.7-0.8	29	14	26	11	10	11	7
005	TP16_1.9-2.0	29	14	26	11	10	11	7
006	TP17_0.2-0.3	29	14	26	11	10	11	7
007	TP17_0.9-1.0	29	14	26	11	10	11	7
008	TP18_0.2-0.3	29	14	26	11	10	11	7
009	TP18_2.4-2.5	29	14	26	11	10	11	7
010	TP19_0.2-0.3	29	14	26	11	10	11	7
011	TP20_1.0-1.1	29	14	26	11	10	11	7
012	TP21_0.2-0.3	29	14	26	11	10	11	7
013	TP22_0.2-0.3	29	14	26	11	10	11	7
014	TP22_2.0-2.1	29	14	26	11	10	11	7
015	TP23_0.7-0.8	29	14	26	11	10	11	7
016	TP24_0.2-0.3	29	14	26	11	10	11	7
017	TP24_1.6-1.7	29	14	26	11	10	11	7
018	TP25_0.2-0.3	29	14	26	11	10	11	7
019	TP26_0.2-0.3	29	14	26	11	10	11	7
020	TP26_0.7-0.8	29	14	26	11	10	11	7
021	TP27_0.2-0.3	29	14	26	11	10	11	7
022	TP28_0.2-0.3	29	14	26	11	10	11	7
023	TP28_1.6-1.7	29	14	26	11	10	11	7
024	TP29_0.2-0.3	29	14	26	11	10	11	7

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SAMPLE RECEIPT ADVICE

SE202242

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	TP30_1.2-1.3	29	14	26	11	10	11	7
026	TP31_0.2-0.3	29	14	26	11	10	11	7
027	TP32_0.2-0.3	29	14	26	11	10	11	7
028	TP33_1.5-1.6	29	14	26	11	10	11	7
029	TP34_0.2-0.3	29	14	26	11	10	11	7
030	TP35_0.2-0.3	29	14	26	11	10	11	7
031	TP35_2.4-2.5	29	14	26	11	10	11	7
032	TP36_0.7-0.8	29	14	26	11	10	11	7
033	TP36_1.4-1.5	29	14	26	11	10	11	7
034	TP37_0.2-0.3	29	14	26	11	10	11	7
035	TP37_1.2-1.3	29	14	26	11	10	11	7
036	TP38_0.2-0.3	29	14	26	11	10	11	7
037	TP38_1.0-1.1	29	14	26	11	10	11	7
038	TP39_0.2-0.3	29	14	26	11	10	11	7
039	TP39_1.2-1.3	29	14	26	11	10	11	7
040	TP40_0.2-0.3	29	14	26	11	10	11	7
041	TP40_0.9-1.0	29	14	26	11	10	11	7
042	TP41_0.2-0.3	29	14	26	11	10	11	7
043	TP41_0.8-0.9	29	14	26	11	10	11	7
044	TP42_0.2-0.3	29	14	26	11	10	11	7
045	TP42_2.1-2.2	29	14	26	11	10	11	7
046	TP42_2.6-2.7	29	14	26	11	10	11	7
047	TP43_0.2-0.3	29	14	26	11	10	11	7
048	TP43_1.8-1.9	29	14	26	11	10	11	7

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
049	TP44_1.0-1.1	29	14	26	11	10	11	7
050	TP44_2.4-2.5	29	14	26	11	10	11	7
051	TP45_0.2-0.3	29	14	26	11	10	11	7
052	TP45_2.4-2.5	29	14	26	11	10	11	7
053	TP46_0.2-0.3	29	14	26	11	10	11	7
054	TP46_1.5-1.6	29	14	26	11	10	11	7
055	TP47_0.2-0.3	29	14	26	11	10	11	7
056	TP47_0.9-1.0	29	14	26	11	10	11	7
057	TP48_0.2-0.3	29	14	26	11	10	11	7
058	TP48_1.5-1.6	29	14	26	11	10	11	7
059	TP49_0.2-0.3	29	14	26	11	10	11	7
060	TP49_2.7-2.8	29	14	26	11	10	11	7
061	TP50_0.2-0.3	29	14	26	11	10	11	7
062	TP50_0.9-1.0	29	14	26	11	10	11	7
063	TP51_0.9-1.0	29	14	26	11	10	11	7
064	TP51_2.2-2.3	29	14	26	11	10	11	7
065	TP52_0.2-0.3	29	14	26	11	10	11	7
066	TP52_1.4-1.5	29	14	26	11	10	11	7
067	TP53_0.2-0.3	29	14	26	11	10	11	7
068	TP53_1.1-1.2	29	14	26	11	10	11	7
069	TP54_0.2-0.3	29	14	26	11	10	11	7
070	TP54_0.8-0.9	29	14	26	11	10	11	7
071	TP55_0.2-0.3	29	14	26	11	10	11	7
072	TP55_0.7-0.8	29	14	26	11	10	11	7

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Soluble Anions (1:5) in Soil by Ion Chromatography	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
073	TP56_0.2-0.3	29	14	26	11	-	10	11	7
074	TP56_1.2-1.3	29	14	26	11	-	10	11	7
075	TP57_0.2-0.3	29	14	26	11	-	10	11	7
076	TP57_1.3-1.4	29	14	26	11	-	10	11	7
077	TP58_0.2-0.3	29	14	26	11	-	10	11	7
078	TP58_0.8-0.9	29	14	26	11	-	10	11	7
080	BH1_0.1-0.2	29	14	26	11	-	10	11	7
081	BH1_3.8-4.0	-	-	-	-	2	-	-	-
082	BH1_4.2-4.5	29	14	26	11	2	10	11	7
083	BH2_0.1-0.2	29	14	26	11	-	10	11	7
084	BH2_4.3-4.5	29	14	26	11	-	10	11	7
085	BH3_0.1-0.2	29	14	26	11	-	10	11	7
086	BH3_6.0-6.45	29	14	26	11	2	10	11	7
087	BH4_0.1-0.2	29	14	26	11	-	10	11	7
088	BH4_3.2-3.45	-	-	-	-	2	-	-	-
089	BH4_4.5-4.95	29	14	26	11	2	10	11	7
090	BH5_0.1-0.2	29	14	26	11	-	10	11	7
091	BH5_3.0-3.1	29	14	26	11	2	10	11	7
092	BH6_0.1-0.2	29	14	26	11	-	10	11	7
093	BH6_1.5-1.7	-	-	-	-	2	-	-	-
094	BH6_3.0-3.2	29	14	26	11	2	10	11	7
095	BH7_0.1-0.2	29	14	26	11	-	10	11	7
096	BH7_2.8-3.0	-	-	-	-	2	-	-	-

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Soluble Anions (1:5) in Soil by Ion Chromatography	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
097	BH7_3.8-4.0	29	14	26	11	2	10	11	7
098	BH8_0.1-0.2	29	14	26	11	-	10	11	7
099	BH8_2.2-2.3	-	-	-	-	2	-	-	-
100	BH8_3.2-3.5	29	14	26	11	2	10	11	7

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	Total Recoverable Elements in Soil/Waste
001	TP14_0.2-0.3	1	7
002	TP14_1.8-1.9	1	7
003	TP15_0.2-0.3	1	7
004	TP16_0.7-0.8	1	7
005	TP16_1.9-2.0	1	7
006	TP17_0.2-0.3	1	7
007	TP17_0.9-1.0	1	7
008	TP18_0.2-0.3	1	7
009	TP18_2.4-2.5	1	7
010	TP19_0.2-0.3	1	7
011	TP20_1.0-1.1	1	7
012	TP21_0.2-0.3	1	7
013	TP22_0.2-0.3	1	7
014	TP22_2.0-2.1	1	7
015	TP23_0.7-0.8	1	7
016	TP24_0.2-0.3	1	7
017	TP24_1.6-1.7	1	7
018	TP25_0.2-0.3	1	7
019	TP26_0.2-0.3	1	7
020	TP26_0.7-0.8	1	7
021	TP27_0.2-0.3	1	7
022	TP28_0.2-0.3	1	7
023	TP28_1.6-1.7	1	7
024	TP29_0.2-0.3	1	7

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	Total Recoverable Elements in Soil/Waste
025	TP30_1.2-1.3	1	7
026	TP31_0.2-0.3	1	7
027	TP32_0.2-0.3	1	7
028	TP33_1.5-1.6	1	7
029	TP34_0.2-0.3	1	7
030	TP35_0.2-0.3	1	7
031	TP35_2.4-2.5	1	7
032	TP36_0.7-0.8	1	7
033	TP36_1.4-1.5	1	7
034	TP37_0.2-0.3	1	7
035	TP37_1.2-1.3	1	7
036	TP38_0.2-0.3	1	7
037	TP38_1.0-1.1	1	7
038	TP39_0.2-0.3	1	7
039	TP39_1.2-1.3	1	7
040	TP40_0.2-0.3	1	7
041	TP40_0.9-1.0	1	7
042	TP41_0.2-0.3	1	7
043	TP41_0.8-0.9	1	7
044	TP42_0.2-0.3	1	7
045	TP42_2.1-2.2	1	7
046	TP42_2.6-2.7	1	7
047	TP43_0.2-0.3	1	7
048	TP43_1.8-1.9	1	7

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	Total Recoverable Elements in Soil/Waste
049	TP44_1.0-1.1	1	7
050	TP44_2.4-2.5	1	7
051	TP45_0.2-0.3	1	7
052	TP45_2.4-2.5	1	7
053	TP46_0.2-0.3	1	7
054	TP46_1.5-1.6	1	7
055	TP47_0.2-0.3	1	7
056	TP47_0.9-1.0	1	7
057	TP48_0.2-0.3	1	7
058	TP48_1.5-1.6	1	7
059	TP49_0.2-0.3	1	7
060	TP49_2.7-2.8	1	7
061	TP50_0.2-0.3	1	7
062	TP50_0.9-1.0	1	7
063	TP51_0.9-1.0	1	7
064	TP51_2.2-2.3	1	7
065	TP52_0.2-0.3	1	7
066	TP52_1.4-1.5	1	7
067	TP53_0.2-0.3	1	7
068	TP53_1.1-1.2	1	7
069	TP54_0.2-0.3	1	7
070	TP54_0.8-0.9	1	7
071	TP55_0.2-0.3	1	7
072	TP55_0.7-0.8	1	7

CONTINUED OVERLEAF

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity in Soil	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Field pH for Acid Sulphate Soil	Mercury in Soil	pH in soil (1:5)	Soil Texture (AS4419)	Total Recoverable Elements in Soil/Waste
073	TP56_0.2-0.3	-	-	-	-	1	-	-	7
074	TP56_1.2-1.3	-	-	-	-	1	-	-	7
075	TP57_0.2-0.3	-	-	-	-	1	-	-	7
076	TP57_1.3-1.4	-	-	-	-	1	-	-	7
077	TP58_0.2-0.3	-	-	-	-	1	-	-	7
078	TP58_0.8-0.9	-	-	-	-	1	-	-	7
080	BH1_0.1-0.2	-	-	-	-	1	-	-	7
081	BH1_3.8-4.0	4	1	13	4	-	1	1	5
082	BH1_4.2-4.5	4	1	13	4	1	1	1	12
083	BH2_0.1-0.2	-	-	-	-	1	-	-	7
084	BH2_4.3-4.5	-	-	-	-	1	-	-	7
085	BH3_0.1-0.2	-	-	-	-	1	-	-	7
086	BH3_6.0-6.45	4	1	13	4	1	1	1	12
087	BH4_0.1-0.2	-	-	-	-	1	-	-	7
088	BH4_3.2-3.45	4	1	13	4	-	1	1	5
089	BH4_4.5-4.95	4	1	13	4	1	1	1	12
090	BH5_0.1-0.2	-	-	-	-	1	-	-	7
091	BH5_3.0-3.1	4	1	13	4	1	1	1	12
092	BH6_0.1-0.2	-	-	-	-	1	-	-	7
093	BH6_1.5-1.7	4	1	13	4	-	1	1	5
094	BH6_3.0-3.2	4	1	13	4	1	1	1	12
095	BH7_0.1-0.2	-	-	-	-	1	-	-	7
096	BH7_2.8-3.0	4	1	13	4	-	1	1	5

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity in Soil	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Field pH for Acid Sulphate Soil	Mercury in Soil	pH in soil (1:5)	Soil Texture (AS4419)	Total Recoverable Elements in Soil/Waste
097	BH7_3.8-4.0	4	1	13	4	1	1	1	12
098	BH8_0.1-0.2	-	-	-	-	1	-	-	7
099	BH8_2.2-2.3	4	1	13	4	-	1	1	5
100	BH8_3.2-3.5	4	1	13	4	1	1	1	12

CONTINUED OVERLEAF

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
001	TP14_0.2-0.3	2	1
002	TP14_1.8-1.9	2	1
003	TP15_0.2-0.3	2	1
004	TP16_0.7-0.8	2	1
005	TP16_1.9-2.0	2	1
006	TP17_0.2-0.3	2	1
007	TP17_0.9-1.0	2	1
008	TP18_0.2-0.3	2	1
009	TP18_2.4-2.5	2	1
010	TP19_0.2-0.3	2	1
011	TP20_1.0-1.1	2	1
012	TP21_0.2-0.3	2	1
013	TP22_0.2-0.3	2	1
014	TP22_2.0-2.1	2	1
015	TP23_0.7-0.8	2	1
016	TP24_0.2-0.3	2	1
017	TP24_1.6-1.7	2	1
018	TP25_0.2-0.3	2	1
019	TP26_0.2-0.3	2	1
020	TP26_0.7-0.8	2	1
021	TP27_0.2-0.3	2	1
022	TP28_0.2-0.3	2	1
023	TP28_1.6-1.7	2	1
024	TP29_0.2-0.3	2	1

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CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
025	TP30_1.2-1.3	2	1
026	TP31_0.2-0.3	2	1
027	TP32_0.2-0.3	2	1
028	TP33_1.5-1.6	2	1
029	TP34_0.2-0.3	2	1
030	TP35_0.2-0.3	2	1
031	TP35_2.4-2.5	2	1
032	TP36_0.7-0.8	2	1
033	TP36_1.4-1.5	2	1
034	TP37_0.2-0.3	2	1
035	TP37_1.2-1.3	2	1
036	TP38_0.2-0.3	2	1
037	TP38_1.0-1.1	2	1
038	TP39_0.2-0.3	2	1
039	TP39_1.2-1.3	2	1
040	TP40_0.2-0.3	2	1
041	TP40_0.9-1.0	2	1
042	TP41_0.2-0.3	2	1
043	TP41_0.8-0.9	2	1
044	TP42_0.2-0.3	2	1
045	TP42_2.1-2.2	2	1
046	TP42_2.6-2.7	2	1
047	TP43_0.2-0.3	2	1
048	TP43_1.8-1.9	2	1

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

SAMPLE RECEIPT ADVICE

SE202242

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
049	TP44_1.0-1.1	2	1
050	TP44_2.4-2.5	2	1
051	TP45_0.2-0.3	2	1
052	TP45_2.4-2.5	2	1
053	TP46_0.2-0.3	2	1
054	TP46_1.5-1.6	2	1
055	TP47_0.2-0.3	2	1
056	TP47_0.9-1.0	2	1
057	TP48_0.2-0.3	2	1
058	TP48_1.5-1.6	2	1
059	TP49_0.2-0.3	2	1
060	TP49_2.7-2.8	2	1
061	TP50_0.2-0.3	2	1
062	TP50_0.9-1.0	2	1
063	TP51_0.9-1.0	2	1
064	TP51_2.2-2.3	2	1
065	TP52_0.2-0.3	2	1
066	TP52_1.4-1.5	2	1
067	TP53_0.2-0.3	2	1
068	TP53_1.1-1.2	2	1
069	TP54_0.2-0.3	2	1
070	TP54_0.8-0.9	2	1
071	TP55_0.2-0.3	2	1
072	TP55_0.7-0.8	2	1

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE202242

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre ID in bulk materials	Fibre Identification in soil	Moisture Content
073	TP56_0.2-0.3	-	2	1
074	TP56_1.2-1.3	-	2	1
075	TP57_0.2-0.3	-	2	1
076	TP57_1.3-1.4	-	2	1
077	TP58_0.2-0.3	-	2	1
078	TP58_0.8-0.9	-	2	1
079	TP26_surface fragment	1	-	-
080	BH1_0.1-0.2	-	2	1
081	BH1_3.8-4.0	-	-	1
082	BH1_4.2-4.5	-	2	1
083	BH2_0.1-0.2	-	2	1
084	BH2_4.3-4.5	-	2	1
085	BH3_0.1-0.2	-	2	1
086	BH3_6.0-6.45	-	2	1
087	BH4_0.1-0.2	-	2	1
088	BH4_3.2-3.45	-	-	1
089	BH4_4.5-4.95	-	2	1
090	BH5_0.1-0.2	-	2	1
091	BH5_3.0-3.1	-	2	1
092	BH6_0.1-0.2	-	2	1
093	BH6_1.5-1.7	-	-	1
094	BH6_3.0-3.2	-	2	1
095	BH7_0.1-0.2	-	2	1
096	BH7_2.8-3.0	-	-	1

CONTINUED OVERLEAF

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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

SE202242

CLIENT DETAILS

Client EI AUSTRALIA

Project E24445.E02 Tallawong Station, Rouse Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
097	BH7_3.8-4.0	2	1
098	BH8_0.1-0.2	2	1
099	BH8_2.2-2.3	-	1
100	BH8_3.2-3.5	2	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
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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 F– Laboratory Analytical Reports

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	6

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	**SE202329 R0**
Date Received	31/1/2020
Date Reported	7/2/2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<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	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	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
Chrysene	mg/kg	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
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	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

OC Pesticides in Soil [AN420] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
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

OP Pesticides in Soil [AN420] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
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

PCBs in Soil [AN420] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
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

Soluble Anions (1:5) in Soil by Ion Chromatography [AN245] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
Chloride	mg/kg	0.25	1100	720	440
Sulfate	mg/kg	5	300	160	64

Alkalinity in Soil [AN002/AN135] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	<25	**40**	<25
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25	<25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25	<25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25	**33**	<25

pH in soil (1:5) [AN101] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH9_3.1-3.3 SOIL - 30/1/2020 SE202329.003	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
pH	pH Units	0.1	5.5	7.9	5.0	7.3

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH9_3.1-3.3 SOIL - 30/1/2020 SE202329.003	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
Exchangeable Sodium, Na	mg/kg	2	1100	910	790	770
Exchangeable Sodium, Na	meq/100g	0.01	5.0	4.0	3.4	3.4
Exchangeable Sodium Percentage*	%	0.1	39.4	42.1	41.9	31.8
Exchangeable Potassium, K	mg/kg	2	100	140	110	160
Exchangeable Potassium, K	meq/100g	0.01	0.26	0.35	0.27	0.42
Exchangeable Potassium Percentage*	%	0.1	2.0	3.7	3.3	3.9
Exchangeable Calcium, Ca	mg/kg	2	100	130	18	220
Exchangeable Calcium, Ca	meq/100g	0.01	0.50	0.67	0.09	1.1
Exchangeable Calcium Percentage*	%	0.1	4.0	7.2	1.1	10.2
Exchangeable Magnesium, Mg	mg/kg	2	840	540	530	690
Exchangeable Magnesium, Mg	meq/100g	0.02	6.9	4.4	4.4	5.7
Exchangeable Magnesium Percentage*	%	0.1	54.6	47.0	53.7	54.0
Cation Exchange Capacity	meq/100g	0.02	13	9.4	8.2	11

Conductivity and TDS by Calculation - Soil [AN106] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH9_3.1-3.3 SOIL - 30/1/2020 SE202329.003	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	810	420	550	350

Field pH for Acid Sulphate Soil [AN104] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
pHf	pH Units	-	6.3	5.0	7.5
pHfox	pH Units	-	4.3	4.0	8.7
Reaction*	No unit	-	X	X	XXXX
pH Difference*	pH Units	-10	2.0	1.0	-1.2

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
Arsenic, As	mg/kg	1	7	5	9	5	-
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	-
Chromium, Cr	mg/kg	0.5	11	3.2	14	5.7	-
Copper, Cu	mg/kg	0.5	13	12	9.0	34	-
Lead, Pb	mg/kg	1	21	10	26	20	-
Nickel, Ni	mg/kg	0.5	6.1	1.9	5.8	8.3	-
Zinc, Zn	mg/kg	2	39	19	25	70	-
Calcium, Ca	mg/kg	5	-	400	-	22	910
Magnesium, Mg	mg/kg	5	-	990	-	580	1000
Sodium, Na	mg/kg	5	-	1100	-	690	730
Potassium, K	mg/kg	10	-	320	-	410	500

Mercury in Soil [AN312] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 3/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH9_3.1-3.3 SOIL - 30/1/2020 SE202329.003	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
% Moisture	%w/w	1	10.6	12.6	7.4	7.7	7.6

PARAMETER	UOM	LOR	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
% Moisture	%w/w	1	6.5

Fibre Identification in soil [AN602] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH9_0.1-0.2 SOIL - 30/1/2020 SE202329.001	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_0.1-0.2 SOIL - 30/1/2020 SE202329.004	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Soil Texture (AS4419) [AN051] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329.005	BH10_3.1-3.25 SOIL - 30/1/2020 SE202329.006
Texture Classification*	No unit	1	Heavy Clay	Clay Loam	Light Clay

METHOD	METHODOLOGY SUMMARY
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
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.
AN051	A small sample of soil is kneaded with water and then pressed out into a ribbon. The behaviour of this ribbon is used to classify the soil into one of the texture classes in AS 4419.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pHFox is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines, method 23Af-Bf, 2004. X Slight Reaction XX Moderate Reaction XXX Strong/High Reaction XXXX Extreme/Vigorous Reaction (gas evolution and heat generation)
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
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 unequivocably 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 limit 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 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

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	4

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SGS Reference	**SE202329 R0**
Date Received	31 Jan 2020
Date Reported	07 Feb 2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

ANALYTICAL REPORT

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202329.001	BH9_0.1-0.2	Soil	116g Clay, Soil, Rocks	30 Jan 2020	No Asbestos Found	<0.01
SE202329.002	BH9_1.8-2.0	Soil	198g Clay, Rocks	30 Jan 2020	No Asbestos Found	<0.01
SE202329.004	BH10_0.1-0.2	Soil	118g Clay, Rocks	30 Jan 2020	No Asbestos Found	<0.01
SE202329.005	BH10_1.8-2.0	Soil	254g Clay, Rocks	30 Jan 2020	No Asbestos Found	<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 unequivocably 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.
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AN602	The sample can be reported “no asbestos found at the reporting limit 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.

(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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
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Samples	2

LABORATORY DETAILS

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SGS Reference	**SE202374 R0**
Date Received	3/2/2020
Date Reported	10/2/2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
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

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Naphthalene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
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	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1

OP Pesticides in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
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

Soluble Anions (1:5) in Soil by Ion Chromatography [AN245] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Chloride	mg/kg	0.25	280
Sulfate	mg/kg	5	380

Alkalinity in Soil [AN002/AN135] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	<25
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25

pH in soil (1:5) [AN101] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
pH	pH Units	0.1	**6.9**

Conductivity and TDS by Calculation - Soil [AN106] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	320

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Exchangeable Sodium, Na	mg/kg	2	600
Exchangeable Sodium, Na	meq/100g	0.01	2.6
Exchangeable Sodium Percentage*	%	0.1	22.6
Exchangeable Potassium, K	mg/kg	2	160
Exchangeable Potassium, K	meq/100g	0.01	0.41
Exchangeable Potassium Percentage*	%	0.1	3.6
Exchangeable Calcium, Ca	mg/kg	2	400
Exchangeable Calcium, Ca	meq/100g	0.01	2.0
Exchangeable Calcium Percentage*	%	0.1	17.4
Exchangeable Magnesium, Mg	mg/kg	2	790
Exchangeable Magnesium, Mg	meq/100g	0.02	6.5
Exchangeable Magnesium Percentage*	%	0.1	56.4
Cation Exchange Capacity	meq/100g	0.02	12

Field pH for Acid Sulphate Soil [AN104] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
pHf	pH Units	-	**6.6**
pHfox	pH Units	-	**4.9**
Reaction*	No unit	-	X
pH Difference*	pH Units	-10	**1.7**

Soil Texture (AS4419) [AN051] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Texture Classification*	No unit	1	Medium Clay

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Arsenic, As	mg/kg	1	2	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.6	16
Copper, Cu	mg/kg	0.5	7.1	15
Lead, Pb	mg/kg	1	17	33
Nickel, Ni	mg/kg	0.5	3.3	6.2
Zinc, Zn	mg/kg	2	120	180
Calcium, Ca	mg/kg	5	-	4000
Magnesium, Mg	mg/kg	5	-	1000
Sodium, Na	mg/kg	5	-	520
Potassium, K	mg/kg	10	-	420
Manganese, Mn	mg/kg	1	-	400

Mercury in Soil [AN312] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Mercury	mg/kg	0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
% Moisture	%w/w	1	10.3	11.7

Fibre Identification in soil [AN602] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
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.
AN051	A small sample of soil is kneaded with water and then pressed out into a ribbon. The behaviour of this ribbon is used to classify the soil into one of the texture classes in AS 4419.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pHFox is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines, method 23Af-Bf, 2004. X Slight Reaction XX Moderate Reaction XXX Strong/High Reaction XXXX Extreme/Vigorous Reaction (gas evolution and heat generation)
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
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 unequivocably 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 limit 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 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

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	2

LABORATORY DETAILS

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SGS Reference	**SE202374 R0**
Date Received	03 Feb 2020
Date Reported	10 Feb 2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

ANALYTICAL REPORT

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202374.001	BH11_0.1-0.2	Soil	82g Clay,Rocks	31 Jan 2020	No Asbestos Found	<0.01
SE202374.002	BH11_3.0-3.2	Soil	404g Clay,Rocks	31 Jan 2020	No Asbestos Found	<0.01

METHOD SUMMARY

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 unequivocably 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 limit 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 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.

(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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station Rouse Hill**
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Samples	5

LABORATORY DETAILS

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SGS Reference	**SE202429 R0**
Date Received	4/2/2020
Date Reported	11/2/2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
TRH C6-C9	mg/kg	20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
TRH C10-C14	mg/kg	20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
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

Soluble Anions (1:5) in Soil by Ion Chromatography [AN245] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
Chloride	mg/kg	0.25	110	390	410
Sulfate	mg/kg	5	12	200	110

Alkalinity in Soil [AN002/AN135] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	250	50	68
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25	<25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25	<25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	200	41	56

pH in soil (1:5) [AN101] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
pH	pH Units	0.1	6.4	5.5	6.7

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
Exchangeable Sodium, Na	mg/kg	2	190	810	740
Exchangeable Sodium, Na	meq/100g	0.01	0.83	3.5	3.2
Exchangeable Sodium Percentage*	%	0.1	7.1	36.0	38.3
Exchangeable Potassium, K	mg/kg	2	120	130	150
Exchangeable Potassium, K	meq/100g	0.01	0.31	0.34	0.39
Exchangeable Potassium Percentage*	%	0.1	2.7	3.5	4.6
Exchangeable Calcium, Ca	mg/kg	2	1400	150	84
Exchangeable Calcium, Ca	meq/100g	0.01	6.8	0.74	0.42
Exchangeable Calcium Percentage*	%	0.1	58.6	7.5	5.0
Exchangeable Magnesium, Mg	mg/kg	2	450	630	530
Exchangeable Magnesium, Mg	meq/100g	0.02	3.7	5.2	4.4
Exchangeable Magnesium Percentage*	%	0.1	31.6	53.0	52.1
Cation Exchange Capacity	meq/100g	0.02	12	9.8	8.4

Conductivity and TDS by Calculation - Soil [AN106] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	180	430	380

Field pH for Acid Sulphate Soil [AN104] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
pHf	pH Units	-	7.0	5.6	6.5
pHfox	pH Units	-	4.8	4.7	6.5
Reaction*	No unit	-	XX	X	XXXX
pH Difference*	pH Units	-10	2.2	1.0	0.0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
Arsenic, As	mg/kg	1	4	4	-	4	-
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	-	<0.3	-
Chromium, Cr	mg/kg	0.5	13	17	-	1.7	-
Copper, Cu	mg/kg	0.5	11	9.3	-	7.1	-
Lead, Pb	mg/kg	1	15	19	-	6	-
Nickel, Ni	mg/kg	0.5	5.7	5.8	-	2.0	-
Zinc, Zn	mg/kg	2	34	41	-	18	-
Calcium, Ca	mg/kg	5	-	-	2500	80	240
Magnesium, Mg	mg/kg	5	-	-	670	740	770
Sodium, Na	mg/kg	5	-	-	220	1000	820
Potassium, K	mg/kg	10	-	-	330	410	470
Manganese, Mn	mg/kg	1	-	-	1100	8	1100

Mercury in Soil [AN312] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
% Moisture	%w/w	1	**11.2**	**19.0**	**18.5**	**12.9**	**9.0**

Soil Texture (AS4419) [AN051] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429.003	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004	BH12_3.5-4.0 SOIL - 3/2/2020 SE202429.005
Texture Classification*	No unit	1	Medium Clay	Heavy Clay	Light Clay

Fibre Identification in soil [AN602] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH12_0.1-0.2 SOIL - 3/2/2020 SE202429.001	BH12_1.3-1.5 SOIL - 3/2/2020 SE202429.002	BH12_2.8-3.0 SOIL - 3/2/2020 SE202429.004
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
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.
AN051	A small sample of soil is kneaded with water and then pressed out into a ribbon. The behaviour of this ribbon is used to classify the soil into one of the texture classes in AS 4419.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pHFox is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines, method 23Af-Bf, 2004. X Slight Reaction XX Moderate Reaction XXX Strong/High Reaction XXXX Extreme/Vigorous Reaction (gas evolution and heat generation)
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
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 unequivocably 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 limit 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 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

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	3

LABORATORY DETAILS

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SGS Reference	**SE202429 R0**
Date Received	04 Feb 2020
Date Reported	11 Feb 2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Organic Chemist/Metals Chemis

Dong LIANG
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Huong CRAWFORD
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Hygiene Team Leader

ANALYTICAL REPORT

SE202429 R0

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202429.001	BH12_0.1-0.2	Soil	233g Clay,Rocks	03 Feb 2020	No Asbestos Found	<0.01
SE202429.002	BH12_1.3-1.5	Soil	311g Clay,Rocks	03 Feb 2020	No Asbestos Found	<0.01
SE202429.004	BH12_2.8-3.0	Soil	254g Clay,Rocks	03 Feb 2020	No Asbestos Found	<0.01

METHOD SUMMARY

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 unequivocably 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 limit 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 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.

(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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ANALYTICAL REPORT

Accreditation No. 2562

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Project	**E24445.E02 Tallawong Station,Rouse Hill**
Order Number	**E24445.E02**
Samples	3

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SGS Reference	**SE202482 R0**
Date Received	5/2/2020
Date Reported	12/2/2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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VOC's in Soil [AN433] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
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

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
Naphthalene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	**0.1**	<0.1
Pyrene	mg/kg	0.1	**0.2**	<0.1
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	<0.1	<0.1
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	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1

OP Pesticides in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
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

Soluble Anions (1:5) in Soil by Ion Chromatography [AN245] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
Chloride	mg/kg	0.25	420	460
Sulfate	mg/kg	5	45	63

Alkalinity in Soil [AN002/AN135] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	81	190
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	67	160

pH in soil (1:5) [AN101] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
pH	pH Units	0.1	**7.1**	**7.5**

Conductivity and TDS by Calculation - Soil [AN106] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	370	410

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
Exchangeable Sodium, Na	mg/kg	2	670	830
Exchangeable Sodium, Na	meq/100g	0.01	2.9	3.6
Exchangeable Sodium Percentage*	%	0.1	39.8	36.4
Exchangeable Potassium, K	mg/kg	2	130	200
Exchangeable Potassium, K	meq/100g	0.01	0.33	0.51
Exchangeable Potassium Percentage*	%	0.1	4.6	5.1
Exchangeable Calcium, Ca	mg/kg	2	56	150
Exchangeable Calcium, Ca	meq/100g	0.01	0.28	0.75
Exchangeable Calcium Percentage*	%	0.1	3.8	7.5
Exchangeable Magnesium, Mg	mg/kg	2	460	620
Exchangeable Magnesium, Mg	meq/100g	0.02	3.8	5.1
Exchangeable Magnesium Percentage*	%	0.1	51.8	51.0
Cation Exchange Capacity	meq/100g	0.02	7.3	9.9

Field pH for Acid Sulphate Soil [AN104] Tested: 11/2/2020

PARAMETER	UOM	LOR	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
pHf	pH Units	-	6.9	7.3
pHfox	pH Units	-	7.5	7.5
Reaction*	No unit	-	XXXX	XXXX
pH Difference*	pH Units	-10	-0.6	-0.3

Soil Texture (AS4419) [AN051] Tested: 11/2/2020

PARAMETER	UOM	LOR	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
Texture Classification*	No unit	1	Sandy Loam	Loamy Sand

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
Arsenic, As	mg/kg	1	9	7	-
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	-
Chromium, Cr	mg/kg	0.5	15	6.7	-
Copper, Cu	mg/kg	0.5	19	39	-
Lead, Pb	mg/kg	1	23	18	-
Nickel, Ni	mg/kg	0.5	11	87	-
Zinc, Zn	mg/kg	2	54	290	-
Calcium, Ca	mg/kg	5	-	74	860
Magnesium, Mg	mg/kg	5	-	710	940
Sodium, Na	mg/kg	5	-	790	800
Potassium, K	mg/kg	10	-	550	610
Manganese, Mn	mg/kg	1	-	2400	1100

Mercury in Soil [AN312] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
Mercury	mg/kg	0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002	BH13_3.5-4.0 SOIL - 4/2/2020 SE202482.003
% Moisture	%w/w	1	6.5	8.3	8.2

Fibre Identification in soil [AN602] Tested: 10/2/2020

PARAMETER	UOM	LOR	BH13_0.1-0.2 SOIL - 4/2/2020 SE202482.001	BH13_2.8-3.0 SOIL - 4/2/2020 SE202482.002
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
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.
AN051	A small sample of soil is kneaded with water and then pressed out into a ribbon. The behaviour of this ribbon is used to classify the soil into one of the texture classes in AS 4419.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pHFox is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines, method 23Af-Bf, 2004. X Slight Reaction XX Moderate Reaction XXX Strong/High Reaction XXXX Extreme/Vigorous Reaction (gas evolution and heat generation)
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
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 unequivocably 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 limit 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 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

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
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Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station,Rouse Hill**
Order Number	**E24445.E02**
Samples	2

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	**SE202482 R0**
Date Received	05 Feb 2020
Date Reported	12 Feb 2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Shane MCDERMOTT
Inorganic/Metals Chemist

ANALYTICAL REPORT

SE202482 R0

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202482.001	BH13_0.1-0.2	Soil	137g Clay,Sand,Rocks	04 Feb 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202482.002	BH13_2.8-3.0	Soil	194g Clay,Rocks	04 Feb 2020	No Asbestos Found	<0.01

METHOD SUMMARY

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 unequivocably 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 limit 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 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.

(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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	100

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	**SE202242A R0**
Date Received	20/2/2020
Date Reported	26/2/2020

COMMENTS

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

Analysis subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report Number CE144690

SIGNATORIES

Moisture Content [AN002] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242A.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242A.093
% Moisture	%w/w	0.5	**11**	**18**

TAA (Titratable Actual Acidity) [AN219] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242A.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242A.093
pH KCl*	pH Units	-	4.6	4.6
Titratable Actual Acidity	kg H2SO4/T	0.25	1.7	1.7
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	35	35
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	0.06	0.06
Sulphur (SKCl)	%w/w	0.005	-	-

Chromium Reducible Sulphur (CRS) [AN217] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242A.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242A.093
Chromium Reducible Sulphur (Scr)	%	0.005	0.008	0.006
Chromium Reducible Sulphur (Scr)	moles H+/T	5	<5	<5

Chromium Suite Net Acidity Calculations [AN220] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242A.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242A.093
s-Net Acidity	%w/w S	0.005	0.064	0.062
a-Net Acidity	moles H+/T	5	40	39
Liming Rate*	kg CaCO3/T	0.1	3.0	2.9
Verification s-Net Acidity*	%w/w S	-20	0.01	0.01
a-Net Acidity without ANCBT*	moles H+/T	5	40	39
Liming Rate without ANCBT*	kg CaCO3/T	0.1	3.0	2.9
s-Net Acidity without ANC	%w/w S	0.005	0.064	0.062

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.
AN014	This method is for the determination of soluble sulfate (SO4-S) by extraction with hydrochloric acid. Sulphides should not react and would normally be expelled. Sulfur is determined by ICP.
AN214	Acid Neutralising Capacity (ANC)or Neutralising Value (NV): The crushed or as received sample is reacted with excess normal acid (HCl) and then back titrated with standard sodium hydroxide to determine the acid consumed. The result is expressed as kg H2SO4/tonne or %CaCO3. Based on AS4969-13.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H2S) which is collected and titrated with iodine (I2(aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.
AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.

FOOTNOTES

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

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Solid samples expressed on a dry weight basis.

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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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Client	SGS EHS SYDNEY
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Email	au.environmental.sydney@sgs.com
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**SE202242A**
Samples	100

LABORATORY DETAILS

Manager	Anthony Nilsson
Laboratory	SGS Cairns Environmental
Address	Unit 2, 58 Comport St Portsmith QLD 4870
Telephone	+61 07 4035 5111
Facsimile	+61 07 4035 5122
Email	AU.Environmental.Cairns@sgs.com
SGS Reference	**CE144690 R0**
Date Received	20 Feb 2020
Date Reported	26 Feb 2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(3146).

SIGNATORIES

Anthony NILSSON
Operations Manager

Jon DICKER
Manager Northern QLD

Parameter	Units	LOR	CE144690.001	CE144690.002	CE144690.003	CE144690.004
		Sample Number	CE144690.001	CE144690.002	CE144690.003	CE144690.004
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	24 Jan 2020	24 Jan 2020	24 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.001	SE202242A.002	SE202242A.003	SE202242A.004
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.005	CE144690.006	CE144690.007	CE144690.008
		Sample Number	CE144690.005	CE144690.006	CE144690.007	CE144690.008
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	23 Jan 2020	22 Jan 2020
		Sample Name	SE202242A.005	SE202242A.006	SE202242A.007	SE202242A.008
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.009	CE144690.010	CE144690.011	CE144690.012
		Sample Number	CE144690.009	CE144690.010	CE144690.011	CE144690.012
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	22 Jan 2020	22 Jan 2020	22 Jan 2020	22 Jan 2020
		Sample Name	SE202242A.009	SE202242A.010	SE202242A.011	SE202242A.012
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	CE144690.013 Soil 22 Jan 2020 SE202242A.013	CE144690.014 Soil 22 Jan 2020 SE202242A.014	CE144690.015 Soil 22 Jan 2020 SE202242A.015	CE144690.016 Soil 22 Jan 2020 SE202242A.016
Moisture Content Method: AN002 Tested: 24/2/2020							
% Moisture	%w/w	0.5	-	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020							
pH KCl	pH Units	-	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020							
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020							
s-Net Acidity	%w/w S	0.005	-	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-	-

Parameter	Units	LOR	CE144690.017	CE144690.018	CE144690.019	CE144690.020
		Sample Number	CE144690.017	CE144690.018	CE144690.019	CE144690.020
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	22 Jan 2020	22 Jan 2020	22 Jan 2020	22 Jan 2020
		Sample Name	SE202242A.017	SE202242A.018	SE202242A.019	SE202242A.020
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.021	CE144690.022	CE144690.023	CE144690.024
		Sample Number	CE144690.021	CE144690.022	CE144690.023	CE144690.024
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	22 Jan 2020	22 Jan 2020	22 Jan 2020	22 Jan 2020
		Sample Name	SE202242A.021	SE202242A.022	SE202242A.023	SE202242A.024
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.025	CE144690.026	CE144690.027	CE144690.028
		Sample Number	CE144690.025	CE144690.026	CE144690.027	CE144690.028
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	22 Jan 2020	22 Jan 2020	22 Jan 2020	22 Jan 2020
		Sample Name	SE202242A.025	SE202242A.026	SE202242A.027	SE202242A.028
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.029	CE144690.030	CE144690.031	CE144690.032
		Sample Number	CE144690.029	CE144690.030	CE144690.031	CE144690.032
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	22 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.029	SE202242A.030	SE202242A.031	SE202242A.032
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.033	CE144690.034	CE144690.035	CE144690.036
		Sample Number	CE144690.033	CE144690.034	CE144690.035	CE144690.036
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.033	SE202242A.034	SE202242A.035	SE202242A.036
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.037	CE144690.038	CE144690.039	CE144690.040
		Sample Number	CE144690.037	CE144690.038	CE144690.039	CE144690.040
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.037	SE202242A.038	SE202242A.039	SE202242A.040
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.041	CE144690.042	CE144690.043	CE144690.044
Sample Number			CE144690.041	CE144690.042	CE144690.043	CE144690.044
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			23 Jan 2020	23 Jan 2020	23 Jan 2020	24 Jan 2020
Sample Name			SE202242A.041	SE202242A.042	SE202242A.043	SE202242A.044
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.045	CE144690.046	CE144690.047	CE144690.048
		Sample Number	CE144690.045	CE144690.046	CE144690.047	CE144690.048
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	24 Jan 2020	24 Jan 2020	24 Jan 2020	24 Jan 2020
		Sample Name	SE202242A.045	SE202242A.046	SE202242A.047	SE202242A.048
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.049	CE144690.050	CE144690.051	CE144690.052
		Sample Number	CE144690.049	CE144690.050	CE144690.051	CE144690.052
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	24 Jan 2020	24 Jan 2020	24 Jan 2020	24 Jan 2020
		Sample Name	SE202242A.049	SE202242A.050	SE202242A.051	SE202242A.052
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	CE144690.053 Soil 24 Jan 2020 SE202242A.053	CE144690.054 Soil 24 Jan 2020 SE202242A.054	CE144690.055 Soil 24 Jan 2020 SE202242A.055	CE144690.056 Soil 24 Jan 2020 SE202242A.056
Moisture Content Method: AN002 Tested: 24/2/2020							
% Moisture	%w/w	0.5	-	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020							
pH KCl	pH Units	-	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020							
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020							
s-Net Acidity	%w/w S	0.005	-	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-	-

Parameter	Units	LOR	CE144690.057	CE144690.058	CE144690.059	CE144690.060
		Sample Number	CE144690.057	CE144690.058	CE144690.059	CE144690.060
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.057	SE202242A.058	SE202242A.059	SE202242A.060
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.061	CE144690.062	CE144690.063	CE144690.064
Sample Number			CE144690.061	CE144690.062	CE144690.063	CE144690.064
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			23 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
Sample Name			SE202242A.061	SE202242A.062	SE202242A.063	SE202242A.064
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.065	CE144690.066	CE144690.067	CE144690.068
		Sample Number	CE144690.065	CE144690.066	CE144690.067	CE144690.068
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.065	SE202242A.066	SE202242A.067	SE202242A.068
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.069	CE144690.070	CE144690.071	CE144690.072
		Sample Number	CE144690.069	CE144690.070	CE144690.071	CE144690.072
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.069	SE202242A.070	SE202242A.071	SE202242A.072
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	CE144690.073 Soil 23 Jan 2020 SE202242A.073	CE144690.074 Soil 23 Jan 2020 SE202242A.074	CE144690.075 Soil 23 Jan 2020 SE202242A.075	CE144690.076 Soil 23 Jan 2020 SE202242A.076
Moisture Content Method: AN002 Tested: 24/2/2020							
% Moisture	%w/w	0.5	-	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020							
pH KCl	pH Units	-	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020							
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020							
s-Net Acidity	%w/w S	0.005	-	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-	-

Parameter	Units	LOR	CE144690.077	CE144690.078	CE144690.079	CE144690.080
		Sample Number	CE144690.077	CE144690.078	CE144690.079	CE144690.080
		Sample Matrix	Soil	Soil	Material	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	22 Jan 2020	22 Jan 2020
		Sample Name	SE202242A.077	SE202242A.078	SE202242A.079	SE202242A.080
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.081	CE144690.082	CE144690.083	CE144690.084
		Sample Number	CE144690.081	CE144690.082	CE144690.083	CE144690.084
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	22 Jan 2020	22 Jan 2020	22 Jan 2020	22 Jan 2020
		Sample Name	SE202242A.081	SE202242A.082	SE202242A.083	SE202242A.084
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.085	CE144690.086	CE144690.087	CE144690.088
		Sample Number	CE144690.085	CE144690.086	CE144690.087	CE144690.088
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	23 Jan 2020	23 Jan 2020	23 Jan 2020	23 Jan 2020
		Sample Name	SE202242A.085	SE202242A.086	SE202242A.087	SE202242A.088
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

Parameter	Units	LOR	CE144690.089	CE144690.090	CE144690.091	CE144690.092
Sample Number			CE144690.089	CE144690.090	CE144690.091	CE144690.092
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			23 Jan 2020	24 Jan 2020	24 Jan 2020	24 Jan 2020
Sample Name			SE202242A.089	SE202242A.090	SE202242A.091	SE202242A.092
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	**11**	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	**4.6**	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	**1.7**	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	**35**	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	**0.06**	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	**0.008**	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	<5	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	**0.064**	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	**0.064**	-
a-Net Acidity	moles H+/T	5	-	-	**40**	-
Liming Rate	kg CaCO3/T	0.1	-	-	**3.0**	-
Verification s-Net Acidity	%w/w S	-20	-	-	**0.01**	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	**40**	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	**3.0**	-

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	CE144690.093 Soil 24 Jan 2020 SE202242A.093	CE144690.094 Soil 24 Jan 2020 SE202242A.094	CE144690.095 Soil 28 Jan 2020 SE202242A.095	CE144690.096 Soil 28 Jan 2020 SE202242A.096
Moisture Content Method: AN002 Tested: 21/2/2020							
% Moisture	%w/w	0.5		**18**	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 25/2/2020							
pH KCl	pH Units	-		**4.6**	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25		**1.7**	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5		**35**	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01		**0.06**	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 25/2/2020							
Chromium Reducible Sulphur (Scr)	%	0.005		**0.006**	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5		<5	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020							
s-Net Acidity	%w/w S	0.005		**0.062**	-	-	-
s-Net Acidity without ANC	%w/w S	0.005		**0.062**	-	-	-
a-Net Acidity	moles H+/T	5		**39**	-	-	-
Liming Rate	kg CaCO3/T	0.1		**2.9**	-	-	-
Verification s-Net Acidity	%w/w S	-20		**0.01**	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5		**39**	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1		**2.9**	-	-	-

Parameter	Units	LOR	CE144690.097	CE144690.098	CE144690.099	CE144690.100
		Sample Number	CE144690.097	CE144690.098	CE144690.099	CE144690.100
		Sample Matrix	Soil	Soil	Soil	Soil
		Sample Date	28 Jan 2020	28 Jan 2020	28 Jan 2020	28 Jan 2020
		Sample Name	SE202242A.097	SE202242A.098	SE202242A.099	SE202242A.100
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	-	-
a-Net Acidity	moles H+/T	5	-	-	-	-
Liming Rate	kg CaCO3/T	0.1	-	-	-	-
Verification s-Net Acidity	%w/w S	-20	-	-	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	-	-

QC SUMMARY

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.

Chromium Reducible Sulphur (CRS) **Method: ME-(AU)-[ENV]AN217**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Chromium Reducible Sulphur (Scr)	LB076362	%	0.005	<0.005	0%	103%
Chromium Reducible Sulphur (Scr)	LB076362	moles H+/T	5	<5		

TAA (Titratable Actual Acidity) **Method: ME-(AU)-[ENV]AN219**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH KCl	LB076365	pH Units	-	6.0	0%	101%
Titratable Actual Acidity	LB076365	kg H2SO4/T	0.25	<0.25	0 - 1%	NA
Titratable Actual Acidity (TAA) moles H+/tonne	LB076365	moles H+/T	5	<5	0 - 1%	96%
Titratable Actual Acidity (TAA) S%w/w	LB076365	%w/w S	0.01	<0.01	0 - 1%	97%

METHOD SUMMARY

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.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H2S) which is collected and titrated with iodine (I2(aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.
AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.

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
		-	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 calcuated 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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ANALYTICAL REPORT

Accreditation No. 2562

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Order Number	**E24445.E02**
Samples	6

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SGS Reference	**SE202329A R0**
Date Received	20/2/2020
Date Reported	26/2/2020

COMMENTS

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

Analysis. subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report Number CE144694

SIGNATORIES

Moisture Content [AN002] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329A.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329A.005
% Moisture	%w/w	0.5	13	10

TAA (Titratable Actual Acidity) [AN219] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329A.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329A.005
pH KCl*	pH Units	-	5.3	4.6
Titratable Actual Acidity	kg H2SO4/T	0.25	0.49	0.86
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	10	17
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	0.02	0.03
Sulphur (SKCl)	%w/w	0.005	-	-

Chromium Reducible Sulphur (CRS) [AN217] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329A.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329A.005
Chromium Reducible Sulphur (Scr)	%	0.005	0.008	0.008
Chromium Reducible Sulphur (Scr)	moles H+/T	5	<5	<5

Chromium Suite Net Acidity Calculations [AN220] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH9_1.8-2.0 SOIL - 30/1/2020 SE202329A.002	BH10_1.8-2.0 SOIL - 30/1/2020 SE202329A.005
s-Net Acidity	%w/w S	0.005	0.024	0.036
a-Net Acidity	moles H+/T	5	15	22
Liming Rate*	kg CaCO3/T	0.1	NA	1.7
Verification s-Net Acidity*	%w/w S	-20	0.01	0.01
a-Net Acidity without ANCBT*	moles H+/T	5	15	22
Liming Rate without ANCBT*	kg CaCO3/T	0.1	NA	1.7
s-Net Acidity without ANC	%w/w S	0.005	0.024	0.036

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.
AN014	This method is for the determination of soluble sulfate (SO4-S) by extraction with hydrochloric acid. Sulphides should not react and would normally be expelled. Sulfur is determined by ICP.
AN214	Acid Neutralising Capacity (ANC)or Neutralising Value (NV): The crushed or as received sample is reacted with excess normal acid (HCl) and then back titrated with standard sodium hydroxide to determine the acid consumed. The result is expressed as kg H2SO4/tonne or %CaCO3. Based on AS4969-13.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H2S) which is collected and titrated with iodine (I2(aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.
AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.

FOOTNOTES

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

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Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**SE202329A**
Samples	6

LABORATORY DETAILS

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SGS Reference	**CE144694 R0**
Date Received	20 Feb 2020
Date Reported	26 Feb 2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(3146).

SIGNATORIES

Anthony NILSSON
Operations Manager

Jon DICKER
Manager Northern QLD

Parameter	Units	LOR	CE144694.001	CE144694.002	CE144694.003	CE144694.004
Sample Number			CE144694.001	CE144694.002	CE144694.003	CE144694.004
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			30 Jan 2020	30 Jan 2020	30 Jan 2020	30 Jan 2020
Sample Name			SE202329A.001	SE202329A.002	SE202329A.003	SE202329A.004
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	**13**	-	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	**5.3**	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	**0.49**	-	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	**10**	-	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	**0.02**	-	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	**0.008**	-	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	<5	-	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	**0.024**	-	-
s-Net Acidity without ANC	%w/w S	0.005	-	**0.024**	-	-
a-Net Acidity	moles H+/T	5	-	**15**	-	-
Liming Rate	kg CaCO3/T	0.1	-	NA	-	-
Verification s-Net Acidity	%w/w S	-20	-	**0.01**	-	-
a-Net Acidity without ANCBT	moles H+/T	5	-	**15**	-	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	NA	-	-

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name	CE144694.005 Soil 30 Jan 2020 SE202329A.005	CE144694.006 Soil 30 Jan 2020 SE202329A.006
Moisture Content Method: AN002 Tested: 21/2/2020					
% Moisture	%w/w	0.5		**10**	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 25/2/2020					
pH KCl	pH Units	-		**4.6**	-
Titratable Actual Acidity	kg H2SO4/T	0.25		**0.86**	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5		**17**	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01		**0.03**	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 25/2/2020					
Chromium Reducible Sulphur (Scr)	%	0.005		**0.008**	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5		<5	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020					
s-Net Acidity	%w/w S	0.005		**0.036**	-
s-Net Acidity without ANC	%w/w S	0.005		**0.036**	-
a-Net Acidity	moles H+/T	5		**22**	-
Liming Rate	kg CaCO3/T	0.1		**1.7**	-
Verification s-Net Acidity	%w/w S	-20		**0.01**	-
a-Net Acidity without ANCBT	moles H+/T	5		**22**	-
Liming Rate without ANCBT	kg CaCO3/T	0.1		**1.7**	-

QC SUMMARY

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.

Chromium Reducible Sulphur (CRS) **Method: ME-(AU)-[ENV]AN217**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Chromium Reducible Sulphur (Scr)	LB076362	%	0.005	<0.005	0%	103%
Chromium Reducible Sulphur (Scr)	LB076362	moles H+/T	5	<5		

TAA (Titratable Actual Acidity) **Method: ME-(AU)-[ENV]AN219**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH KCl	LB076365	pH Units	-	6.0	0%	101%
Titratable Actual Acidity	LB076365	kg H2SO4/T	0.25	<0.25	0 - 1%	NA
Titratable Actual Acidity (TAA) moles H+/tonne	LB076365	moles H+/T	5	<5	0 - 1%	96%
Titratable Actual Acidity (TAA) S%w/w	LB076365	%w/w S	0.01	<0.01	0 - 1%	97%

METHOD SUMMARY

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.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H2S) which is collected and titrated with iodine (I2(aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.
AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.

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
		-	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 calcuated 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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	5

LABORATORY DETAILS

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SGS Reference	**SE202429A R0**
Date Received	20/2/2020
Date Reported	26/2/2020

COMMENTS

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

Analysis subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report Number CE144691

SIGNATORIES

Moisture Content [AN002] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429A.003
% Moisture	%w/w	0.5	**20**

TAA (Titratable Actual Acidity) [AN219] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429A.003
pH KCl*	pH Units	-	**6.1**
Titratable Actual Acidity	kg H2SO4/T	0.25	<0.25
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	<5
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	<0.01
Sulphur (SKCl)	%w/w	0.005	-

Chromium Reducible Sulphur (CRS) [AN217] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429A.003
Chromium Reducible Sulphur (Scr)	%	0.005	**0.012**
Chromium Reducible Sulphur (Scr)	moles H+/T	5	**7**

Chromium Suite Net Acidity Calculations [AN220] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH12_1.8-2.0 SOIL - 3/2/2020 SE202429A.003
s-Net Acidity	%w/w S	0.005	**0.016**
a-Net Acidity	moles H+/T	5	**10**
Liming Rate*	kg CaCO3/T	0.1	NA
Verification s-Net Acidity*	%w/w S	-20	**0.01**
a-Net Acidity without ANCBT*	moles H+/T	5	**10**
Liming Rate without ANCBT*	kg CaCO3/T	0.1	NA
s-Net Acidity without ANC	%w/w S	0.005	**0.016**

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.
AN014	This method is for the determination of soluble sulfate (SO4-S) by extraction with hydrochloric acid. Sulphides should not react and would normally be expelled. Sulfur is determined by ICP.
AN214	Acid Neutralising Capacity (ANC)or Neutralising Value (NV): The crushed or as received sample is reacted with excess normal acid (HCl) and then back titrated with standard sodium hydroxide to determine the acid consumed. The result is expressed as kg H2SO4/tonne or %CaCO3. Based on AS4969-13.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H2S) which is collected and titrated with iodine (I2(aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.
AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.

FOOTNOTES

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

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Solid samples expressed on a dry weight basis.

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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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ANALYTICAL REPORT

Accreditation No. 2562

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Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**SE202429A**
Samples	5

LABORATORY DETAILS

Manager	Anthony Nilsson
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Facsimile	+61 07 4035 5122
Email	AU.Environmental.Cairns@sgs.com
SGS Reference	**CE144691 R0**
Date Received	20 Feb 2020
Date Reported	26 Feb 2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(3146).

SIGNATORIES

Anthony NILSSON
Operations Manager

Jon DICKER
Manager Northern QLD

Parameter	Units	LOR	CE144691.001	CE144691.002	CE144691.003	CE144691.004
Sample Number			CE144691.001	CE144691.002	CE144691.003	CE144691.004
Sample Matrix			Soil	Soil	Soil	Soil
Sample Date			02 Mar 2020	02 Mar 2020	02 Mar 2020	02 Mar 2020
Sample Name			SE202429A.001	SE202429A.002	SE202429A.003	SE202429A.004
Moisture Content Method: AN002 Tested: 24/2/2020						
% Moisture	%w/w	0.5	-	-	**20**	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020						
pH KCl	pH Units	-	-	-	**6.1**	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-	-	<0.25	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-	-	<5	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-	-	<0.01	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020						
Chromium Reducible Sulphur (Scr)	%	0.005	-	-	**0.012**	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-	-	**7**	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020						
s-Net Acidity	%w/w S	0.005	-	-	**0.016**	-
s-Net Acidity without ANC	%w/w S	0.005	-	-	**0.016**	-
a-Net Acidity	moles H+/T	5	-	-	**10**	-
Liming Rate	kg CaCO3/T	0.1	-	-	NA	-
Verification s-Net Acidity	%w/w S	-20	-	-	**0.01**	-
a-Net Acidity without ANCBT	moles H+/T	5	-	-	**10**	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-	-	NA	-

Parameter	Units	LOR	Sample Number: CE144691.005 Sample Matrix: Soil Sample Date: 02 Mar 2020 Sample Name: SE202429A.005
Moisture Content Method: AN002 Tested: 24/2/2020			
% Moisture	%w/w	0.5	-
TAA (Titratable Actual Acidity) Method: AN219 Tested: 26/2/2020			
pH KCl	pH Units	-	-
Titratable Actual Acidity	kg H2SO4/T	0.25	-
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	-
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	-
Chromium Reducible Sulphur (CRS) Method: AN217 Tested: 26/2/2020			
Chromium Reducible Sulphur (Scr)	%	0.005	-
Chromium Reducible Sulphur (Scr)	moles H+/T	5	-
Chromium Suite Net Acidity Calculations Method: AN220 Tested: 26/2/2020			
s-Net Acidity	%w/w S	0.005	-
s-Net Acidity without ANC	%w/w S	0.005	-
a-Net Acidity	moles H+/T	5	-
Liming Rate	kg CaCO3/T	0.1	-
Verification s-Net Acidity	%w/w S	-20	-
a-Net Acidity without ANCBT	moles H+/T	5	-
Liming Rate without ANCBT	kg CaCO3/T	0.1	-

QC SUMMARY

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.

Chromium Reducible Sulphur (CRS) **Method: ME-(AU)-[ENV]AN217**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Chromium Reducible Sulphur (Scr)	LB076362	%	0.005	<0.005	0%	103%
Chromium Reducible Sulphur (Scr)	LB076362	moles H+/T	5	<5		

TAA (Titratable Actual Acidity) **Method: ME-(AU)-[ENV]AN219**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH KCl	LB076365	pH Units	-	6.0	0%	101%
Titratable Actual Acidity	LB076365	kg H2SO4/T	0.25	<0.25	0 - 1%	NA
Titratable Actual Acidity (TAA) moles H+/tonne	LB076365	moles H+/T	5	<5	0 - 1%	96%
Titratable Actual Acidity (TAA) S%w/w	LB076365	%w/w S	0.01	<0.01	0 - 1%	97%

METHOD SUMMARY

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.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H2S) which is collected and titrated with iodine (I2(aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.
AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.

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
		-	The sample was not analysed for this analyte
		NVL	Not Validated

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Solid samples expressed on a dry weight basis.

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Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

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ANALYTICAL REPORT

Accreditation No. 2562

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Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	2

LABORATORY DETAILS

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SGS Reference	**SE202232 R0**
Date Received	28/1/2020
Date Reported	4/2/2020

COMMENTS

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

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

VOCs in Water [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
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

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
TRH C6-C9	µg/L	40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
TRH C10-C14	µg/L	50	<50	<50
TRH C15-C28	µg/L	200	<200	**210**
TRH C29-C36	µg/L	200	<200	<200
TRH C37-C40	µg/L	200	<200	<200
TRH >C10-C16	µg/L	60	<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

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Naphthalene	µg/L	0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1
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(b&j&k)fluoranthene	µg/L	0.2	<0.2	<0.2
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
Total PAH (18)	µg/L	1	<1	<1

Anions by Ion Chromatography in Water [AN245] Tested: 31/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Chloride	mg/L	1	93	99
Nitrate Nitrogen, NO3-N	mg/L	0.005	0.040	0.021
Sulfate, SO4	mg/L	1	18	17

Alkalinity [AN135] Tested: 31/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Total Alkalinity as CaCO3	mg/L	5	380	180

Nitrite in Water [AN277] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005

TKN Kjeldahl Digestion by Discrete Analyser [AN292] Tested: 3/2/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Total Kjeldahl Nitrogen	mg/L	0.05	1.3	1.7
Total Nitrogen (calc)	mg/L	0.05	1.3	1.7

Ammonia Nitrogen by Discrete Analyser (Aquakem) [AN291] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.05	0.07

Total Phosphorus by Kjeldahl Digestion DA in Water [AN279/AN293(Sydney only)] Tested: 3/2/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.05	0.12

pH in water [AN101] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
pH**	pH Units	0.1	7.8	7.7

Conductivity and TDS by Calculation - Water [AN106] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Conductivity @ 25 C	µS/cm	2	620	620

Total Phenolics in Water [AN289] Tested: 31/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Total Phenols	mg/L	0.05	<0.05	<0.05

Total Dissolved Solids (TDS) in water [AN113] Tested: 31/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Total Dissolved Solids Dried at 175-185°C	mg/L	10	380	380

Turbidity [AN119] Tested: 30/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Turbidity	NTU	0.5	7.7	18

Total Cyanide in water by Discrete Analyser (Aquakem) [AN077/AN287] Tested: 31/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Total Cyanide	mg/L	0.004	<0.004	<0.004

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 3/2/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Aluminium, Al	µg/L	5	48	120
Arsenic, As	µg/L	1	2	2
Cadmium, Cd	µg/L	0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1
Copper, Cu	µg/L	1	<1	<1
Lead, Pb	µg/L	1	<1	<1
Nickel, Ni	µg/L	1	1	1
Zinc, Zn	µg/L	5	9	11

Metals in Water (Dissolved) by ICPOES [AN320] Tested: 3/2/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Calcium, Ca	mg/L	0.1	28	28
Magnesium, Mg	mg/L	0.1	18	18
Sodium, Na	mg/L	0.1	78	77
Potassium, K	mg/L	0.2	11	11
Total Hardness by Calculation	mg CaCO3/L	1	140	140

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 31/1/2020

PARAMETER	UOM	LOR	DAM-NE WATER - 24/1/2020 SE202232.001	DAM-S WATER - 24/1/2020 SE202232.002
Mercury	mg/L	0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN077	Hydrogen cyanide is liberated from an acidified sample by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution. The scrubbing solution will then be analysed for cyanide by the appropriate method.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos /cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN119	Turbidity by Nepholometry: Small particles in a light beam scatter light at a range of angles. A turbidimeter measures this scatter and reports results compared to turbidity standards, in NTU. This procedure is not suitable for very dark coloured liquids or samples with high solids because light absorption causes artificially low light scatter and low turbidity. Reference APHA 2130B.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN277/WC250.312	Nitrite ions, when reacted with a reagent containing sulphanilamide and N-(1-naphthyl)-ethylenediamine dihydrochloride produce a highly coloured azo dye that is measured photometrically at 540nm.
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digestor with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Aquakem 250 Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN287	A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration by Aquakem DA.
AN289	Analysis of Total Phenols in Soil Sediment and Water: Steam distillable phenols react with 4-aminoantipyrine at pH 7.9±0.1 in the presence of potassium ferricyanide to form a coloured antipyrine dye analysed by Discrete Analyser. Reference APHA 5530 B/D.
AN291	Ammonia in solution reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 670 nm by Discrete Analyser.
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).
AN320	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.

AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
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 Recoveerable 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.
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	2

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SGS Reference	**SE202374 R0**
Date Received	3/2/2020
Date Reported	10/2/2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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VOC's in Soil [AN433] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
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

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Naphthalene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
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	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1

OP Pesticides in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
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

Soluble Anions (1:5) in Soil by Ion Chromatography [AN245] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Chloride	mg/kg	0.25	280
Sulfate	mg/kg	5	380

Alkalinity in Soil [AN002/AN135] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	<25
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25

pH in soil (1:5) [AN101] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
pH	pH Units	0.1	**6.9**

Conductivity and TDS by Calculation - Soil [AN106] Tested: 6/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	320

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Exchangeable Sodium, Na	mg/kg	2	600
Exchangeable Sodium, Na	meq/100g	0.01	2.6
Exchangeable Sodium Percentage*	%	0.1	22.6
Exchangeable Potassium, K	mg/kg	2	160
Exchangeable Potassium, K	meq/100g	0.01	0.41
Exchangeable Potassium Percentage*	%	0.1	3.6
Exchangeable Calcium, Ca	mg/kg	2	400
Exchangeable Calcium, Ca	meq/100g	0.01	2.0
Exchangeable Calcium Percentage*	%	0.1	17.4
Exchangeable Magnesium, Mg	mg/kg	2	790
Exchangeable Magnesium, Mg	meq/100g	0.02	6.5
Exchangeable Magnesium Percentage*	%	0.1	56.4
Cation Exchange Capacity	meq/100g	0.02	12

Field pH for Acid Sulphate Soil [AN104] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
pHf	pH Units	-	**6.6**
pHfox	pH Units	-	**4.9**
Reaction*	No unit	-	X
pH Difference*	pH Units	-10	**1.7**

Soil Texture (AS4419) [AN051] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Texture Classification*	No unit	1	Medium Clay

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Arsenic, As	mg/kg	1	2	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.6	16
Copper, Cu	mg/kg	0.5	7.1	15
Lead, Pb	mg/kg	1	17	33
Nickel, Ni	mg/kg	0.5	3.3	6.2
Zinc, Zn	mg/kg	2	120	180
Calcium, Ca	mg/kg	5	-	4000
Magnesium, Mg	mg/kg	5	-	1000
Sodium, Na	mg/kg	5	-	520
Potassium, K	mg/kg	10	-	420
Manganese, Mn	mg/kg	1	-	400

Mercury in Soil [AN312] Tested: 5/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Mercury	mg/kg	0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
% Moisture	%w/w	1	10.3	11.7

Fibre Identification in soil [AN602] Tested: 7/2/2020

PARAMETER	UOM	LOR	BH11_0.1-0.2 SOIL - 31/1/2020 SE202374.001	BH11_3.0-3.2 SOIL - 31/1/2020 SE202374.002
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
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.
AN051	A small sample of soil is kneaded with water and then pressed out into a ribbon. The behaviour of this ribbon is used to classify the soil into one of the texture classes in AS 4419.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pHFox is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines, method 23Af-Bf, 2004. X Slight Reaction XX Moderate Reaction XXX Strong/High Reaction XXXX Extreme/Vigorous Reaction (gas evolution and heat generation)
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
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 unequivocably 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 limit 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 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

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	2

LABORATORY DETAILS

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SGS Reference	**SE202374 R0**
Date Received	03 Feb 2020
Date Reported	10 Feb 2020

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

ANALYTICAL REPORT

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202374.001	BH11_0.1-0.2	Soil	82g Clay,Rocks	31 Jan 2020	No Asbestos Found	<0.01
SE202374.002	BH11_3.0-3.2	Soil	404g Clay,Rocks	31 Jan 2020	No Asbestos Found	<0.01

METHOD SUMMARY

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 unequivocably 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.
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AN602	The sample can be reported “no asbestos found at the reporting limit 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.

(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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CERTIFICATE OF ANALYSIS 235425

Client Details

Client	EI Australia
Attention	Nicholas Grbich
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E24445.E02, Rouse Hill**
Number of Samples	6 Soil
Date samples received	28/01/2020
Date completed instructions received	28/01/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	04/02/2020
Date of Issue	03/02/2020

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Results Approved By
Jaimie Loa-Kum-Cheung, Metals Supervisor
Josh Williams, Senior Chemist
Steven Luong, Organics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		235425-1	235425-2	235425-3	235425-4	235425-5
Your Reference	UNITS	QT1	QT2	QT3	QT4	QT5
Date Sampled		22/01/2020	22/01/2020	23/01/2020	23/01/2020	24/01/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020
Date analysed	-	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	93	95	93	96	95

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		235425-6
Your Reference	UNITS	QT6
Date Sampled		24/01/2020
Type of sample		Soil
Date extracted	-	29/01/2020
Date analysed	-	30/01/2020
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	88

svTRH (C10-C40) in Soil						
Our Reference		235425-1	235425-2	235425-3	235425-4	235425-5
Your Reference	UNITS	QT1	QT2	QT3	QT4	QT5
Date Sampled		22/01/2020	22/01/2020	23/01/2020	23/01/2020	24/01/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020
Date analysed	-	01/02/2020	01/02/2020	01/02/2020	01/02/2020	01/02/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	73	75	76	74

svTRH (C10-C40) in Soil		
Our Reference		235425-6
Your Reference	UNITS	QT6
Date Sampled		24/01/2020
Type of sample		Soil
Date extracted	-	29/01/2020
Date analysed	-	01/02/2020
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	77

Acid Extractable metals in soil						
Our Reference		235425-1	235425-2	235425-3	235425-4	235425-5
Your Reference	UNITS	QT1	QT2	QT3	QT4	QT5
Date Sampled		22/01/2020	22/01/2020	23/01/2020	23/01/2020	24/01/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020
Date analysed	-	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020
Arsenic	mg/kg	9	4	7	9	10
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	7	13	13	15
Copper	mg/kg	19	24	13	17	16
Lead	mg/kg	14	8	16	17	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	11	6	7	5
Zinc	mg/kg	43	39	30	38	30

Acid Extractable metals in soil		
Our Reference		235425-6
Your Reference	UNITS	QT6
Date Sampled		24/01/2020
Type of sample		Soil
Date prepared	-	29/01/2020
Date analysed	-	29/01/2020
Arsenic	mg/kg	5
Cadmium	mg/kg	<0.4
Chromium	mg/kg	11
Copper	mg/kg	24
Lead	mg/kg	11
Mercury	mg/kg	<0.1
Nickel	mg/kg	10
Zinc	mg/kg	38

Moisture						
Our Reference		235425-1	235425-2	235425-3	235425-4	235425-5
Your Reference	UNITS	QT1	QT2	QT3	QT4	QT5
Date Sampled		22/01/2020	22/01/2020	23/01/2020	23/01/2020	24/01/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020
Date analysed	-	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020
Moisture	%	6.8	9.1	7.3	6.9	14

Moisture		
Our Reference		235425-6
Your Reference	UNITS	QT6
Date Sampled		24/01/2020
Type of sample		Soil
Date prepared	-	29/01/2020
Date analysed	-	30/01/2020
Moisture	%	7.9

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	235425-2
Date extracted	-			29/01/2020	1	29/01/2020	29/01/2020		29/01/2020	29/01/2020
Date analysed	-			30/01/2020	1	30/01/2020	30/01/2020		30/01/2020	30/01/2020
TRH C_6 - C_9	mg/kg	25	Org-016	<25	1	<25	<25	0	115	109
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	1	<25	<25	0	115	109
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	107	101
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	111	105
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	119	113
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	118	113
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	118	112
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	97	1	93	91	2	100	97

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	235425-2
Date extracted	-			29/01/2020	1	29/01/2020	29/01/2020		29/01/2020	29/01/2020
Date analysed	-			01/02/2020	1	01/02/2020	01/02/2020		01/02/2020	01/02/2020
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	1	<50	<50	0	100	88
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	1	<100	<100	0	102	93
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	1	<100	<100	0	108	86
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	1	<50	<50	0	100	88
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	1	<100	<100	0	102	93
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	1	<100	<100	0	108	86
Surrogate o-Terphenyl	%		Org-003	74	1	75	75	0	86	73

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	235425-2
Date prepared	-			29/01/2020	1	29/01/2020	29/01/2020		29/01/2020	29/01/2020
Date analysed	-			29/01/2020	1	29/01/2020	29/01/2020		29/01/2020	29/01/2020
Arsenic	mg/kg	4	Metals-020	<4	1	9	6	40	105	89
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	102	81
Chromium	mg/kg	1	Metals-020	<1	1	11	9	20	106	85
Copper	mg/kg	1	Metals-020	<1	1	19	18	5	103	82
Lead	mg/kg	1	Metals-020	<1	1	14	12	15	104	84
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	122	103
Nickel	mg/kg	1	Metals-020	<1	1	11	10	10	102	81
Zinc	mg/kg	1	Metals-020	<1	1	43	39	10	106	71

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Li Wei
Client	EI AUSTRALIA
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Email	li.wei@eiaustralia.com.au
Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	5

LABORATORY DETAILS

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SGS Reference	**SE203349 R0**
Date Received	27/2/2020
Date Reported	5/3/2020

COMMENTS

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

PAH - The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.
TRH - Sample # 2 results based on the 5 times dilution due to sample matrix.

SIGNATORIES

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

VOCs in Water [AN433] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Benzene	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1
o-xylene	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
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
TRH C6-C9	µg/L	40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
TRH C10-C14	µg/L	50	98	180000	<50
TRH C15-C28	µg/L	200	<200	110000	<200
TRH C29-C36	µg/L	200	<200	71000	220
TRH C37-C40	µg/L	200	<200	30000	<200
TRH >C10-C16	µg/L	60	120	180000	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	120	180000	<60
TRH >C16-C34 (F3)	µg/L	500	<500	150000	<500
TRH >C34-C40 (F4)	µg/L	500	<500	48000	<500
TRH C10-C40	µg/L	320	<320	390000	<320

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Naphthalene	µg/L	0.1	<0.1	87	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	260	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	180	<0.1
Acenaphthylene	µg/L	0.1	<0.1	3.9	<0.1
Acenaphthene	µg/L	0.1	<0.1	1.5	<0.1
Fluorene	µg/L	0.1	<0.1	33	<0.1
Phenanthrene	µg/L	0.1	<0.1	130	<0.1
Anthracene	µg/L	0.1	<0.1	1.5	<0.1
Fluoranthene	µg/L	0.1	<0.1	5.3	<0.1
Pyrene	µg/L	0.1	<0.1	16	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	29	<0.1
Chrysene	µg/L	0.1	<0.1	18	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	15	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	5.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	6.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	5.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	4.0	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	23	<0.1
Total PAH (18)	µg/L	1	<1	820	<1

Anions by Ion Chromatography in Water [AN245] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Chloride	mg/L	1	750	660	3200
Sulfate, SO4	mg/L	1	89	150	400

Alkalinity [AN135] Tested: 4/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Total Alkalinity as CaCO3	mg/L	5	790	1900	420

pH in water [AN101] Tested: 28/2/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
pH**	No unit	-	7.0	7.2	7.8

Conductivity and TDS by Calculation - Water [AN106] Tested: 28/2/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Conductivity @ 25 C	µS/cm	2	4400	1700	9400

Metals in Water (Dissolved) by ICPOES [AN320] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Calcium, Ca	mg/L	0.1	80	46	110
Magnesium, Mg	mg/L	0.1	94	39	290
Sodium, Na	mg/L	0.1	640	310	1500
Potassium, K	mg/L	0.2	34	26	38

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 4/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Arsenic, As	µg/L	1	6	3	4
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	1
Copper, Cu	µg/L	1	<1	<1	6
Lead, Pb	µg/L	1	<1	<1	<1
Nickel, Ni	µg/L	1	11	8	7
Zinc, Zn	µg/L	5	<5	<5	<5
Manganese, Mn	µg/L	1	1700	1200	410

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH1M WATER - 26/2/2020 SE203349.001	BH2M WATER - 26/2/2020 SE203349.002	BH3M WATER - 26/2/2020 SE203349.003
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos /cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
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).
AN320	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
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 Recoveerable 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.
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

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Order Number	**E24445**
Samples	5

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SGS Reference	**SE203349A R0**
Date Received	6/3/2020
Date Reported	9/3/2020

COMMENTS

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

SIGNATORIES

Ly Kim HA
Organic Section Head

TRH Silica Gel (Total Recoverable Hydrocarbons - Silica Gel) in Water [AN403] Tested: 9/3/2020

PARAMETER	UOM	LOR	BH2M WATER - 26/2/2020 SE203349A.002
TRH C10-C14-Silica	µg/L	50	7200
TRH C15-C28-Silica	µg/L	200	3200
TRH C29-C36-Silica	µg/L	200	1600
TRH C37-C40-Silica	µg/L	200	330
TRH >C10-C16-Silica	µg/L	60	7200
TRH >C16-C34-Silica	µg/L	500	3900
TRH >C34-C40-Silica	µg/L	500	810
TRH Sum C10-C36-Silica	µg/L	450	12000
TRH Sum C10-C40-Silica	µg/L	650	12000

METHOD	METHODOLOGY SUMMARY
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.
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 Petroleum Hydrocarbons (TPH) 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.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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.

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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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ANALYTICAL REPORT

Accreditation No. 2562

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Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	8

LABORATORY DETAILS

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Date Reported	3/3/2020

COMMENTS

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VOCs in Water [AN433] Tested: 27/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004	GWQD1 WATER - 21/2/2020 SE203216.005
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5

PARAMETER	UOM	LOR	GWTB1 WATER - 21/2/2020 SE203216.006	GWTS1 WATER - 21/2/2020 SE203216.007	GWQR1 WATER - 21/2/2020 SE203216.008
Benzene	µg/L	0.5	<0.5	[95%]	<0.5
Toluene	µg/L	0.5	<0.5	[94%]	<0.5
Ethylbenzene	µg/L	0.5	<0.5	[92%]	<0.5
m/p-xylene	µg/L	1	<1	[93%]	<1
o-xylene	µg/L	0.5	<0.5	[93%]	<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

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 27/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004	GWQD1 WATER - 21/2/2020 SE203216.005
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	GWQR1 WATER - 21/2/2020 SE203216.008
TRH C6-C9	µg/L	40	<40
Benzene (F0)	µg/L	0.5	<0.5
TRH C6-C10	µg/L	50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004	GWQD1 WATER - 21/2/2020 SE203216.005
TRH C10-C14	µg/L	50	**170**	<50	<50	**70**	<50
TRH C15-C28	µg/L	200	**350**	<200	<200	<200	<200
TRH C29-C36	µg/L	200	**220**	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	**190**	<60	<60	**73**	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	**190**	<60	<60	**73**	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	**740**	<320	<320	<320	<320

PARAMETER	UOM	LOR	GWQR1 WATER - 21/2/2020 SE203216.008
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
TRH >C10-C16	µg/L	60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60
TRH >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C40	µg/L	320	<320

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004
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

Anions by Ion Chromatography in Water [AN245] Tested: 27/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004
Chloride	mg/L	1	2200	6300	3400	3800
Sulfate, SO4	mg/L	1	230	430	280	200

Alkalinity [AN135] Tested: 2/3/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004
Total Alkalinity as CaCO3	mg/L	5	1200	1000	600	710

pH in water [AN101] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004
pH**	No unit	-	6.7	6.3	6.7	6.9

Conductivity and TDS by Calculation - Water [AN106] Tested: 26/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004
Conductivity @ 25 C	µS/cm	2	8300	19000	12000	13000

Metals in Water (Dissolved) by ICPOES [AN320] Tested: 28/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004
Calcium, Ca	mg/L	0.1	140	160	110	170
Magnesium, Mg	mg/L	0.1	230	480	260	390
Sodium, Na	mg/L	0.1	1700	2300	1100	2200
Potassium, K	mg/L	0.2	30	36	30	49

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 27/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004	GWQD1 WATER - 21/2/2020 SE203216.005
Arsenic, As	µg/L	1	3	2	4	3	3
Cadmium, Cd	µg/L	0.1	<0.1	0.2	<0.1	<0.1	0.3
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	5	41	13	3	46
Lead, Pb	µg/L	1	<1	1	<1	<1	1
Nickel, Ni	µg/L	1	19	46	23	22	54
Zinc, Zn	µg/L	5	<5	100	42	44	100
Manganese, Mn	µg/L	1	3800	2100	1500	1100	-

PARAMETER	UOM	LOR	GWQR1 WATER - 21/2/2020 SE203216.008
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
Manganese, Mn	µg/L	1	-

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 27/2/2020

PARAMETER	UOM	LOR	BH7M WATER - 21/2/2020 SE203216.001	BH8M WATER - 21/2/2020 SE203216.002	BH11M WATER - 21/2/2020 SE203216.003	BH13M WATER - 21/2/2020 SE203216.004	GWQD1 WATER - 21/2/2020 SE203216.005
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

PARAMETER	UOM	LOR	GWQR1 WATER - 21/2/2020 SE203216.008
Mercury	mg/L	0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos /cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
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).
AN320	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
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 Recoveerable 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.
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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CERTIFICATE OF ANALYSIS 237393

Client Details

Client	EI Australia
Attention	Lab Email
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E24445, Rouse Hill**
Number of Samples	1 Water
Date samples received	24/02/2020
Date completed instructions received	24/02/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	02/03/2020
Date of Issue	02/03/2020

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Jaimie Loa-Kum-Cheung, Metals Supervisor
Steven Luong, Organics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water		
Our Reference		237393-1
Your Reference	UNITS	GWQT1
Date Sampled		21/02/2020
Type of sample		Water
Date extracted	-	25/02/2020
Date analysed	-	25/02/2020
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	116
Surrogate toluene-d8	%	101
Surrogate 4-BFB	%	111

svTRH (C10-C40) in Water		
Our Reference		237393-1
Your Reference	UNITS	GWQT1
Date Sampled		21/02/2020
Type of sample		Water
Date extracted	-	26/02/2020
Date analysed	-	27/02/2020
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	104

HM in water - dissolved		
Our Reference		237393-1
Your Reference	UNITS	GWQT1
Date Sampled		21/02/2020
Type of sample		Water
Date prepared	-	26/02/2020
Date analysed	-	26/02/2020
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	0.2
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	19
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	42
Zinc-Dissolved	µg/L	66

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			25/02/2020	[NT]	[NT]	[NT]	[NT]	25/02/2020	[NT]
Date analysed	-			25/02/2020	[NT]	[NT]	[NT]	[NT]	25/02/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-016	105	[NT]	[NT]	[NT]	[NT]	112	[NT]
Surrogate toluene-d8	%		Org-016	101	[NT]	[NT]	[NT]	[NT]	106	[NT]
Surrogate 4-BFB	%		Org-016	110	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			26/02/2020	[NT]	[NT]	[NT]	[NT]	26/02/2020	[NT]
Date analysed	-			27/02/2020	[NT]	[NT]	[NT]	[NT]	27/02/2020	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
Surrogate o-Terphenyl	%		Org-003	96	[NT]	[NT]	[NT]	[NT]	81	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date prepared	-			26/02/2020	[NT]	[NT]	[NT]	[NT]	26/02/2020	[NT]
Date analysed	-			26/02/2020	[NT]	[NT]	[NT]	[NT]	26/02/2020	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	88	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Nicholas Grbich
Client	EI AUSTRALIA
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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	9

LABORATORY DETAILS

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Laboratory	SGS Alexandria Environmental
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SGS Reference	**SE202233 R0**
Date Received	28/1/2020
Date Reported	4/2/2020

COMMENTS

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

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

VOC's in Soil [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	QD1 SOIL - 22/1/2020 SE202233.001	QD2 SOIL - 22/1/2020 SE202233.002	QD3 SOIL - 23/1/2020 SE202233.003	QD4 SOIL - 23/1/2020 SE202233.004	QD5 SOIL - 24/1/2020 SE202233.005
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	QD6 SOIL - 24/1/2020 SE202233.006	TB1 SOIL - 24/1/2020 SE202233.008	TS1 SOIL - 24/1/2020 SE202233.009
Benzene	mg/kg	0.1	<0.1	<0.1	[103%]
Toluene	mg/kg	0.1	<0.1	<0.1	[106%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	[107%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	[107%]
o-xylene	mg/kg	0.1	<0.1	<0.1	[106%]
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	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	QD1 SOIL - 22/1/2020 SE202233.001	QD2 SOIL - 22/1/2020 SE202233.002	QD3 SOIL - 23/1/2020 SE202233.003	QD4 SOIL - 23/1/2020 SE202233.004	QD5 SOIL - 24/1/2020 SE202233.005
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	QD6 SOIL - 24/1/2020 SE202233.006	TB1 SOIL - 24/1/2020 SE202233.008	TS1 SOIL - 24/1/2020 SE202233.009
TRH C6-C9	mg/kg	20	<20	-	-
Benzene (F0)	mg/kg	0.1	<0.1	-	-
TRH C6-C10	mg/kg	25	<25	-	-
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	-	-

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020

PARAMETER	UOM	LOR	QD1 SOIL - 22/1/2020 SE202233.001	QD2 SOIL - 22/1/2020 SE202233.002	QD3 SOIL - 23/1/2020 SE202233.003	QD4 SOIL - 23/1/2020 SE202233.004	QD5 SOIL - 24/1/2020 SE202233.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	**53**	<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	QD6 SOIL - 24/1/2020 SE202233.006
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

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 30/1/2020

PARAMETER	UOM	LOR	QD1 SOIL - 22/1/2020 SE202233.001	QD2 SOIL - 22/1/2020 SE202233.002	QD3 SOIL - 23/1/2020 SE202233.003	QD4 SOIL - 23/1/2020 SE202233.004	QD5 SOIL - 24/1/2020 SE202233.005
Arsenic, As	mg/kg	1	10	9	11	11	13
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	14	13	16	15	16
Copper, Cu	mg/kg	0.5	22	34	18	19	15
Lead, Pb	mg/kg	1	24	20	26	27	24
Nickel, Ni	mg/kg	0.5	13	19	9.2	13	7.0
Zinc, Zn	mg/kg	2	66	75	54	77	39

PARAMETER	UOM	LOR	QD6 SOIL - 24/1/2020 SE202233.006
Arsenic, As	mg/kg	1	8
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	14
Copper, Cu	mg/kg	0.5	27
Lead, Pb	mg/kg	1	19
Nickel, Ni	mg/kg	0.5	16
Zinc, Zn	mg/kg	2	58

Mercury in Soil [AN312] Tested: 30/1/2020

PARAMETER	UOM	LOR	QD1 SOIL - 22/1/2020 SE202233.001	QD2 SOIL - 22/1/2020 SE202233.002	QD3 SOIL - 23/1/2020 SE202233.003	QD4 SOIL - 23/1/2020 SE202233.004	QD5 SOIL - 24/1/2020 SE202233.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	QD6 SOIL - 24/1/2020 SE202233.006
Mercury	mg/kg	0.05	<0.05

Moisture Content [AN002] Tested: 30/1/2020

PARAMETER	UOM	LOR	QD1 SOIL - 22/1/2020 SE202233.001	QD2 SOIL - 22/1/2020 SE202233.002	QD3 SOIL - 23/1/2020 SE202233.003	QD4 SOIL - 23/1/2020 SE202233.004	QD5 SOIL - 24/1/2020 SE202233.005
% Moisture	%w/w	1	6.2	6.9	8.7	7.2	8.3

PARAMETER	UOM	LOR	QD6 SOIL - 24/1/2020 SE202233.006	TB1 SOIL - 24/1/2020 SE202233.008
% Moisture	%w/w	1	8.2	<1.0

VOCs in Water [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	QR1 WATER - 24/1/2020 SE202233.007
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
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	QR1 WATER - 24/1/2020 SE202233.007
TRH C6-C9	µg/L	40	<40
Benzene (F0)	µg/L	0.5	<0.5
TRH C6-C10	µg/L	50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 30/1/2020

PARAMETER	UOM	LOR	QR1 WATER - 24/1/2020 SE202233.007
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
TRH >C10-C16	µg/L	60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60
TRH >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C40	µg/L	320	<320

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 30/1/2020

PARAMETER	UOM	LOR	QR1 WATER - 24/1/2020 SE202233.007
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	**15**

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 31/1/2020

PARAMETER	UOM	LOR	QR1 WATER - 24/1/2020 SE202233.007
Mercury	mg/L	0.0001	<0.0001

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.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
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.
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.
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
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4). and .
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.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	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:

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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	100

LABORATORY DETAILS

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SGS Reference	**SE202242 R0**
Date Received	28/1/2020
Date Reported	5/2/2020

COMMENTS

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

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

Sample #: 5, 7, 31, 33, 35, 37, 39, 41, 43, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78: A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.
Sample #61: Asbestos found in approx 30x25x4mm cement sheet fragment.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Organic Chemist/Metals Chemist

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

VOC's in Soil [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
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	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
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	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
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	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
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

VOC's in Soil [AN433] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
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	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
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	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
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	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
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

VOC's in Soil [AN433] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<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	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
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

VOC's in Soil [AN433] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
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	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
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	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
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	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
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

VOC's in Soil [AN433] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
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	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
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	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
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	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
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	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
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	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
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	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
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	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
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

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
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	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
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	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
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

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
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	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
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	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
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	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
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	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
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	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
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

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
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	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
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	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
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

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	75	<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	99	<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	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
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	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
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	**52**	<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	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
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	**55**	<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	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	**750**
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	**1700**
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	**190**
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	**1300**
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	**1300**
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	**1300**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	**2700**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	**2600**

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
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	**46**	<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	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	**26**
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	**55**
TRH C29-C36	mg/kg	45	<45	<45	<45	**74**	**120**
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	**91**	**130**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	**200**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	**45**	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
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	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
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	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
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	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	**48**
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	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	**52**	**49**	**50**
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
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	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
Naphthalene	mg/kg	0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	**0.5**	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	**0.4**	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.1**
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	**1.2**	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
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	**0.2**	**0.1**	<0.1	**0.3**
Pyrene	mg/kg	0.1	<0.1	**0.2**	**0.1**	<0.1	**0.2**
Benzo(a)anthracene	mg/kg	0.1	<0.1	**0.2**	<0.1	<0.1	**0.1**
Chrysene	mg/kg	0.1	<0.1	**0.2**	<0.1	<0.1	**0.1**
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	**0.3**	<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	**0.2**	<0.1	<0.1	**0.1**
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	**0.2**	<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	**0.2**	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	**0.3**	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	**0.4**	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	**0.4**	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	**1.9**	<0.8	<0.8	**0.9**
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	**1.9**	<0.8	<0.8	**0.9**

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
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	**0.2**
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	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
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	**0.2**	<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	**0.3**	<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	**0.3**	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.3**	<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	**0.3**	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	**0.4**	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	**0.5**	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	**0.4**	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	**1.9**	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	**1.9**	<0.8

PARAMETER	UOM	LOR	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
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	**0.2**	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	**0.3**	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	**0.3**	<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	**0.2**	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	**0.2**	<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	**0.2**	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	**0.3**	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	**0.4**	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	**0.3**	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	**2.0**	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	**2.0**	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**6.7**
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**4.3**
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.4**
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**1.6**
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**1.8**
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	**15**
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	**4.2**

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
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	**0.2**	<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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
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	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
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	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.4**
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.4**
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
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	**0.2**
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	**0.3**
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	**2.0**
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	**2.0**

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.1**
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.1**
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<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**	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	**0.2**	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	**0.3**	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.2**	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	**0.2**	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	**0.2**	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	**0.3**	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	**0.3**	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	**1.6**	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	**1.6**	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<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	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<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	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<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	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<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	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
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

OP Pesticides in Soil [AN420] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	0.3	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
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

PCBs in Soil [AN420] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
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	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
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	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
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

PCBs in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
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	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
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	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
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

PCBs in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
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	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
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	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
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

PCBs in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
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	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
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	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
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

PCBs in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
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	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
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	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
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

PCBs in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
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	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
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	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
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

PCBs in Soil [AN420] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
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

Soluble Anions (1:5) in Soil by Ion Chromatography [AN245] Tested: 30/1/2020

PARAMETER	UOM	LOR	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089
Chloride	mg/kg	0.25	120	170	770	170	390
Sulfate	mg/kg	5	230	140	140	47	100

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097
Chloride	mg/kg	0.25	240	400	770	400	560
Sulfate	mg/kg	5	190	220	150	140	130

PARAMETER	UOM	LOR	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Chloride	mg/kg	0.25	410	530
Sulfate	mg/kg	5	230	130

Alkalinity in Soil [AN002/AN135] Tested: 31/1/2020

PARAMETER	UOM	LOR	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	67	83	62	31	180
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25	<25	<25	<25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25	<25	<25	<25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	55	68	51	25	150

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	<25	130	220	820	810
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25	<25	<25	<25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25	<25	<25	<25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25	110	180	670	660

PARAMETER	UOM	LOR	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Bicarbonate Alkalinity as HCO3 in Soil*	mg/kg	25	310	690
Carbonate Alkalinity as CO3 in Soil*	mg/kg	25	<25	<25
Hydroxide Alkalinity as OH in Soil*	mg/kg	25	<25	<25
Total Alkalinity as CaCO3 in Soil*	mg/kg	25	250	560

pH in soil (1:5) [AN101] Tested: 31/1/2020

PARAMETER	UOM	LOR	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089
pH	pH Units	0.1	5.8	6.6	4.8	4.9	6.9

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097
pH	pH Units	0.1	4.9	4.9	7.8	8.1	8.2

PARAMETER	UOM	LOR	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
pH	pH Units	0.1	7.6	8.6

Field pH for Acid Sulphate Soil [AN104] Tested: 4/2/2020

PARAMETER	UOM	LOR	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089
pHf	pH Units	-	6.0	6.6	5.2	5.1	7.2
pHfox	pH Units	-	4.8	7.1	4.2	3.9	8.0
Reaction*	No unit	-	x	xxxx	x	x	xxxx
pH Difference*	pH Units	-10	1.2	-0.5	1.0	1.2	-0.8

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097
pHf	pH Units	-	5.2	5.1	7.4	8.3	8.6
pHfox	pH Units	-	4.0	3.7	7.8	5.7	7.2
Reaction*	No unit	-	x	x	xxxx	xxxx	xxxx
pH Difference*	pH Units	-10	1.2	1.4	-0.3	2.6	1.4

PARAMETER	UOM	LOR	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
pHf	pH Units	-	7.7	8.8
pHfox	pH Units	-	6.7	8.6
Reaction*	No unit	-	xxxx	xxxx
pH Difference*	pH Units	-10	1.1	0.2

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 31/1/2020

PARAMETER	UOM	LOR	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089
Exchangeable Sodium, Na	mg/kg	2	500	580	840	310	800
Exchangeable Sodium, Na	meq/100g	0.01	2.2	2.5	3.7	1.4	3.5
Exchangeable Sodium Percentage*	%	0.1	27.5	31.0	43.0	18.0	35.0
Exchangeable Potassium, K	mg/kg	2	150	200	150	95	140
Exchangeable Potassium, K	meq/100g	0.01	0.39	0.52	0.39	0.24	0.35
Exchangeable Potassium Percentage*	%	0.1	5.0	6.3	4.5	3.2	3.5
Exchangeable Calcium, Ca	mg/kg	2	380	220	27	42	65
Exchangeable Calcium, Ca	meq/100g	0.01	1.9	1.1	0.13	0.21	0.32
Exchangeable Calcium Percentage*	%	0.1	24.2	13.2	1.6	2.8	3.3
Exchangeable Magnesium, Mg	mg/kg	2	410	490	530	700	700
Exchangeable Magnesium, Mg	meq/100g	0.02	3.4	4.1	4.4	5.7	5.8
Exchangeable Magnesium Percentage*	%	0.1	43.3	49.5	51.0	76.0	58.3
Cation Exchange Capacity	meq/100g	0.02	7.9	8.2	8.5	7.6	9.9

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097
Exchangeable Sodium, Na	mg/kg	2	280	720	1300	800	890
Exchangeable Sodium, Na	meq/100g	0.01	1.2	3.1	5.4	3.5	3.9
Exchangeable Sodium Percentage*	%	0.1	14.5	26.5	43.5	17.5	17.9
Exchangeable Potassium, K	mg/kg	2	130	140	200	180	200
Exchangeable Potassium, K	meq/100g	0.01	0.32	0.36	0.52	0.47	0.51
Exchangeable Potassium Percentage*	%	0.1	3.8	3.0	4.1	2.4	2.3
Exchangeable Calcium, Ca	mg/kg	2	380	100	34	2300	2700
Exchangeable Calcium, Ca	meq/100g	0.01	1.9	0.51	0.17	12	13
Exchangeable Calcium Percentage*	%	0.1	22.2	4.3	1.4	59.2	61.7
Exchangeable Magnesium, Mg	mg/kg	2	610	960	780	500	480
Exchangeable Magnesium, Mg	meq/100g	0.02	5.0	7.8	6.4	4.1	3.9
Exchangeable Magnesium Percentage*	%	0.1	59.5	66.1	51.0	20.9	18.1
Cation Exchange Capacity	meq/100g	0.02	8.5	12	13	20	22

PARAMETER	UOM	LOR	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Exchangeable Sodium, Na	mg/kg	2	700	690
Exchangeable Sodium, Na	meq/100g	0.01	3.0	3.0
Exchangeable Sodium Percentage*	%	0.1	25.1	15.8
Exchangeable Potassium, K	mg/kg	2	120	200
Exchangeable Potassium, K	meq/100g	0.01	0.32	0.52
Exchangeable Potassium Percentage*	%	0.1	2.6	2.7
Exchangeable Calcium, Ca	mg/kg	2	310	2200
Exchangeable Calcium, Ca	meq/100g	0.01	1.5	11
Exchangeable Calcium Percentage*	%	0.1	12.7	58.3
Exchangeable Magnesium, Mg	mg/kg	2	880	540
Exchangeable Magnesium, Mg	meq/100g	0.02	7.2	4.4
Exchangeable Magnesium Percentage*	%	0.1	59.6	23.2
Cation Exchange Capacity	meq/100g	0.02	12	19

Conductivity and TDS by Calculation - Soil [AN106] Tested: 31/1/2020

PARAMETER	UOM	LOR	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	200	240	540	150	360

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	250	370	740	610	720

PARAMETER	UOM	LOR	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	400	560

Soil Texture (AS4419) [AN051] Tested: 31/1/2020

PARAMETER	UOM	LOR	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089
Texture Classification*	No unit	1	Sandy Clay	Clay Loam	Medium Clay	Heavy Clay	Light Clay

PARAMETER	UOM	LOR	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097
Texture Classification*	No unit	1	Medium Clay	Heavy Clay	Medium Clay	Heavy Clay	Sandy Clay

PARAMETER	UOM	LOR	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Texture Classification*	No unit	1	Heavy Clay	Sandy Clay

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
Arsenic, As	mg/kg	1	6	4	7	7	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.7	7.9	10	11	3.8
Copper, Cu	mg/kg	0.5	19	20	17	36	7.5
Lead, Pb	mg/kg	1	17	19	17	30	8
Nickel, Ni	mg/kg	0.5	11	10	11	4.3	1.4
Zinc, Zn	mg/kg	2	51	42	39	49	12
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
Arsenic, As	mg/kg	1	7	3	7	5	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	2.9	8.8	4.3	8.7
Copper, Cu	mg/kg	0.5	14	9.3	17	17	16
Lead, Pb	mg/kg	1	29	9	19	12	14
Nickel, Ni	mg/kg	0.5	7.2	4.3	9.2	13	9.4
Zinc, Zn	mg/kg	2	40	22	47	67	38
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
Arsenic, As	mg/kg	1	13	7	7	6	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	10	10	9.0	6.9	8.1
Copper, Cu	mg/kg	0.5	21	17	16	21	21
Lead, Pb	mg/kg	1	23	19	22	18	13
Nickel, Ni	mg/kg	0.5	8.6	8.2	4.9	12	7.9
Zinc, Zn	mg/kg	2	62	45	36	55	35
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
Arsenic, As	mg/kg	1	4	6	7	7	10
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.0	8.0	44	11	16
Copper, Cu	mg/kg	0.5	31	28	19	15	13
Lead, Pb	mg/kg	1	10	17	22	19	16
Nickel, Ni	mg/kg	0.5	8.7	13	5.8	6.9	5.2
Zinc, Zn	mg/kg	2	35	49	41	39	32
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
Arsenic, As	mg/kg	1	8	7	6	6	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	8.1	11	23	16
Copper, Cu	mg/kg	0.5	13	15	58	19	24
Lead, Pb	mg/kg	1	24	12	14	14	14
Nickel, Ni	mg/kg	0.5	11	9.1	14	19	19
Zinc, Zn	mg/kg	2	41	46	55	61	60
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
Arsenic, As	mg/kg	1	8	7	5	8	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	11	15	11	13
Copper, Cu	mg/kg	0.5	17	15	22	17	18
Lead, Pb	mg/kg	1	17	14	12	15	18
Nickel, Ni	mg/kg	0.5	10	10	17	9.4	7.6
Zinc, Zn	mg/kg	2	55	60	60	55	50
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
Arsenic, As	mg/kg	1	8	5	10	7	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	14	11	20	10	15
Copper, Cu	mg/kg	0.5	7.2	22	15	12	8.4
Lead, Pb	mg/kg	1	13	11	21	16	15
Nickel, Ni	mg/kg	0.5	3.5	17	5.9	5.6	16
Zinc, Zn	mg/kg	2	20	52	38	34	48
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
Arsenic, As	mg/kg	1	7	7	7	3	7
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	9.7	11	4.5	11
Copper, Cu	mg/kg	0.5	15	12	23	15	10
Lead, Pb	mg/kg	1	17	10	31	11	16
Nickel, Ni	mg/kg	0.5	7.7	3.0	11	15	5.7
Zinc, Zn	mg/kg	2	45	25	70	52	33
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
Arsenic, As	mg/kg	1	8	7	2	4	7
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	12	4.0	12	14
Copper, Cu	mg/kg	0.5	13	13	14	12	6.0
Lead, Pb	mg/kg	1	13	18	10	300	15
Nickel, Ni	mg/kg	0.5	6.5	8.1	7.0	8.9	1.9
Zinc, Zn	mg/kg	2	41	44	39	59	12
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
Arsenic, As	mg/kg	1	10	7	8	6	10
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	26	13	15	11	9.4
Copper, Cu	mg/kg	0.5	12	14	8.7	18	16
Lead, Pb	mg/kg	1	27	18	14	23	9
Nickel, Ni	mg/kg	0.5	5.3	7.5	5.5	9.1	4.3
Zinc, Zn	mg/kg	2	33	49	100	54	57
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
Arsenic, As	mg/kg	1	9	13	9	7	7
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	20	16	16	17
Copper, Cu	mg/kg	0.5	15	21	11	8.4	11
Lead, Pb	mg/kg	1	18	19	21	13	19
Nickel, Ni	mg/kg	0.5	4.3	7.6	6.3	3.9	8.6
Zinc, Zn	mg/kg	2	36	80	47	27	43
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
Arsenic, As	mg/kg	1	<1	5	5	8	9
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	1.6	11	8.1	14	8.1
Copper, Cu	mg/kg	0.5	7.7	11	9.7	15	24
Lead, Pb	mg/kg	1	7	16	9	20	16
Nickel, Ni	mg/kg	0.5	1.6	7.3	2.9	9.2	50
Zinc, Zn	mg/kg	2	16	39	23	55	170
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
Arsenic, As	mg/kg	1	8	5	8	11	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	9.1	14	15	13
Copper, Cu	mg/kg	0.5	12	9.4	21	18	26
Lead, Pb	mg/kg	1	20	11	37	21	22
Nickel, Ni	mg/kg	0.5	7.2	3.6	19	6.6	6.0
Zinc, Zn	mg/kg	2	39	9.8	74	69	40
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
Arsenic, As	mg/kg	1	5	6	7	7	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	7.8	17	12	10
Copper, Cu	mg/kg	0.5	6.3	19	7.7	13	9.5
Lead, Pb	mg/kg	1	8	14	12	17	9
Nickel, Ni	mg/kg	0.5	6.0	14	4.6	6.1	3.1
Zinc, Zn	mg/kg	2	26	68	34	35	22
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

PARAMETER	UOM	LOR	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
Arsenic, As	mg/kg	1	7	7	9	7	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	14	12	20	12
Copper, Cu	mg/kg	0.5	27	7.8	10	7.6	12
Lead, Pb	mg/kg	1	18	19	18	14	20
Nickel, Ni	mg/kg	0.5	7.1	3.1	3.7	6.2	6.1
Zinc, Zn	mg/kg	2	37	20	25	30	54
Calcium, Ca	mg/kg	5	-	-	-	-	-
Magnesium, Mg	mg/kg	5	-	-	-	-	-
Sodium, Na	mg/kg	5	-	-	-	-	-
Potassium, K	mg/kg	10	-	-	-	-	-
Manganese, Mn	mg/kg	1	-	-	-	-	-

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081
Arsenic, As	mg/kg	1	7	6	4	6	-
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	-
Chromium, Cr	mg/kg	0.5	21	8.3	5.8	9.2	-
Copper, Cu	mg/kg	0.5	6.5	13	7.5	20	-
Lead, Pb	mg/kg	1	11	19	8	13	-
Nickel, Ni	mg/kg	0.5	3.1	4.2	1.4	13	-
Zinc, Zn	mg/kg	2	24	32	11	64	-
Calcium, Ca	mg/kg	5	-	-	-	-	310
Magnesium, Mg	mg/kg	5	-	-	-	-	500
Sodium, Na	mg/kg	5	-	-	-	-	370
Potassium, K	mg/kg	10	-	-	-	-	440
Manganese, Mn	mg/kg	1	-	-	-	-	62

PARAMETER	UOM	LOR	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086
Arsenic, As	mg/kg	1	7	6	6	5	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	9.0	12	5.4	9.6	2.9
Copper, Cu	mg/kg	0.5	25	17	20	22	10
Lead, Pb	mg/kg	1	14	16	11	11	15
Nickel, Ni	mg/kg	0.5	32	8.8	3.1	14	2.0
Zinc, Zn	mg/kg	2	140	49	36	51	22
Calcium, Ca	mg/kg	5	1000	-	-	-	52
Magnesium, Mg	mg/kg	5	860	-	-	-	560
Sodium, Na	mg/kg	5	580	-	-	-	920
Potassium, K	mg/kg	10	720	-	-	-	440
Manganese, Mn	mg/kg	1	1000	-	-	-	7

PARAMETER	UOM	LOR	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091
Arsenic, As	mg/kg	1	6	-	7	7	4
Cadmium, Cd	mg/kg	0.3	<0.3	-	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	-	9.5	16	3.0
Copper, Cu	mg/kg	0.5	39	-	31	17	9.7
Lead, Pb	mg/kg	1	13	-	15	23	10
Nickel, Ni	mg/kg	0.5	16	-	57	14	2.0
Zinc, Zn	mg/kg	2	53	-	160	59	15
Calcium, Ca	mg/kg	5	-	37	370	-	460
Magnesium, Mg	mg/kg	5	-	860	1000	-	730
Sodium, Na	mg/kg	5	-	440	720	-	360
Potassium, K	mg/kg	10	-	320	460	-	340
Manganese, Mn	mg/kg	1	-	17	580	-	10

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096
Arsenic, As	mg/kg	1	8	-	3	9	-
Cadmium, Cd	mg/kg	0.3	<0.3	-	<0.3	<0.3	-
Chromium, Cr	mg/kg	0.5	13	-	5.9	14	-
Copper, Cu	mg/kg	0.5	12	-	29	18	-
Lead, Pb	mg/kg	1	18	-	14	21	-
Nickel, Ni	mg/kg	0.5	5.6	-	48	8.2	-
Zinc, Zn	mg/kg	2	37	-	180	51	-
Calcium, Ca	mg/kg	5	-	100	50	-	5000
Magnesium, Mg	mg/kg	5	-	1000	770	-	2000
Sodium, Na	mg/kg	5	-	770	990	-	770
Potassium, K	mg/kg	10	-	380	530	-	620
Manganese, Mn	mg/kg	1	-	17	2200	-	720

PARAMETER	UOM	LOR	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Arsenic, As	mg/kg	1	7	10	-	10
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	-	<0.3
Chromium, Cr	mg/kg	0.5	10	16	-	11
Copper, Cu	mg/kg	0.5	23	22	-	28
Lead, Pb	mg/kg	1	18	23	-	19
Nickel, Ni	mg/kg	0.5	19	15	-	18
Zinc, Zn	mg/kg	2	83	57	-	81
Calcium, Ca	mg/kg	5	8800	-	450	8300
Magnesium, Mg	mg/kg	5	2200	-	1100	4100
Sodium, Na	mg/kg	5	870	-	760	670
Potassium, K	mg/kg	10	750	-	560	720
Manganese, Mn	mg/kg	1	740	-	440	730

Mercury in Soil [AN312] Tested: 31/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
Mercury	mg/kg	0.05	<0.05	0.06	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Mercury in Soil [AN312] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Mercury in Soil [AN312] Tested: 31/1/2020 (continued)

PARAMETER	UOM	LOR	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
Mercury	mg/kg	0.05	0.07	0.05	0.09	<0.05	<0.05

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 30/1/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
% Moisture	%w/w	1	11.2	16.8	8.6	15.0	16.0

PARAMETER	UOM	LOR	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
% Moisture	%w/w	1	8.1	2.6	7.4	7.5	6.6

PARAMETER	UOM	LOR	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
% Moisture	%w/w	1	19.7	5.5	12.6	9.3	8.3

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
% Moisture	%w/w	1	5.0	10.6	10.4	9.3	15.4

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
% Moisture	%w/w	1	7.7	6.8	13.8	7.9	8.7

PARAMETER	UOM	LOR	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
% Moisture	%w/w	1	6.6	10.5	9.5	10.7	11.2

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
% Moisture	%w/w	1	18.3	13.8	17.5	9.9	16.8

Moisture Content [AN002] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
% Moisture	%w/w	1	7.4	15.8	9.2	14.2	9.9

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
% Moisture	%w/w	1	14.0	10.9	16.2	12.6	14.6

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
% Moisture	%w/w	1	14.6	12.2	21.0	16.3	18.3

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
% Moisture	%w/w	1	9.9	19.5	10.7	18.3	10.5

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
% Moisture	%w/w	1	10.5	9.4	1.1	8.3	17.5

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
% Moisture	%w/w	1	9.1	12.5	33.6	22.8	9.9

PARAMETER	UOM	LOR	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
% Moisture	%w/w	1	17.9	7.7	15.5	7.7	15.3

Moisture Content [AN002] Tested: 30/1/2020 (continued)

PARAMETER	UOM	LOR	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
% Moisture	%w/w	1	10.1	15.9	9.6	16.1	10.3

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_3.8-4.0 SOIL - 22/1/2020 SE202242.081
% Moisture	%w/w	1	19.6	10.9	14.3	5.7	7.8

PARAMETER	UOM	LOR	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086
% Moisture	%w/w	1	6.9	8.4	19.2	7.1	10.1

PARAMETER	UOM	LOR	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087	BH4_3.2-3.45 SOIL - 23/1/2020 SE202242.088	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091
% Moisture	%w/w	1	6.4	15.1	10.0	8.7	13.0

PARAMETER	UOM	LOR	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_1.5-1.7 SOIL - 24/1/2020 SE202242.093	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_2.8-3.0 SOIL - 28/1/2020 SE202242.096
% Moisture	%w/w	1	14.1	17.4	12.4	12.8	16.7

PARAMETER	UOM	LOR	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_2.2-2.3 SOIL - 28/1/2020 SE202242.099	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
% Moisture	%w/w	1	20.4	16.1	20.1	19.6

Fibre Identification in soil [AN602] Tested: 4/2/2020

PARAMETER	UOM	LOR	TP14_0.2-0.3 SOIL - 24/1/2020 SE202242.001	TP14_1.8-1.9 SOIL - 24/1/2020 SE202242.002	TP15_0.2-0.3 SOIL - 24/1/2020 SE202242.003	TP16_0.7-0.8 SOIL - 23/1/2020 SE202242.004	TP16_1.9-2.0 SOIL - 23/1/2020 SE202242.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP17_0.2-0.3 SOIL - 23/1/2020 SE202242.006	TP17_0.9-1.0 SOIL - 23/1/2020 SE202242.007	TP18_0.2-0.3 SOIL - 22/1/2020 SE202242.008	TP18_2.4-2.5 SOIL - 22/1/2020 SE202242.009	TP19_0.2-0.3 SOIL - 22/1/2020 SE202242.010
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP20_1.0-1.1 SOIL - 22/1/2020 SE202242.011	TP21_0.2-0.3 SOIL - 22/1/2020 SE202242.012	TP22_0.2-0.3 SOIL - 22/1/2020 SE202242.013	TP22_2.0-2.1 SOIL - 22/1/2020 SE202242.014	TP23_0.7-0.8 SOIL - 22/1/2020 SE202242.015
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP24_0.2-0.3 SOIL - 22/1/2020 SE202242.016	TP24_1.6-1.7 SOIL - 22/1/2020 SE202242.017	TP25_0.2-0.3 SOIL - 22/1/2020 SE202242.018	TP26_0.2-0.3 SOIL - 22/1/2020 SE202242.019	TP26_0.7-0.8 SOIL - 22/1/2020 SE202242.020
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP27_0.2-0.3 SOIL - 22/1/2020 SE202242.021	TP28_0.2-0.3 SOIL - 22/1/2020 SE202242.022	TP28_1.6-1.7 SOIL - 22/1/2020 SE202242.023	TP29_0.2-0.3 SOIL - 22/1/2020 SE202242.024	TP30_1.2-1.3 SOIL - 22/1/2020 SE202242.025
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP31_0.2-0.3 SOIL - 22/1/2020 SE202242.026	TP32_0.2-0.3 SOIL - 22/1/2020 SE202242.027	TP33_1.5-1.6 SOIL - 22/1/2020 SE202242.028	TP34_0.2-0.3 SOIL - 22/1/2020 SE202242.029	TP35_0.2-0.3 SOIL - 23/1/2020 SE202242.030
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP35_2.4-2.5 SOIL - 23/1/2020 SE202242.031	TP36_0.7-0.8 SOIL - 23/1/2020 SE202242.032	TP36_1.4-1.5 SOIL - 23/1/2020 SE202242.033	TP37_0.2-0.3 SOIL - 23/1/2020 SE202242.034	TP37_1.2-1.3 SOIL - 23/1/2020 SE202242.035
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

Fibre Identification in soil [AN602] Tested: 4/2/2020 (continued)

PARAMETER	UOM	LOR	TP38_0.2-0.3 SOIL - 23/1/2020 SE202242.036	TP38_1.0-1.1 SOIL - 23/1/2020 SE202242.037	TP39_0.2-0.3 SOIL - 23/1/2020 SE202242.038	TP39_1.2-1.3 SOIL - 23/1/2020 SE202242.039	TP40_0.2-0.3 SOIL - 23/1/2020 SE202242.040
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP40_0.9-1.0 SOIL - 23/1/2020 SE202242.041	TP41_0.2-0.3 SOIL - 23/1/2020 SE202242.042	TP41_0.8-0.9 SOIL - 23/1/2020 SE202242.043	TP42_0.2-0.3 SOIL - 24/1/2020 SE202242.044	TP42_2.1-2.2 SOIL - 24/1/2020 SE202242.045
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP42_2.6-2.7 SOIL - 24/1/2020 SE202242.046	TP43_0.2-0.3 SOIL - 24/1/2020 SE202242.047	TP43_1.8-1.9 SOIL - 24/1/2020 SE202242.048	TP44_1.0-1.1 SOIL - 24/1/2020 SE202242.049	TP44_2.4-2.5 SOIL - 24/1/2020 SE202242.050
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP45_0.2-0.3 SOIL - 24/1/2020 SE202242.051	TP45_2.4-2.5 SOIL - 24/1/2020 SE202242.052	TP46_0.2-0.3 SOIL - 24/1/2020 SE202242.053	TP46_1.5-1.6 SOIL - 24/1/2020 SE202242.054	TP47_0.2-0.3 SOIL - 24/1/2020 SE202242.055
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP47_0.9-1.0 SOIL - 24/1/2020 SE202242.056	TP48_0.2-0.3 SOIL - 23/1/2020 SE202242.057	TP48_1.5-1.6 SOIL - 23/1/2020 SE202242.058	TP49_0.2-0.3 SOIL - 23/1/2020 SE202242.059	TP49_2.7-2.8 SOIL - 23/1/2020 SE202242.060
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP50_0.2-0.3 SOIL - 23/1/2020 SE202242.061	TP50_0.9-1.0 SOIL - 23/1/2020 SE202242.062	TP51_0.9-1.0 SOIL - 23/1/2020 SE202242.063	TP51_2.2-2.3 SOIL - 23/1/2020 SE202242.064	TP52_0.2-0.3 SOIL - 23/1/2020 SE202242.065
Asbestos Detected	No unit	-	Yes	No	No	No	No
Estimated Fibres*	%w/w	0.01	>0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP52_1.4-1.5 SOIL - 23/1/2020 SE202242.066	TP53_0.2-0.3 SOIL - 23/1/2020 SE202242.067	TP53_1.1-1.2 SOIL - 23/1/2020 SE202242.068	TP54_0.2-0.3 SOIL - 23/1/2020 SE202242.069	TP54_0.8-0.9 SOIL - 23/1/2020 SE202242.070
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

Fibre Identification in soil [AN602] Tested: 4/2/2020 (continued)

PARAMETER	UOM	LOR	TP55_0.2-0.3 SOIL - 23/1/2020 SE202242.071	TP55_0.7-0.8 SOIL - 23/1/2020 SE202242.072	TP56_0.2-0.3 SOIL - 23/1/2020 SE202242.073	TP56_1.2-1.3 SOIL - 23/1/2020 SE202242.074	TP57_0.2-0.3 SOIL - 23/1/2020 SE202242.075
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP57_1.3-1.4 SOIL - 23/1/2020 SE202242.076	TP58_0.2-0.3 SOIL - 23/1/2020 SE202242.077	TP58_0.8-0.9 SOIL - 23/1/2020 SE202242.078	BH1_0.1-0.2 SOIL - 22/1/2020 SE202242.080	BH1_4.2-4.5 SOIL - 22/1/2020 SE202242.082
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH2_0.1-0.2 SOIL - 22/1/2020 SE202242.083	BH2_4.3-4.5 SOIL - 22/1/2020 SE202242.084	BH3_0.1-0.2 SOIL - 23/1/2020 SE202242.085	BH3_6.0-6.45 SOIL - 23/1/2020 SE202242.086	BH4_0.1-0.2 SOIL - 23/1/2020 SE202242.087
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH4_4.5-4.95 SOIL - 23/1/2020 SE202242.089	BH5_0.1-0.2 SOIL - 24/1/2020 SE202242.090	BH5_3.0-3.1 SOIL - 24/1/2020 SE202242.091	BH6_0.1-0.2 SOIL - 24/1/2020 SE202242.092	BH6_3.0-3.2 SOIL - 24/1/2020 SE202242.094
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH7_0.1-0.2 SOIL - 28/1/2020 SE202242.095	BH7_3.8-4.0 SOIL - 28/1/2020 SE202242.097	BH8_0.1-0.2 SOIL - 28/1/2020 SE202242.098	BH8_3.2-3.5 SOIL - 28/1/2020 SE202242.100
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

Fibre ID in bulk materials [AN602] Tested: 5/2/2020

PARAMETER	UOM	LOR	TP26_surface fragment MATERIAL - 22/1/2020 SE202242.079
Asbestos Detected	No unit	-	Yes

METHOD	METHODOLOGY SUMMARY
AN002/AN135	Alkalinity (and forms of) by Titration: The sample is extracted 1to 5 in deionised water and the extract titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
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.
AN051	A small sample of soil is kneaded with water and then pressed out into a ribbon. The behaviour of this ribbon is used to classify the soil into one of the texture classes in AS 4419.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pHFox is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines, method 23Af-Bf, 2004. X Slight Reaction XX Moderate Reaction XXX Strong/High Reaction XXXX Extreme/Vigorous Reaction (gas evolution and heat generation)
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos /cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B

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 unequivocably 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 limit 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 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

*	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.
		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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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	95

LABORATORY DETAILS

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SGS Reference	**SE202242 R0**
Date Received	28 Jan 2020
Date Reported	05 Feb 2020

COMMENTS

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

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

Sample #: 5, 7, 31, 33, 35, 37, 39, 41, 43, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78: A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.
Sample #61: Asbestos found in approx 30x25x4mm cement sheet fragment.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Organic Chemist/Metals Chemis

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202242.001	TP14_0.2-0.3	Soil	160g Clay, Sand, Rocks	24 Jan 2020	No Asbestos Found	<0.01
SE202242.002	TP14_1.8-1.9	Soil	175g Clay, Sand, Rocks	24 Jan 2020	No Asbestos Found	<0.01
SE202242.003	TP15_0.2-0.3	Soil	238g Clay, Rocks	24 Jan 2020	No Asbestos Found	<0.01
SE202242.004	TP16_0.7-0.8	Soil	211g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.005	TP16_1.9-2.0	Soil	99g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.006	TP17_0.2-0.3	Soil	196g Clay, Soil, Rocks	23 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.007	TP17_0.9-1.0	Soil	88g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.008	TP18_0.2-0.3	Soil	176g Clay, Soil, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.009	TP18_2.4-2.5	Soil	202g Clay, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.010	TP19_0.2-0.3	Soil	208g Clay, Sand, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.011	TP20_1.0-1.1	Soil	271g Clay, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.012	TP21_0.2-0.3	Soil	158g Clay, Sand, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.013	TP22_0.2-0.3	Soil	152g Clay, Sand, Soil, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.014	TP22_2.0-2.1	Soil	171g Clay, Sand, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.015	TP23_0.7-0.8	Soil	183g Clay, Sand, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.016	TP24_0.2-0.3	Soil	198g Clay, Sand, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.017	TP24_1.6-1.7	Soil	200g Clay, Sand, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.018	TP25_0.2-0.3	Soil	162g Clay, Sand, Soil, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.019	TP26_0.2-0.3	Soil	192g Clay, Sand, Soil, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.020	TP26_0.7-0.8	Soil	139g Clay	22 Jan 2020	No Asbestos Found	<0.01
SE202242.021	TP27_0.2-0.3	Soil	190g Clay, Soil, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.022	TP28_0.2-0.3	Soil	224g Sand, Rocks, Cement mixture	22 Jan 2020	No Asbestos Found	<0.01
SE202242.023	TP28_1.6-1.7	Soil	180g Clay, sand, Rocks, Cement mixture	22 Jan 2020	No Asbestos Found	<0.01
SE202242.024	TP29_0.2-0.3	Soil	158g Clay, Sand, Soil, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.025	TP30_1.2-1.3	Soil	191g Clay, Soil, Rocks	22 Jan 2020	No Asbestos Found	<0.01

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202242.026	TP31_0.2-0.3	Soil	196g Clay, Sand, Soil, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.027	TP32_0.2-0.3	Soil	147g Clay, Sand, Soil, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.028	TP33_1.5-1.6	Soil	187g Clay, Sand, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.029	TP34_0.2-0.3	Soil	191g Clay, Rocks	22 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.030	TP35_0.2-0.3	Soil	161g Clay, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.031	TP35_2.4-2.5	Soil	92g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.032	TP36_0.7-0.8	Soil	239g Clay, Sand, Rocks	23 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.033	TP36_1.4-1.5	Soil	100g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.034	TP37_0.2-0.3	Soil	313g Clay, Soil, Rocks	23 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.035	TP37_1.2-1.3	Soil	87g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.036	TP38_0.2-0.3	Soil	196g Clay, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.037	TP38_1.0-1.1	Soil	83g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.038	TP39_0.2-0.3	Soil	163g Clay, Sand, Soil, Rocks, Plant matter	23 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.039	TP39_1.2-1.3	Soil	67g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.040	TP40_0.2-0.3	Soil	163g Clay, Sand, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.041	TP40_0.9-1.0	Soil	71g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.042	TP41_0.2-0.3	Soil	166g Clay, Sand, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.043	TP41_0.8-0.9	Soil	110g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.044	TP42_0.2-0.3	Soil	116g Clay, Sand, Rocks	24 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.045	TP42_2.1-2.2	Soil	115g Clay, Sand, Rocks	24 Jan 2020	No Asbestos Found	<0.01
SE202242.046	TP42_2.6-2.7	Soil	128g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.047	TP43_0.2-0.3	Soil	111g Clay, Sand, Soil, Rocks, Plant matter	24 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.048	TP43_1.8-1.9	Soil	43g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.049	TP44_1.0-1.1	Soil	200g Clay, Soil, Rocks	24 Jan 2020	No Asbestos Found	<0.01
SE202242.050	TP44_2.4-2.5	Soil	89g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.051	TP45_0.2-0.3	Soil	132g Clay, Soil, Rocks	24 Jan 2020	No Asbestos Found	<0.01

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202242.052	TP45_2.4-2.5	Soil	102g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.053	TP46_0.2-0.3	Soil	162g Clay, Soil, Rocks	24 Jan 2020	No Asbestos Found	<0.01
SE202242.054	TP46_1.5-1.6	Soil	108g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.055	TP47_0.2-0.3	Soil	117g Clay, Sand, Soil, Rocks, Plant matter	24 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.056	TP47_0.9-1.0	Soil	115g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.057	TP48_0.2-0.3	Soil	143g Clay, Sand, Soil, Rocks, Plant matter	23 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.058	TP48_1.5-1.6	Soil	121g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.059	TP49_0.2-0.3	Soil	211g Clay, Sand, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.060	TP49_2.7-2.8	Soil	127g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.061	TP50_0.2-0.3	Soil	166g Clay, Sand, Soil, Rocks	23 Jan 2020	Chrysotile Asbestos Found	>0.01
SE202242.062	TP50_0.9-1.0	Soil	112g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.063	TP51_0.9-1.0	Soil	90g Clay, Soil, Rocks, Plant matter	23 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.064	TP51_2.2-2.3	Soil	74g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.065	TP52_0.2-0.3	Soil	182g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.066	TP52_1.4-1.5	Soil	92g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.067	TP53_0.2-0.3	Soil	217g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.068	TP53_1.1-1.2	Soil	76g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.069	TP54_0.2-0.3	Soil	165g Clay, Sand, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.070	TP54_0.8-0.9	Soil	78g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.071	TP55_0.2-0.3	Soil	188g Clay, Sand, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.072	TP55_0.7-0.8	Soil	101g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.073	TP56_0.2-0.3	Soil	157g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.074	TP56_1.2-1.3	Soil	114g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.075	TP57_0.2-0.3	Soil	184g Clay, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.076	TP57_1.3-1.4	Soil	66g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.077	TP58_0.2-0.3	Soil	162g Clay, Soil, Rocks	23 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.078	TP58_0.8-0.9	Soil	76g Clay, Rocks	23 Jan 2020	No Asbestos Found	<0.01

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202242.080	BH1_0.1-0.2	Soil	109g Clay, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.082	BH1_4.2-4.5	Soil	65g Clay, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.083	BH2_0.1-0.2	Soil	205g Clay, Rocks	22 Jan 2020	No Asbestos Found	<0.01
SE202242.084	BH2_4.3-4.5	Soil	230g Clay	22 Jan 2020	No Asbestos Found	<0.01
SE202242.085	BH3_0.1-0.2	Soil	149g Clay, Sand, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.086	BH3_6.0-6.45	Soil	283g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.087	BH4_0.1-0.2	Soil	130g Clay, Sand, Soil, Rocks	23 Jan 2020	No Asbestos Found	<0.01
SE202242.089	BH4_4.5-4.95	Soil	104g Clay	23 Jan 2020	No Asbestos Found	<0.01
SE202242.090	BH5_0.1-0.2	Soil	292g Clay, Rocks	24 Jan 2020	No Asbestos Found	<0.01
SE202242.091	BH5_3.0-3.1	Soil	339g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.092	BH6_0.1-0.2	Soil	303g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.094	BH6_3.0-3.2	Soil	187g Clay	24 Jan 2020	No Asbestos Found	<0.01
SE202242.095	BH7_0.1-0.2	Soil	191g Clay, Rocks	28 Jan 2020	No Asbestos Found	<0.01
SE202242.097	BH7_3.8-4.0	Soil	478g Clay, Rocks	28 Jan 2020	No Asbestos Found	<0.01
SE202242.098	BH8_0.1-0.2	Soil	128g Clay, Soil, Rocks, Plant matter	28 Jan 2020	No Asbestos Found Organic Fibres Detected	<0.01
SE202242.100	BH8_3.2-3.5	Soil	372g Clay, Rocks	28 Jan 2020	No Asbestos Found	<0.01

ANALYTICAL REPORT

RESULTS

Fibre ID in bulk materials — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE202242.079	TP26_surface fragment	Other	50x40x4mm Cement sheet fragments	22 Jan 2020	Chrysotile 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 unequivocably 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 limit 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 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.

(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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Appendix G– Laboratory QA/QC Policies and DQOs

STATEMENT OF QA/QC PERFORMANCE

SE202374 R0

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	2

LABORATORY DETAILS

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SGS Reference	**SE202374 R0**
Date Received	03 Feb 2020
Date Reported	10 Feb 2020

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:

Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	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	2 Soil
Date documentation received	3/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	5.9°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE202374 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192307	31 Jan 2020	03 Feb 2020	07 Feb 2020	04 Feb 2020	18 Feb 2020	06 Feb 2020

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192467	31 Jan 2020	03 Feb 2020	07 Feb 2020	06 Feb 2020	07 Feb 2020	06 Feb 2020

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192579	31 Jan 2020	03 Feb 2020	28 Feb 2020	07 Feb 2020	28 Feb 2020	10 Feb 2020

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192599	31 Jan 2020	03 Feb 2020	30 Jan 2021	07 Feb 2020	30 Jan 2021	10 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192599	31 Jan 2020	03 Feb 2020	30 Jan 2021	07 Feb 2020	30 Jan 2021	10 Feb 2020

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192538	31 Jan 2020	03 Feb 2020	28 Feb 2020	07 Feb 2020	28 Feb 2020	07 Feb 2020

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192405	31 Jan 2020	03 Feb 2020	28 Feb 2020	05 Feb 2020	28 Feb 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192405	31 Jan 2020	03 Feb 2020	28 Feb 2020	05 Feb 2020	28 Feb 2020	06 Feb 2020

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192316	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	09 Feb 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192316	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	09 Feb 2020	05 Feb 2020

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192467	31 Jan 2020	03 Feb 2020	07 Feb 2020	06 Feb 2020	07 Feb 2020	06 Feb 2020

Soil Texture (AS4419)

Method: ME-(AU)-[ENV]AN051

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192329	31 Jan 2020	03 Feb 2020	29 Jul 2020	04 Feb 2020	29 Jul 2020	05 Feb 2020

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE202374 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Soluble Anions (1:5) in Soil by Ion Chromatography (continued)

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192492	31 Jan 2020	03 Feb 2020	07 Feb 2020	06 Feb 2020	05 Mar 2020	07 Feb 2020

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
BH11_0.1-0.2	SE202374.001	LB192404	31 Jan 2020	03 Feb 2020	29 Jul 2020	05 Feb 2020	29 Jul 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192404	31 Jan 2020	03 Feb 2020	29 Jul 2020	05 Feb 2020	29 Jul 2020	06 Feb 2020

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
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

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 identifer 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)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	90
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	90

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	99
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	101
d14-p-terphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	89
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	91

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	70 - 130%	99
	BH11_3.0-3.2	SE202374.002	%	70 - 130%	101
d14-p-terphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	70 - 130%	89
	BH11_3.0-3.2	SE202374.002	%	70 - 130%	91
d5-nitrobenzene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	70 - 130%	88
	BH11_3.0-3.2	SE202374.002	%	70 - 130%	90

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	90
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	90

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	100
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	93
d4-1,2-dichloroethane (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	112
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	110
d8-toluene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	116
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	112

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	100
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	93
d4-1,2-dichloroethane (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	112
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	110
d8-toluene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	116
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	112

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result
LB192307.001	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	0

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB192467.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB192579.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192405.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192314.001	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
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	88

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192314.001	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

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.

OP Pesticides in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB192314.001	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	92

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192314.001		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)	%	-	86
		2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	92

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192314.001		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)	%	-	88

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB192492.001	Chloride	mg/kg	0.25	<0.25
	Sulfate	mg/kg	5	<5.0

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

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

Sample Number	Parameter	Units	LOR	Result
LB192404.001	Arsenic, As	mg/kg	1	<1
	Calcium, Ca	mg/kg	5	<5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Potassium, K	mg/kg	10	<10
	Magnesium, Mg	mg/kg	5	<5
	Manganese, Mn	mg/kg	1	<1
	Sodium, Na	mg/kg	5	<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

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB192314.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192315.001	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)	%	-	120
		d8-toluene (Surrogate)	%	-	124
		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
LB192315.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	120

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

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

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

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

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192307.007	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25	22.338325358	200	0

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192467.018	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	320	31.3707057410	31	2
SE202390.009	LB192467.016	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	86	39.8959011406	32	4

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192538.011	pHf	pH Units	-	6.6	6.556	30	0
		pHfox	pH Units	-	4.9	5.054	30	3

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192405.017	Mercury	mg/kg	0.05	<0.05	<0.05	185	0
SE202384.001	LB192405.014	Mercury	mg/kg	0.05	0.0266286583	0.0267489167	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.001	LB192316.011	% Moisture	%w/w	1	10.1	9.2	40	10
SE202382.001	LB192316.020	% Moisture	%w/w	1	19.7	18.9	35	4

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	30	4

OP Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR

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

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

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

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

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192314.025		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
				TEQ (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
				TEQ (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
				TEQ (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	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	5
SE202382.001	LB192314.023		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

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023		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	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023		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	4

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192467.018	pH	pH Units	0.1	6.9	6.61	31	4
SE202390.009	LB192467.016	pH	pH Units	0.1	7.1	7.1	31	0

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192492.004	Chloride	mg/kg	0.25	280	62.633911483	30	8
		Sulfate	mg/kg	5	380	33.205801435	31	12

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192404.014	Arsenic, As	mg/kg	1	7	6	46	11
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	198	0
		Chromium, Cr	mg/kg	0.5	9.4	8.1	36	15
		Copper, Cu	mg/kg	0.5	35	31	32	11
		Nickel, Ni	mg/kg	0.5	22	20	32	9
		Lead, Pb	mg/kg	1	21	20	35	4
		Zinc, Zn	mg/kg	2	97	93	32	4
SE202385.001	LB192404.017	Arsenic, As	mg/kg	1	11	11	39	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	7.5	10	36	30
		Copper, Cu	mg/kg	0.5	37	46	31	22
		Nickel, Ni	mg/kg	0.5	3.7	3.1	45	20
		Lead, Pb	mg/kg	1	19	20	35	7
		Zinc, Zn	mg/kg	2	15	18	42	13

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192314.024		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	64	49	110	27
			TRH C29-C36	mg/kg	45	71	52	103	31
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	140	<110	123	20
			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

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192314.024	TRH F Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	120	<90	120	25
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE202382.001	LB192314.023		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

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192315.014	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	-	11.7	11.8	50	1
			d8-toluene (Surrogate)	mg/kg	-	11.9	12.1	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.5	50	3
		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
SE202382.001	LB192315.020	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	-	11.0	12.3	50	11
			d8-toluene (Surrogate)	mg/kg	-	10.0	11.3	50	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10.6	50	3
		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)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192315.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.7	11.8	30	1
			d8-toluene (Surrogate)	mg/kg	-	11.9	12.1	30	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.5	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE202382.001	LB192315.020		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	12.3	30	11
			d8-toluene (Surrogate)	mg/kg	-	10.0	11.3	30	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10.6	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192307.002	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	NA	297.5	80 - 120	112

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192467.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	303	85 - 115	94

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192405.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	100

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	90
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	91
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	84
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	89
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	89
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	79
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	90

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		Dichlorvos	mg/kg	0.5	1.8	2	60 - 140	89
		Diazinon (Dimpylate)	mg/kg	0.5	1.8	2	60 - 140	92
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	94
		Ethion	mg/kg	0.2	1.5	2	60 - 140	74
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		Naphthalene	mg/kg	0.1	4.9	4	60 - 140	123
		Acenaphthylene	mg/kg	0.1	5.1	4	60 - 140	127
		Acenaphthene	mg/kg	0.1	5.1	4	60 - 140	128
		Phenanthrene	mg/kg	0.1	5.2	4	60 - 140	129
		Anthracene	mg/kg	0.1	4.9	4	60 - 140	122
		Fluoranthene	mg/kg	0.1	4.7	4	60 - 140	119
		Pyrene	mg/kg	0.1	5.2	4	60 - 140	129
		Benzo(a)pyrene	mg/kg	0.1	4.9	4	60 - 140	122
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	83

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192467.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR

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

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

Soluble Anions (1:5) in Soil by Ion Chromatography (continued)

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192492.002	Chloride	mg/kg	0.25	91	100	70 - 130	91
	Sulfate	mg/kg	5	89	100	70 - 130	89

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 %
LB192404.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	102
	Calcium, Ca	mg/kg	5	9300	10367	80 - 120	90
	Cadmium, Cd	mg/kg	0.3	6.2	5.41	80 - 120	114
	Chromium, Cr	mg/kg	0.5	34	38.31	80 - 120	88
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	100
	Potassium, K	mg/kg	10	1300	1348	80 - 120	95
	Magnesium, Mg	mg/kg	5	9800	10422	80 - 120	94
	Manganese, Mn	mg/kg	1	680	660	80 - 120	103
	Sodium, Na	mg/kg	5	740	756	80 - 120	98
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	97
	Lead, Pb	mg/kg	1	91	89.9	80 - 120	102
	Zinc, Zn	mg/kg	2	270	273	80 - 120	100

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		TRH C10-C14	mg/kg	20	33	40	60 - 140	83
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	95
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	110
	TRH F Bands	TRH >C10-C16	mg/kg	25	33	40	60 - 140	83
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	125
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	105

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192315.002	Monocyclic	Benzene	mg/kg	0.1	3.8	5	60 - 140	76
	Aromatic	Toluene	mg/kg	0.1	4.2	5	60 - 140	84
		Ethylbenzene	mg/kg	0.1	4.0	5	60 - 140	79
		m/p-xylene	mg/kg	0.2	7.9	10	60 - 140	79
		o-xylene	mg/kg	0.1	3.9	5	60 - 140	78
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.6	10	70 - 130	126
		d8-toluene (Surrogate)	mg/kg	-	12.1	10	70 - 130	121
		Bromofluorobenzene (Surrogate)	mg/kg	-	12.0	10	70 - 130	120

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192315.002		TRH C6-C10	mg/kg	25	92	92.5	60 - 140	100
		TRH C6-C9	mg/kg	20	81	80	60 - 140	101
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.6	10	70 - 130	126
		Bromofluorobenzene (Surrogate)	mg/kg	-	12.0	10	70 - 130	120
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	68	62.5	60 - 140	109

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 identifer 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%
SE202348.001	LB192405.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	101

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202390.001	LB192314.004		Naphthalene	mg/kg	0.1	3.8	<0.1	4	94
			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	3.8	<0.1	4	96
			Acenaphthene	mg/kg	0.1	3.9	<0.1	4	97
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	3.9	<0.1	4	96
			Anthracene	mg/kg	0.1	3.7	<0.1	4	90
			Fluoranthene	mg/kg	0.1	3.7	0.1	4	89
			Pyrene	mg/kg	0.1	4.0	0.1	4	96
			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	3.8	<0.1	4	91
			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	3.8	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	3.9	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	3.8	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	30	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	-	91
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	101
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	93

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%
SE202348.001	LB192404.004	Arsenic, As	mg/kg	1	56	1	50	110
		Cadmium, Cd	mg/kg	0.3	49	<0.3	50	97
		Chromium, Cr	mg/kg	0.5	57	1.2	50	111
		Copper, Cu	mg/kg	0.5	56	1.0	50	110
		Nickel, Ni	mg/kg	0.5	55	0.7	50	108
		Lead, Pb	mg/kg	1	57	1	50	112
		Zinc, Zn	mg/kg	2	59	2	50	114

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202390.001	LB192314.004		TRH C10-C14	mg/kg	20	79	<20	40	155 ⑤
			TRH C15-C28	mg/kg	45	170	200	40	-58 ⑤
			TRH C29-C36	mg/kg	45	100	<45	40	165 ⑤
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	350	200	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	290	220	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	82	<25	40	155 ⑤
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	82	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	200	220	40	-40 ⑤
			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%
SE202390.001	LB192315.004	Monocyclic	Benzene	mg/kg	0.1	3.6	<0.1	5	72
		Aromatic	Toluene	mg/kg	0.1	4.1	<0.1	5	81
			Ethylbenzene	mg/kg	0.1	3.8	<0.1	5	76
			m/p-xylene	mg/kg	0.2	7.7	<0.2	10	76
			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 identifer 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%
SE202390.001	LB192315.004	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10.9	10	125
			d8-toluene (Surrogate)	mg/kg	-	12.1	10.3	10	121
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.9	10.7	10	109
		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%
SE202390.001	LB192315.004		TRH C6-C10	mg/kg	25	77	<25	92.5	83
			TRH C6-C9	mg/kg	20	69	<20	80	86
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10.9	10	125
			d8-toluene (Surrogate)	mg/kg	-	12.1	10.3	10	121
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.9	10.7	-	109
		VPH F	Benzene (F0)	mg/kg	0.1	3.6	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	54	<25	62.5	86

MATRIX SPIKE DUPLICATES

SE202374 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE202429 R0

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	5

LABORATORY DETAILS

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SGS Reference	**SE202429 R0**
Date Received	04 Feb 2020
Date Reported	11 Feb 2020

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

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

Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	2 items
	VOC's in Soil	2 items
	Volatile Petroleum Hydrocarbons in Soil	2 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	5 Soil
Date documentation received	4/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.2°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE202429 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_1.8-2.0	SE202429.003	LB192654	03 Feb 2020	04 Feb 2020	10 Feb 2020	10 Feb 2020	24 Feb 2020	11 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192654	03 Feb 2020	04 Feb 2020	10 Feb 2020	10 Feb 2020	24 Feb 2020	11 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192654	03 Feb 2020	04 Feb 2020	10 Feb 2020	10 Feb 2020	24 Feb 2020	11 Feb 2020

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_1.8-2.0	SE202429.003	LB192537	03 Feb 2020	04 Feb 2020	10 Feb 2020	07 Feb 2020	10 Feb 2020	07 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192537	03 Feb 2020	04 Feb 2020	10 Feb 2020	07 Feb 2020	10 Feb 2020	07 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192537	03 Feb 2020	04 Feb 2020	10 Feb 2020	07 Feb 2020	10 Feb 2020	07 Feb 2020

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_1.8-2.0	SE202429.003	LB192580	03 Feb 2020	04 Feb 2020	02 Mar 2020	07 Feb 2020	02 Mar 2020	10 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192580	03 Feb 2020	04 Feb 2020	02 Mar 2020	07 Feb 2020	02 Mar 2020	10 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192580	03 Feb 2020	04 Feb 2020	02 Mar 2020	07 Feb 2020	02 Mar 2020	10 Feb 2020

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192667	03 Feb 2020	04 Feb 2020	02 Feb 2021	10 Feb 2020	02 Feb 2021	11 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192667	03 Feb 2020	04 Feb 2020	02 Feb 2021	10 Feb 2020	02 Feb 2021	11 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192667	03 Feb 2020	04 Feb 2020	02 Feb 2021	10 Feb 2020	02 Feb 2021	11 Feb 2020

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_1.8-2.0	SE202429.003	LB192538	03 Feb 2020	04 Feb 2020	02 Mar 2020	07 Feb 2020	02 Mar 2020	07 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192538	03 Feb 2020	04 Feb 2020	02 Mar 2020	07 Feb 2020	02 Mar 2020	07 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192538	03 Feb 2020	04 Feb 2020	02 Mar 2020	07 Feb 2020	02 Mar 2020	07 Feb 2020

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192446	03 Feb 2020	04 Feb 2020	02 Mar 2020	05 Feb 2020	02 Mar 2020	06 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192446	03 Feb 2020	04 Feb 2020	02 Mar 2020	05 Feb 2020	02 Mar 2020	06 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192446	03 Feb 2020	04 Feb 2020	02 Mar 2020	05 Feb 2020	02 Mar 2020	06 Feb 2020

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192414	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	10 Feb 2020	06 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192414	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	10 Feb 2020	06 Feb 2020
BH12_1.8-2.0	SE202429.003	LB192414	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	10 Feb 2020	06 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192414	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	10 Feb 2020	06 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192414	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	10 Feb 2020	06 Feb 2020

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	11 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	11 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	11 Feb 2020

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	11 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	11 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	11 Feb 2020

HOLDING TIME SUMMARY

SE202429 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_1.8-2.0	SE202429.003	LB192537	03 Feb 2020	04 Feb 2020	10 Feb 2020	07 Feb 2020	08 Feb 2020	07 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192537	03 Feb 2020	04 Feb 2020	10 Feb 2020	07 Feb 2020	08 Feb 2020	07 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192537	03 Feb 2020	04 Feb 2020	10 Feb 2020	07 Feb 2020	08 Feb 2020	07 Feb 2020

Soil Texture (AS4419)

Method: ME-(AU)-[ENV]AN051

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_1.8-2.0	SE202429.003	LB192448	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192448	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192448	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_1.8-2.0	SE202429.003	LB192492	03 Feb 2020	04 Feb 2020	10 Feb 2020	06 Feb 2020	05 Mar 2020	07 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192492	03 Feb 2020	04 Feb 2020	10 Feb 2020	06 Feb 2020	05 Mar 2020	07 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192492	03 Feb 2020	04 Feb 2020	10 Feb 2020	06 Feb 2020	05 Mar 2020	07 Feb 2020

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_0.1-0.2	SE202429.001	LB192445	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192445	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020
BH12_1.8-2.0	SE202429.003	LB192445	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192445	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020
BH12_3.5-4.0	SE202429.005	LB192445	03 Feb 2020	04 Feb 2020	01 Aug 2020	05 Feb 2020	01 Aug 2020	06 Feb 2020

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_0.1-0.2	SE202429.001	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192413	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	06 Feb 2020

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192412	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192412	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192412	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12_0.1-0.2	SE202429.001	LB192412	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH12_1.3-1.5	SE202429.002	LB192412	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH12_2.8-3.0	SE202429.004	LB192412	03 Feb 2020	04 Feb 2020	17 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

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 identifer 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)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	112
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	105
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	113

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	74
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	76
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	74
d14-p-terphenyl (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	86
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	88
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	88

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH12_0.1-0.2	SE202429.001	%	70 - 130%	74
	BH12_1.3-1.5	SE202429.002	%	70 - 130%	76
	BH12_2.8-3.0	SE202429.004	%	70 - 130%	74
d14-p-terphenyl (Surrogate)	BH12_0.1-0.2	SE202429.001	%	70 - 130%	86
	BH12_1.3-1.5	SE202429.002	%	70 - 130%	88
	BH12_2.8-3.0	SE202429.004	%	70 - 130%	88
d5-nitrobenzene (Surrogate)	BH12_0.1-0.2	SE202429.001	%	70 - 130%	80
	BH12_1.3-1.5	SE202429.002	%	70 - 130%	80
	BH12_2.8-3.0	SE202429.004	%	70 - 130%	76

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	112
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	105
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	113

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	84
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	69
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	82
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	71
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	81
d8-toluene (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	86
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	72
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	84

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	84
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	69
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	82
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	71
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	81
d8-toluene (Surrogate)	BH12_0.1-0.2	SE202429.001	%	60 - 130%	86
	BH12_1.3-1.5	SE202429.002	%	60 - 130%	72
	BH12_2.8-3.0	SE202429.004	%	60 - 130%	84

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result
LB192654.006	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	17.9945

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB192537.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0.77

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB192580.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192446.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192413.001	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
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	104

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192413.001	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

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.

OP Pesticides in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB192413.001	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	74
		d14-p-terphenyl (Surrogate)	%	-	88

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192413.001		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)	%	-	76
		2-fluorobiphenyl (Surrogate)	%	-	74
		d14-p-terphenyl (Surrogate)	%	-	88

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192413.001		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)	%	-	104

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB192492.001	Chloride	mg/kg	0.25	<0.25
	Sulfate	mg/kg	5	<5.0

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

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

Sample Number	Parameter	Units	LOR	Result
LB192445.001	Arsenic, As	mg/kg	1	<1
	Calcium, Ca	mg/kg	5	<5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Potassium, K	mg/kg	10	<10
	Magnesium, Mg	mg/kg	5	<5
	Manganese, Mn	mg/kg	1	<1
	Sodium, Na	mg/kg	5	<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

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB192413.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192412.001	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)	%	-	84
		d8-toluene (Surrogate)	%	-	87
		Bromofluorobenzene (Surrogate)	%	-	82
	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
LB192412.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	84

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

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

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

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

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202482.003	LB192654.008	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	58.37054045	55.68629400	31	2

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202494.004	LB192537.011	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	460	33.5909661	30	14

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192538.011	pHf	pH Units	-	6.6	6.556	30	0
		pHfox	pH Units	-	4.9	5.054	30	3

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.004	LB192446.014	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 %
SE202429.005	LB192414.016	% Moisture	%w/w	1	9.0	9.3	41	3

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.004	LB192413.017	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.14	30	19

OP Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR

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

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

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

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

OP Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.004	LB192413.017		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	10
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.004	LB192413.017		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
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	10
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	2

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.004	LB192413.017		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	19

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202494.004	LB192537.011	pH	pH Units	0.1	5.5	5.5	32	0

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

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

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

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

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192492.004		Chloride	mg/kg	0.25	280	62.633911483	30	8
			Sulfate	mg/kg	5	380	33.205801435	31	12
SE202494.004	LB192492.013		Chloride	mg/kg	0.25	530	640	30	18
			Sulfate	mg/kg	5	150	150	33	4

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

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.002	LB192445.014		Arsenic, As	mg/kg	1	4	4	55	8
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.5	17	19	33	10
			Copper, Cu	mg/kg	0.5	9.3	12	35	26
			Nickel, Ni	mg/kg	0.5	5.8	7.5	37	26
			Lead, Pb	mg/kg	1	19	20	35	8
			Zinc, Zn	mg/kg	2	41	40	35	2
SE202429.005	LB192445.018		Calcium, Ca	mg/kg	5	240	200	32	21
			Potassium, K	mg/kg	10	470	540	32	13
			Magnesium, Mg	mg/kg	5	770	770	31	1
			Manganese, Mn	mg/kg	1	1100	730	30	38 ②
			Sodium, Na	mg/kg	5	820	860	31	4

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.001	LB192413.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE202429.004	LB192413.017		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

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.001	LB192412.014	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	-	8.2	7.9	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.6	8.1	50	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.9	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
SE202429.004	LB192412.017	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

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.004	LB192412.017	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.1	8.1	50	0
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.3	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.0	50	1
		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)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202429.001	LB192412.014		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	-	8.2	7.9	30	5
			d8-toluene (Surrogate)	mg/kg	-	8.6	8.1	30	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.9	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
SE202429.004	LB192412.017		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	-	8.1	8.1	30	0
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.3	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.0	30	1
		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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192654.007	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	NA	297.5	80 - 120	108

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192537.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	303	85 - 115	96

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192446.002	Mercury	mg/kg	0.05	0.22	0.2	70 - 130	108

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192413.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	116
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	109
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	109
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	106
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	106
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	108
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	40 - 130	106

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192413.002		Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	77
		Diazinon (Dimpylate)	mg/kg	0.5	2.3	2	60 - 140	117
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	95
		Ethion	mg/kg	0.2	2.0	2	60 - 140	100
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192413.002		Naphthalene	mg/kg	0.1	3.3	4	60 - 140	82
		Acenaphthylene	mg/kg	0.1	3.7	4	60 - 140	91
		Acenaphthene	mg/kg	0.1	3.3	4	60 - 140	84
		Phenanthrene	mg/kg	0.1	3.4	4	60 - 140	85
		Anthracene	mg/kg	0.1	3.3	4	60 - 140	82
		Fluoranthene	mg/kg	0.1	3.5	4	60 - 140	87
		Pyrene	mg/kg	0.1	3.7	4	60 - 140	93
		Benzo(a)pyrene	mg/kg	0.1	3.7	4	60 - 140	92
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		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 %
LB192413.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	84

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192537.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR

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

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

Soluble Anions (1:5) in Soil by Ion Chromatography (continued)

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192492.002	Chloride	mg/kg	0.25	91	100	70 - 130	91
	Sulfate	mg/kg	5	89	100	70 - 130	89

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 %
LB192445.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	106
	Calcium, Ca	mg/kg	5	9700	10367	80 - 120	93
	Cadmium, Cd	mg/kg	0.3	6.4	5.41	80 - 120	119
	Chromium, Cr	mg/kg	0.5	32	38.31	80 - 120	82
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	105
	Potassium, K	mg/kg	10	1300	1348	80 - 120	97
	Magnesium, Mg	mg/kg	5	9900	10422	80 - 120	95
	Manganese, Mn	mg/kg	1	700	660	80 - 120	106
	Sodium, Na	mg/kg	5	780	756	80 - 120	103
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	98
	Lead, Pb	mg/kg	1	97	89.9	80 - 120	108
	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 %
LB192413.002		TRH C10-C14	mg/kg	20	50	40	60 - 140	125
		TRH C15-C28	mg/kg	45	50	40	60 - 140	125
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	95
	TRH F Bands	TRH >C10-C16	mg/kg	25	50	40	60 - 140	125
		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 %
LB192412.002	Monocyclic	Benzene	mg/kg	0.1	4.8	5	60 - 140	96
	Aromatic	Toluene	mg/kg	0.1	3.9	5	60 - 140	78
		Ethylbenzene	mg/kg	0.1	4.3	5	60 - 140	87
		m/p-xylene	mg/kg	0.2	8.7	10	60 - 140	87
		o-xylene	mg/kg	0.1	4.4	5	60 - 140	88
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
		d8-toluene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	10	70 - 130	83

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192412.002		TRH C6-C10	mg/kg	25	91	92.5	60 - 140	98
		TRH C6-C9	mg/kg	20	80	80	60 - 140	100
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	10	70 - 130	83
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	64	62.5	60 - 140	103

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 identifer 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%
SE202282.001	LB192446.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	101

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%
SE202282.001	LB192445.004	Arsenic, As	mg/kg	1	46	5	50	82
		Cadmium, Cd	mg/kg	0.3	45	<0.3	50	89
		Chromium, Cr	mg/kg	0.5	67	15	50	103
		Copper, Cu	mg/kg	0.5	61	7.5	50	107
		Nickel, Ni	mg/kg	0.5	50	0.6	50	98
		Lead, Pb	mg/kg	1	69	20	50	98
		Zinc, Zn	mg/kg	2	62	13	50	99

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202422.001	LB192413.004		TRH C10-C14	mg/kg	20	58	<20	40	133
			TRH C15-C28	mg/kg	45	220	360	40	-335 ⑤
			TRH C29-C36	mg/kg	45	48	<45	40	120
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	330	360	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	280	370	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	68	30	40	95
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	68	30	-	-
			TRH >C16-C34 (F3)	mg/kg	90	220	340	40	-318 ⑤
			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%
SE202422.001	LB192412.004	Monocyclic	Benzene	mg/kg	0.1	3.5	<0.1	5	69
		Aromatic	Toluene	mg/kg	0.1	2.8	<0.1	5	56 ④
			Ethylbenzene	mg/kg	0.1	3.3	<0.1	5	66
			m/p-xylene	mg/kg	0.2	6.8	<0.2	10	68
			o-xylene	mg/kg	0.1	3.4	<0.1	5	68
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.5	7.4	10	75
			d8-toluene (Surrogate)	mg/kg	-	7.6	7.6	10	76
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.8	7.4	10	68 ①
		Totals	Total Xylenes	mg/kg	0.3	10	<0.3	-	-
			Total BTEX	mg/kg	0.6	20	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202422.001	LB192412.004		TRH C6-C10	mg/kg	25	57	<25	92.5	61
			TRH C6-C9	mg/kg	20	47	<20	80	58 ④
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.5	7.4	10	75
			d8-toluene (Surrogate)	mg/kg	-	7.6	7.6	10	76
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.8	7.4	-	68
		VPH F	Benzene (F0)	mg/kg	0.1	3.5	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	37	<25	62.5	59 ④

MATRIX SPIKE DUPLICATES

SE202429 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE202482 R0

CLIENT DETAILS

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Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station,Rouse Hill**
Order Number	**E24445.E02**
Samples	3

LABORATORY DETAILS

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SGS Reference	**SE202482 R0**
Date Received	05 Feb 2020
Date Reported	12 Feb 2020

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

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

Duplicate	TRH (Total Recoverable Hydrocarbons) in Soil	3 items
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	2 items
	Volatile Petroleum Hydrocarbons in Soil	1 item

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	3 Soil
Date documentation received	5/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	11.5°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE202482 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_2.8-3.0	SE202482.002	LB192654	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	24 Feb 2020	11 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192654	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	24 Feb 2020	11 Feb 2020

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_2.8-3.0	SE202482.002	LB192656	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	11 Feb 2020	11 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192656	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	11 Feb 2020	11 Feb 2020

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_2.8-3.0	SE202482.002	LB192580	04 Feb 2020	05 Feb 2020	03 Mar 2020	07 Feb 2020	03 Mar 2020	10 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192580	04 Feb 2020	05 Feb 2020	03 Mar 2020	07 Feb 2020	03 Mar 2020	10 Feb 2020

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192676	04 Feb 2020	05 Feb 2020	03 Feb 2021	10 Feb 2020	03 Feb 2021	11 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192676	04 Feb 2020	05 Feb 2020	03 Feb 2021	10 Feb 2020	03 Feb 2021	11 Feb 2020

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_2.8-3.0	SE202482.002	LB192749	04 Feb 2020	05 Feb 2020	03 Mar 2020	11 Feb 2020	03 Mar 2020	11 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192749	04 Feb 2020	05 Feb 2020	03 Mar 2020	11 Feb 2020	03 Mar 2020	11 Feb 2020

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192622	04 Feb 2020	05 Feb 2020	03 Mar 2020	10 Feb 2020	03 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192622	04 Feb 2020	05 Feb 2020	03 Mar 2020	10 Feb 2020	03 Mar 2020	10 Feb 2020

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192453	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	10 Feb 2020	07 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192453	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	10 Feb 2020	07 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192453	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	10 Feb 2020	07 Feb 2020

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_2.8-3.0	SE202482.002	LB192656	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	11 Feb 2020	11 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192656	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	11 Feb 2020	11 Feb 2020

Soil Texture (AS4419)

Method: ME-(AU)-[ENV]AN051

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_2.8-3.0	SE202482.002	LB192748	04 Feb 2020	05 Feb 2020	02 Aug 2020	11 Feb 2020	02 Aug 2020	11 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192748	04 Feb 2020	05 Feb 2020	02 Aug 2020	11 Feb 2020	02 Aug 2020	11 Feb 2020

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE202482 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Soluble Anions (1:5) in Soil by Ion Chromatography (continued)

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_2.8-3.0	SE202482.002	LB192629	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	09 Mar 2020	11 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192629	04 Feb 2020	05 Feb 2020	11 Feb 2020	10 Feb 2020	09 Mar 2020	11 Feb 2020

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
BH13_0.1-0.2	SE202482.001	LB192621	04 Feb 2020	05 Feb 2020	02 Aug 2020	10 Feb 2020	02 Aug 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192621	04 Feb 2020	05 Feb 2020	02 Aug 2020	10 Feb 2020	02 Aug 2020	10 Feb 2020
BH13_3.5-4.0	SE202482.003	LB192621	04 Feb 2020	05 Feb 2020	02 Aug 2020	10 Feb 2020	02 Aug 2020	10 Feb 2020

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
BH13_0.1-0.2	SE202482.001	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192452	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192450	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192450	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH13_0.1-0.2	SE202482.001	LB192450	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020
BH13_2.8-3.0	SE202482.002	LB192450	04 Feb 2020	05 Feb 2020	18 Feb 2020	05 Feb 2020	16 Mar 2020	10 Feb 2020

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 identifer 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)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	105
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	112

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	95
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	89
d14-p-terphenyl (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	92
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	88

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH13_0.1-0.2	SE202482.001	%	70 - 130%	95
	BH13_2.8-3.0	SE202482.002	%	70 - 130%	89
d14-p-terphenyl (Surrogate)	BH13_0.1-0.2	SE202482.001	%	70 - 130%	92
	BH13_2.8-3.0	SE202482.002	%	70 - 130%	88
d5-nitrobenzene (Surrogate)	BH13_0.1-0.2	SE202482.001	%	70 - 130%	104
	BH13_2.8-3.0	SE202482.002	%	70 - 130%	96

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	105
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	112

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	79
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	98
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	95
d8-toluene (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	91
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	84

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	79
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	98
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	95
d8-toluene (Surrogate)	BH13_0.1-0.2	SE202482.001	%	60 - 130%	91
	BH13_2.8-3.0	SE202482.002	%	60 - 130%	84

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result
LB192654.006	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB192656.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0.18

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB192580.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192622.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192452.001	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
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	107

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192452.001	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

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.

OP Pesticides in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB192452.001	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	86
		d14-p-terphenyl (Surrogate)	%	-	80

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192452.001		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)	%	-	86
		2-fluorobiphenyl (Surrogate)	%	-	86
		d14-p-terphenyl (Surrogate)	%	-	80

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192452.001		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)	%	-	107

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB192629.001	Chloride	mg/kg	0.25	<0.25
	Sulfate	mg/kg	5	<5.0

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

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

Sample Number	Parameter	Units	LOR	Result
LB192621.001	Arsenic, As	mg/kg	1	<1
	Calcium, Ca	mg/kg	5	<5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Potassium, K	mg/kg	10	<10
	Magnesium, Mg	mg/kg	5	<5
	Manganese, Mn	mg/kg	1	<1
	Sodium, Na	mg/kg	5	<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

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB192452.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192450.001	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)	%	-	96
		d8-toluene (Surrogate)	%	-	95
		Bromofluorobenzene (Surrogate)	%	-	95
	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
LB192450.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	96

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

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

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

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

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202482.003	LB192654.008	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	160	160	31	2

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202482.003	LB192749.006	pHf	pH Units	-	7.3	7.2	30	1
		pHfox	pH Units	-	7.5	7.6	30	1

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202482.002	LB192622.017	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202561.001	LB192622.014	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 %
SE202469.007	LB192453.011	% Moisture	%w/w	1	5.8	5.3	48	8
SE202482.003	LB192453.020	% Moisture	%w/w	1	8.2	8.1	42	0

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202482.002	LB192452.021		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.16	30	3

OP Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202469.008	LB192452.014	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

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

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

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

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

OP Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202469.008	LB192452.014		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	8

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202482.002	LB192452.021		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	3

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

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202482.003	LB192621.018		Calcium, Ca	mg/kg	5	860	660	31	26
			Potassium, K	mg/kg	10	610	630	32	3
			Magnesium, Mg	mg/kg	5	940	920	31	2
			Manganese, Mn	mg/kg	1	1100	1500	30	25
			Sodium, Na	mg/kg	5	800	810	31	2
SE202561.001	LB192621.014		Arsenic, As	mg/kg	1	8	7	43	12
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.5	16	14	33	8
			Copper, Cu	mg/kg	0.5	6.3	5.8	38	7
			Nickel, Ni	mg/kg	0.5	1.3	1.2	70	11
			Lead, Pb	mg/kg	1	12	11	39	4
			Zinc, Zn	mg/kg	2	17	15	43	8

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202469.008	LB192452.014		TRH C10-C14	mg/kg	20	<20	22	173	10
			TRH C15-C28	mg/kg	45	87	220	59	87 ②
			TRH C29-C36	mg/kg	45	<45	78	145	54
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	320	84	98 ②
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	310	134	39
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	35	144	33
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	35	173	33
			TRH >C16-C34 (F3)	mg/kg	90	93	280	79	99 ②
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE202482.002	LB192452.021		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

VOC's in Soil

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

Original	Duplicate	Parameter	Units	LOR

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202469.009	LB192450.014	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	-	8.3	8.7	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.2	8.0	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.4	50	7
		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
SE202482.002	LB192450.020	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	-	9.5	8.5	50	11
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.4	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.1	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

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202469.009	LB192450.014		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	-	8.3	8.7	30	5
			d8-toluene (Surrogate)	mg/kg	-	8.2	8.0	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.4	30	7
		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
SE202482.002	LB192450.020		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.5	8.5	30	11
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.4	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.1	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

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192654.007	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	320	297.5	80 - 120	108

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192656.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	303	85 - 115	96

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192622.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	105

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192452.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	112
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	110
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	109
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	109
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	106
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	95
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	40 - 130	105

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192452.002		Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	75
		Diazinon (Dimpylate)	mg/kg	0.5	1.6	2	60 - 140	78
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.6	2	60 - 140	79
		Ethion	mg/kg	0.2	1.4	2	60 - 140	71
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192452.002		Naphthalene	mg/kg	0.1	4.1	4	60 - 140	101
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98
		Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	106
		Phenanthrene	mg/kg	0.1	4.7	4	60 - 140	118
		Anthracene	mg/kg	0.1	4.4	4	60 - 140	111
		Fluoranthene	mg/kg	0.1	4.5	4	60 - 140	114
		Pyrene	mg/kg	0.1	4.7	4	60 - 140	118
		Benzo(a)pyrene	mg/kg	0.1	4.4	4	60 - 140	111
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192452.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	88

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192656.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR

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

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

Soluble Anions (1:5) in Soil by Ion Chromatography (continued)

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192629.002	Chloride	mg/kg	0.25	98	100	70 - 130	98
	Sulfate	mg/kg	5	97	100	70 - 130	97

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 %
LB192621.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	101
	Calcium, Ca	mg/kg	5	10000	10367	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	5.1	5.41	80 - 120	94
	Chromium, Cr	mg/kg	0.5	36	38.31	80 - 120	93
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	106
	Potassium, K	mg/kg	10	1300	1348	80 - 120	99
	Magnesium, Mg	mg/kg	5	11000	10422	80 - 120	102
	Manganese, Mn	mg/kg	1	680	660	80 - 120	103
	Sodium, Na	mg/kg	5	800	756	80 - 120	106
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	99	89.9	80 - 120	111
	Zinc, Zn	mg/kg	2	280	273	80 - 120	103

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192452.002		TRH C10-C14	mg/kg	20	37	40	60 - 140	93
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	83
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	68
	TRH F Bands	TRH >C10-C16	mg/kg	25	35	40	60 - 140	88
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	78
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	65

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192450.002	Monocyclic	Benzene	mg/kg	0.1	3.5	5	60 - 140	70
	Aromatic	Toluene	mg/kg	0.1	3.7	5	60 - 140	75
		Ethylbenzene	mg/kg	0.1	3.3	5	60 - 140	67
		m/p-xylene	mg/kg	0.2	6.7	10	60 - 140	67
		o-xylene	mg/kg	0.1	3.4	5	60 - 140	69
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		d8-toluene (Surrogate)	mg/kg	-	8.8	10	70 - 130	88
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10	70 - 130	94

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192450.002		TRH C6-C10	mg/kg	25	110	92.5	60 - 140	114
		TRH C6-C9	mg/kg	20	92	80	60 - 140	115
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10	70 - 130	94
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	79	62.5	60 - 140	126

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 identifer 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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202474.001	LB192452.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	115
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	113
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	109
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	119
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	106
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	94
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.17	-	108

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202474.001	LB192452.004		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	0.4	<0.2	0.4	101
			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	0.17	-	113

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%
SE202515.001	LB192621.004	Arsenic, As	mg/kg	1	77	28	50	99
		Cadmium, Cd	mg/kg	0.3	46	0.4	50	91
		Chromium, Cr	mg/kg	0.5	150	72	50	154 ④
		Copper, Cu	mg/kg	0.5	73	28	50	89
		Nickel, Ni	mg/kg	0.5	56	4.5	50	102
		Lead, Pb	mg/kg	1	100	91	50	25 ④
		Zinc, Zn	mg/kg	2	240	200	50	75

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202474.001	LB192452.004	TRH C10-C14	mg/kg	20	43	<20	40	108
		TRH C15-C28	mg/kg	45	<45	<45	40	93
		TRH C29-C36	mg/kg	45	<45	<45	40	83
		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	-	-

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 identifer 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%
SE202474.001	LB192452.004	TRH F Bands	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	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%
SE202474.001	LB192450.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.3	<0.1	5	65
			Toluene	mg/kg	0.1	3.5	<0.1	5	69
			Ethylbenzene	mg/kg	0.1	3.1	<0.1	5	62
			m/p-xylene	mg/kg	0.2	7.2	<0.2	10	72
			o-xylene	mg/kg	0.1	3.4	<0.1	5	68
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	8.2	10	94
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.1	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.5	8.5	10	95
		Totals	Total Xylenes	mg/kg	0.3	11	<0.3	-	-
			Total BTEX	mg/kg	0.6	21	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202474.001	LB192450.004		TRH C6-C10	mg/kg	25	110	<25	92.5	116
			TRH C6-C9	mg/kg	20	94	<20	80	117
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.2	8.2	10	82
			d8-toluene (Surrogate)	mg/kg	-	9.1	8.1	10	91
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.5	8.5	-	95
		VPH F Bands	Benzene (F0)	mg/kg	0.1	3.3	<0.1	-	-
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	88	<25	62.5	139 ⊕

MATRIX SPIKE DUPLICATES

SE202482 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE202232 R0

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station Rouse Hill**
Order Number	**E24445.E02**
Samples	2

LABORATORY DETAILS

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SGS Reference	**SE202232 R0**
Date Received	28 Jan 2020
Date Reported	04 Feb 2020

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	Nitrite in Water	2 items
	pH in water	2 items
	Turbidity	2 items
Analysis Date	Nitrite in Water	2 items
	pH in water	2 items
	Total Dissolved Solids (TDS) in water	2 items
	Turbidity	2 items
Duplicate	Total Phosphorus by Kjeldahl Digestion DA in Water	1 item

SAMPLE SUMMARY

HOLDING TIME SUMMARY

SE202232 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192188	24 Jan 2020	28 Jan 2020	07 Feb 2020	31 Jan 2020	07 Feb 2020	31 Jan 2020
DAM-S	SE202232.002	LB192188	24 Jan 2020	28 Jan 2020	07 Feb 2020	31 Jan 2020	07 Feb 2020	31 Jan 2020

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192090	24 Jan 2020	28 Jan 2020	21 Feb 2020	30 Jan 2020	21 Feb 2020	31 Jan 2020
DAM-S	SE202232.002	LB192090	24 Jan 2020	28 Jan 2020	21 Feb 2020	30 Jan 2020	21 Feb 2020	31 Jan 2020

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192135	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
DAM-S	SE202232.002	LB192135	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192101	24 Jan 2020	28 Jan 2020	21 Feb 2020	30 Jan 2020	21 Feb 2020	31 Jan 2020
DAM-S	SE202232.002	LB192101	24 Jan 2020	28 Jan 2020	21 Feb 2020	30 Jan 2020	21 Feb 2020	31 Jan 2020

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192027	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	31 Jan 2020
DAM-S	SE202232.002	LB192027	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	31 Jan 2020

Metals in Water (Dissolved) by ICPOES

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192206	24 Jan 2020	28 Jan 2020	22 Jul 2020	03 Feb 2020	22 Jul 2020	03 Feb 2020
DAM-S	SE202232.002	LB192206	24 Jan 2020	28 Jan 2020	22 Jul 2020	03 Feb 2020	22 Jul 2020	03 Feb 2020

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192090	24 Jan 2020	28 Jan 2020	28 Jan 2020	30 Jan 2020†	28 Jan 2020	30 Jan 2020†
DAM-S	SE202232.002	LB192090	24 Jan 2020	28 Jan 2020	28 Jan 2020	30 Jan 2020†	28 Jan 2020	30 Jan 2020†

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
DAM-NE	SE202232.001	LB192086	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
DAM-S	SE202232.002	LB192086	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192101	24 Jan 2020	28 Jan 2020	25 Jan 2020	30 Jan 2020†	25 Jan 2020	31 Jan 2020†
DAM-S	SE202232.002	LB192101	24 Jan 2020	28 Jan 2020	25 Jan 2020	30 Jan 2020†	25 Jan 2020	31 Jan 2020†

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192218	24 Jan 2020	28 Jan 2020	21 Feb 2020	03 Feb 2020	21 Feb 2020	04 Feb 2020
DAM-S	SE202232.002	LB192218	24 Jan 2020	28 Jan 2020	21 Feb 2020	03 Feb 2020	21 Feb 2020	04 Feb 2020

Total Cyanide in water by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN077/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192122	24 Jan 2020	28 Jan 2020	07 Feb 2020	31 Jan 2020	07 Feb 2020	31 Jan 2020
DAM-S	SE202232.002	LB192122	24 Jan 2020	28 Jan 2020	07 Feb 2020	31 Jan 2020	07 Feb 2020	31 Jan 2020

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192116	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	31 Jan 2020	03 Feb 2020†
DAM-S	SE202232.002	LB192116	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	31 Jan 2020	03 Feb 2020†

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN289

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192131	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	31 Jan 2020
DAM-S	SE202232.002	LB192131	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	31 Jan 2020

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Total Phosphorus by Kjeldahl Digestion DA in Water (continued)

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192218	24 Jan 2020	28 Jan 2020	21 Feb 2020	03 Feb 2020	21 Feb 2020	03 Feb 2020
DAM-S	SE202232.002	LB192218	24 Jan 2020	28 Jan 2020	21 Feb 2020	03 Feb 2020	21 Feb 2020	03 Feb 2020

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
DAM-NE	SE202232.001	LB192208	24 Jan 2020	28 Jan 2020	22 Jul 2020	03 Feb 2020	22 Jul 2020	03 Feb 2020
DAM-S	SE202232.002	LB192208	24 Jan 2020	28 Jan 2020	22 Jul 2020	03 Feb 2020	22 Jul 2020	03 Feb 2020

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
DAM-NE	SE202232.001	LB192086	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
DAM-S	SE202232.002	LB192086	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

Turbidity

Method: ME-(AU)-[ENV]AN119

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192085	24 Jan 2020	28 Jan 2020	25 Jan 2020	30 Jan 2020†	25 Jan 2020	30 Jan 2020†
DAM-S	SE202232.002	LB192085	24 Jan 2020	28 Jan 2020	25 Jan 2020	30 Jan 2020†	25 Jan 2020	30 Jan 2020†

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192100	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	31 Jan 2020
DAM-S	SE202232.002	LB192100	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	31 Jan 2020

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
DAM-NE	SE202232.001	LB192100	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	31 Jan 2020
DAM-S	SE202232.002	LB192100	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	10 Mar 2020	31 Jan 2020

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 identifer 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)	DAM-NE	SE202232.001	%	40 - 130%	64
	DAM-S	SE202232.002	%	40 - 130%	68
d14-p-terphenyl (Surrogate)	DAM-NE	SE202232.001	%	40 - 130%	86
	DAM-S	SE202232.002	%	40 - 130%	90
d5-nitrobenzene (Surrogate)	DAM-NE	SE202232.001	%	40 - 130%	62
	DAM-S	SE202232.002	%	40 - 130%	66

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	DAM-NE	SE202232.001	%	40 - 130%	97
	DAM-S	SE202232.002	%	40 - 130%	97
d4-1,2-dichloroethane (Surrogate)	DAM-NE	SE202232.001	%	40 - 130%	100
	DAM-S	SE202232.002	%	40 - 130%	100
d8-toluene (Surrogate)	DAM-NE	SE202232.001	%	40 - 130%	107
	DAM-S	SE202232.002	%	40 - 130%	107

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	DAM-NE	SE202232.001	%	40 - 130%	97
	DAM-S	SE202232.002	%	40 - 130%	97
d4-1,2-dichloroethane (Surrogate)	DAM-NE	SE202232.001	%	60 - 130%	100
	DAM-S	SE202232.002	%	60 - 130%	100
d8-toluene (Surrogate)	DAM-NE	SE202232.001	%	40 - 130%	107
	DAM-S	SE202232.002	%	40 - 130%	107

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.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB192188.001	Total Alkalinity as CaCO3	mg/L	5	<5

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result
LB192090.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB192135.001	Chloride	mg/L	1	<0.05
	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005
	Sulfate, SO4	mg/L	1	<1.0

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB192101.001	Conductivity @ 25 C	µS/cm	2	<2

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB192027.001	Mercury	mg/L	0.0001	<0.0001

Metals in Water (Dissolved) by ICPOES

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

Sample Number	Parameter	Units	LOR	Result
LB192206.001	Calcium, Ca	mg/L	0.1	<0.1
	Magnesium, Mg	mg/L	0.1	<0.1
	Potassium, K	mg/L	0.2	<0.2
	Sodium, Na	mg/L	0.1	<0.1

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result
LB192090.001	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result
LB192086.001		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(b&j&k)fluoranthene	µg/L	0.2	<0.2
		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)	%	-	58
		2-fluorobiphenyl (Surrogate)	%	-	60
		d14-p-terphenyl (Surrogate)	%	-	68

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

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

Total Cyanide in water by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result
LB192122.001	Total Cyanide	mg/L	0.004	<0.004

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB192116.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN289

Sample Number	Parameter	Units	LOR	Result
LB192131.001	Total Phenols	mg/L	0.05	<0.05

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB192218.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.06

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB192208.001	Aluminium, Al	µg/L	5	<5
	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
LB192086.001	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

Turbidity

Method: ME-(AU)-[ENV]AN119

Sample Number	Parameter	Units	LOR	Result
LB192085.001	Turbidity	NTU	0.5	<0.5

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB192100.001	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
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	100
		d8-toluene (Surrogate)	%	-	106
		Bromofluorobenzene (Surrogate)	%	-	96

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB192100.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	100
		d8-toluene (Surrogate)	%	-	106
		Bromofluorobenzene (Surrogate)	%	-	96

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

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

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

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

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202232.002	LB192090.008	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.07	0.06	31	18

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202256.001	LB192135.013	Nitrate Nitrogen, NO3-N	mg/L	0.005	0	0	200	0
SE202281.001	LB192135.022	Sulfate, SO4	mg/L	1	10.81	9.92	25	9

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202238.001	LB192101.011	Conductivity @ 25 C	µS/cm	2	3400	3400	15	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202233.007	LB192027.007	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	193

Metals in Water (Dissolved) by ICPOES

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202234.001	LB192206.014	Calcium, Ca	mg/L	0.1	680	680	15	0
SE202324.001	LB192206.032	Calcium, Ca	mg/L	0.1	22.628	22.481	16	1
		Magnesium, Mg	mg/L	0.1	5.5528	5.5662	17	0

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202232.002	LB192090.008	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	200	0

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202232.001	LB192086.024		Naphthalene	µg/L	0.1	<0.1	0	200	0
			2-methylnaphthalene	µg/L	0.1	<0.1	0	200	0
			1-methylnaphthalene	µg/L	0.1	<0.1	0	200	0
			Acenaphthylene	µg/L	0.1	<0.1	0	200	0
			Acenaphthene	µg/L	0.1	<0.1	0	200	0
			Fluorene	µg/L	0.1	<0.1	0.01	200	0
			Phenanthrene	µg/L	0.1	<0.1	0.05	200	0
			Anthracene	µg/L	0.1	<0.1	0.04	200	0
			Fluoranthene	µg/L	0.1	<0.1	0	200	0
			Pyrene	µg/L	0.1	<0.1	0	200	0
			Benzo(a)anthracene	µg/L	0.1	<0.1	0.02	200	0
			Chrysene	µg/L	0.1	<0.1	0.02	200	0
			Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	µg/L	0.1	<0.1	0	200	0
			Benzo(b&j&k)fluoranthene	µg/L	0.2	<0.2	0	200	0
			Benzo(a)pyrene	µg/L	0.1	<0.1	0.02	200	0
			Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	µg/L	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	µg/L	0.1	<0.1	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.31	0.28	30	10
			2-fluorobiphenyl (Surrogate)	µg/L	-	0.32	0.3	30	6
			d14-p-terphenyl (Surrogate)	µg/L	-	0.43	0.45	30	5

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Original	Duplicate	Parameter	Units	LOR

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

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

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

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

TKN Kjeldahl Digestion by Discrete Analyser (continued)

Method: ME-(AU)-[ENV]AN292

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202264.003	LB192218.020	Total Kjeldahl Nitrogen	mg/L	0.05	9585.4	9641.4	15	1
SE202268.001	LB192218.022	Total Kjeldahl Nitrogen	mg/L	0.05	0.25	0.24	35	7

Total Cyanide in water by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN077/AN287

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202222.001	LB192122.004	Total Cyanide	mg/L	0.004	0.000195	0.00017	200	0

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202238.001	LB192116.010	Total Dissolved Solids Dried at 175-185°C	mg/L	10	5300	5700	15	7

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN289

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202190.001	LB192131.004	Total Phenols	mg/L	0.05	0.02	<0.01	200	0

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202264.003	LB192218.020	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	5206.2	6218	15	18 ②
SE202268.001	LB192218.022	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02	<0.02	200	0

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202208.006	LB192208.014	Arsenic, As	µg/L	1	<1	<1	200	0
		Cadmium, Cd	µg/L	0.1	0.1	0.1	90	4
		Chromium, Cr	µg/L	1	<1	<1	200	0
		Copper, Cu	µg/L	1	10	10	25	0
		Nickel, Ni	µg/L	1	4	4	41	1
		Zinc, Zn	µg/L	5	210	210	17	1
SE202324.001	LB192208.024	Aluminium, Al	µg/L	5	1.464	1.855	200	0
		Arsenic, As	µg/L	1	0.452	0.467	200	0
		Cadmium, Cd	µg/L	0.1	0.033	0.031	200	0
		Chromium, Cr	µg/L	1	0.035	0.059	200	0
		Copper, Cu	µg/L	1	0.121	0.1	200	0
		Lead, Pb	µg/L	1	0.003	0.006	200	0
		Nickel, Ni	µg/L	1	0.586	0.563	189	0
		Zinc, Zn	µg/L	5	289.896	290.9	17	0

TRH (Total Recoverable Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202232.001	LB192086.024		TRH C10-C14	µg/L	50	<50	0	200	0
			TRH C15-C28	µg/L	200	<200	201	137	0
			TRH C29-C36	µg/L	200	<200	0	200	0
			TRH C37-C40	µg/L	200	<200	0	200	0
			TRH C10-C40	µg/L	320	<320	201	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	0	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	0	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	0	200	0

Turbidity

Method: ME-(AU)-[ENV]AN119

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202232.002	LB192085.005	Turbidity	NTU	0.5	18	20	18	9

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202243.002	LB192100.015	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
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.1	10.2	30	2
			d8-toluene (Surrogate)	µg/L	-	10.7	9.7	30	10
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	9.6	30	1

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202243.002	LB192100.015		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	-	10.1	10.2	30	2
			d8-toluene (Surrogate)	µg/L	-	10.7	9.7	30	10
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	9.6	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

LABORATORY CONTROL SAMPLES

SE202232 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.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192188.002	Total Alkalinity as CaCO3	mg/L	5	65	59.5	76 - 124	109

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192090.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.7	2.5	80 - 120	108

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192135.002	Chloride	mg/L	1	19	20	80 - 120	95
	Nitrate Nitrogen, NO3-N	mg/L	0.005	1.9	2	80 - 120	94
	Sulfate, SO4	mg/L	1	19	20	80 - 120	95

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192101.002	Conductivity @ 25 C	µS/cm	2	300	303	90 - 110	98

Metals in Water (Dissolved) by ICPOES

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192206.002	Calcium, Ca	mg/L	0.1	51	50.5	80 - 120	101
	Magnesium, Mg	mg/L	0.1	48	50.5	80 - 120	95
	Potassium, K	mg/L	0.2	51	55	80 - 120	92
	Sodium, Na	mg/L	0.1	50	50.5	80 - 120	100

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192090.002	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.11	0.1	80 - 120	108

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192086.002		Naphthalene	µg/L	0.1	28	40	60 - 140	70
		Acenaphthylene	µg/L	0.1	28	40	60 - 140	71
		Acenaphthene	µg/L	0.1	31	40	60 - 140	76
		Phenanthrene	µg/L	0.1	31	40	60 - 140	78
		Anthracene	µg/L	0.1	32	40	60 - 140	80
		Fluoranthene	µg/L	0.1	30	40	60 - 140	75
		Pyrene	µg/L	0.1	32	40	60 - 140	80
		Benzo(a)pyrene	µg/L	0.1	30	40	60 - 140	76
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.31	0.5	40 - 130	62
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.33	0.5	40 - 130	66
		d14-p-terphenyl (Surrogate)	µg/L	-	0.40	0.5	40 - 130	80

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192101.003	pH**	pH Units	0.1	7.4	7.415	98 - 102	100

Total Cyanide in water by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192122.002	Total Cyanide	mg/L	0.004	0.028	0.025	80 - 120	112

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR

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

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

Total Dissolved Solids (TDS) in water (continued)

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192116.002	Total Dissolved Solids Dried at 175-185°C	mg/L	10	330	293	81 - 119	114

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN289

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192131.002	Total Phenols	mg/L	0.05	0.26	0.25	80 - 120	103

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192218.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.1	1	80 - 120	112

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192208.002	Aluminium, Al	µg/L	5	21	20	80 - 120	107
	Arsenic, As	µg/L	1	19	20	80 - 120	95
	Cadmium, Cd	µg/L	0.1	20	20	80 - 120	100
	Chromium, Cr	µg/L	1	21	20	80 - 120	104
	Copper, Cu	µg/L	1	21	20	80 - 120	106
	Lead, Pb	µg/L	1	20	20	80 - 120	100
	Nickel, Ni	µg/L	1	21	20	80 - 120	103
	Zinc, Zn	µg/L	5	22	20	80 - 120	111

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192086.002		TRH C10-C14	µg/L	50	1200	1200	60 - 140	99
		TRH C15-C28	µg/L	200	1400	1200	60 - 140	120
		TRH C29-C36	µg/L	200	1600	1200	60 - 140	130
	TRH F Bands	TRH >C10-C16	µg/L	60	1300	1200	60 - 140	111
		TRH >C16-C34 (F3)	µg/L	500	1500	1200	60 - 140	129
		TRH >C34-C40 (F4)	µg/L	500	800	600	60 - 140	134

Turbidity

Method: ME-(AU)-[ENV]AN119

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192085.002	Turbidity	NTU	0.5	57	56	85 - 115	101

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192100.002	Monocyclic	Benzene	µg/L	0.5	46	45.45	60 - 140	100
	Aromatic	Toluene	µg/L	0.5	46	45.45	60 - 140	101
		Ethylbenzene	µg/L	0.5	45	45.45	60 - 140	99
		m/p-xylene	µg/L	1	92	90.9	60 - 140	101
		o-xylene	µg/L	0.5	46	45.45	60 - 140	101
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10	10	60 - 140	101
		d8-toluene (Surrogate)	µg/L	-	9.6	10	70 - 130	96
		Bromofluorobenzene (Surrogate)	µg/L	-	10	10	70 - 130	102

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192100.002		TRH C6-C10	µg/L	50	830	946.63	60 - 140	88
		TRH C6-C9	µg/L	40	710	818.71	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10	10	60 - 140	101
		d8-toluene (Surrogate)	µg/L	-	9.6	10	70 - 130	96
		Bromofluorobenzene (Surrogate)	µg/L	-	10	10	70 - 130	102
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	560	639.67	60 - 140	87

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Ammonia Nitrogen by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN291

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE202232.001	LB192090.009	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.05	2.5	99

Metals in Water (Dissolved) by ICPOES

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202208.001	LB192206.004	Calcium, Ca	mg/L	0.1	62	11	50.5	101
		Magnesium, Mg	mg/L	0.1	66	23	50.5	86
		Potassium, K	mg/L	0.2	49	0.3	55	89
		Sodium, Na	mg/L	0.1	87	41	50.5	91
SE202322.001	LB192206.030	Calcium, Ca	mg/L	0.1	570	517.7	50.5	108

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202199.001	LB192090.004	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.10	0.0013	0.1	99

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202326.017	LB192218.021	Total Kjeldahl Nitrogen	mg/L	0.05	2.1	<0.05	2.5	87

Total Cyanide in water by Discrete Analyser (Aquakem)

Method: ME-(AU)-[ENV]AN077/AN287

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202232.002	LB192122.009	Total Cyanide	mg/L	0.004	0.030	<0.004	0.025	120

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN289

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202280.003	LB192131.020	Total Phenols	mg/L	0.05	0.24	0.05278	0.25	74

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202326.017	LB192218.021	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.1	0.02	1	104

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202183.032	LB192208.004	Arsenic, As	µg/L	1	20	<1	20	100
		Cadmium, Cd	µg/L	0.1	21	<0.1	20	104
		Chromium, Cr	µg/L	1	22	<1	20	108
		Copper, Cu	µg/L	1	22	<1	20	111
		Lead, Pb	µg/L	1	20	<1	20	100
		Nickel, Ni	µg/L	1	22	<1	20	108
		Zinc, Zn	µg/L	5	35	12	20	115

VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202232.001	LB192100.016	Monocyclic	Benzene	µg/L	0.5	50	<0.5	45.45	110
		Aromatic	Toluene	µg/L	0.5	51	<0.5	45.45	112
			Ethylbenzene	µg/L	0.5	52	<0.5	45.45	114
			m/p-xylene	µg/L	1	100	<1	90.9	114
			o-xylene	µg/L	0.5	52	<0.5	45.45	114
		Polycyclic	Naphthalene	µg/L	0.5	57	<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.1	10	-	101
			d8-toluene (Surrogate)	µg/L	-	10.0	11	-	100
			Bromofluorobenzene (Surrogate)	µg/L	-	9.9	9.7	-	99

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202232.001	LB192100.016		TRH C6-C10	µg/L	50	890	<50	946.63	94
			TRH C6-C9	µg/L	40	790	<40	818.71	96
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.1	10	-	101
			d8-toluene (Surrogate)	µg/L	-	10.0	11	-	100
			Bromofluorobenzene (Surrogate)	µg/L	-	9.9	9.7	-	99
		VPH F	Benzene (F0)	µg/L	0.5	50	<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	580	<50	639.67	90

MATRIX SPIKE DUPLICATES

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Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE202374 R0

CLIENT DETAILS

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Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	2

LABORATORY DETAILS

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SGS Reference	**SE202374 R0**
Date Received	03 Feb 2020
Date Reported	10 Feb 2020

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:

Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	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	2 Soil
Date documentation received	3/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	5.9°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192307	31 Jan 2020	03 Feb 2020	07 Feb 2020	04 Feb 2020	18 Feb 2020	06 Feb 2020

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192467	31 Jan 2020	03 Feb 2020	07 Feb 2020	06 Feb 2020	07 Feb 2020	06 Feb 2020

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192579	31 Jan 2020	03 Feb 2020	28 Feb 2020	07 Feb 2020	28 Feb 2020	10 Feb 2020

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192599	31 Jan 2020	03 Feb 2020	30 Jan 2021	07 Feb 2020	30 Jan 2021	10 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192599	31 Jan 2020	03 Feb 2020	30 Jan 2021	07 Feb 2020	30 Jan 2021	10 Feb 2020

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192538	31 Jan 2020	03 Feb 2020	28 Feb 2020	07 Feb 2020	28 Feb 2020	07 Feb 2020

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192405	31 Jan 2020	03 Feb 2020	28 Feb 2020	05 Feb 2020	28 Feb 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192405	31 Jan 2020	03 Feb 2020	28 Feb 2020	05 Feb 2020	28 Feb 2020	06 Feb 2020

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192316	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	09 Feb 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192316	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	09 Feb 2020	05 Feb 2020

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192467	31 Jan 2020	03 Feb 2020	07 Feb 2020	06 Feb 2020	07 Feb 2020	06 Feb 2020

Soil Texture (AS4419)

Method: ME-(AU)-[ENV]AN051

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192329	31 Jan 2020	03 Feb 2020	29 Jul 2020	04 Feb 2020	29 Jul 2020	05 Feb 2020

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE202374 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Soluble Anions (1:5) in Soil by Ion Chromatography (continued)

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_3.0-3.2	SE202374.002	LB192492	31 Jan 2020	03 Feb 2020	07 Feb 2020	06 Feb 2020	05 Mar 2020	07 Feb 2020

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
BH11_0.1-0.2	SE202374.001	LB192404	31 Jan 2020	03 Feb 2020	29 Jul 2020	05 Feb 2020	29 Jul 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192404	31 Jan 2020	03 Feb 2020	29 Jul 2020	05 Feb 2020	29 Jul 2020	06 Feb 2020

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
BH11_0.1-0.2	SE202374.001	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192314	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	05 Feb 2020

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11_0.1-0.2	SE202374.001	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020
BH11_3.0-3.2	SE202374.002	LB192315	31 Jan 2020	03 Feb 2020	14 Feb 2020	04 Feb 2020	15 Mar 2020	06 Feb 2020

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 identifer 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)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	90
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	90

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	99
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	101
d14-p-terphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	89
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	91

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	70 - 130%	99
	BH11_3.0-3.2	SE202374.002	%	70 - 130%	101
d14-p-terphenyl (Surrogate)	BH11_0.1-0.2	SE202374.001	%	70 - 130%	89
	BH11_3.0-3.2	SE202374.002	%	70 - 130%	91
d5-nitrobenzene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	70 - 130%	88
	BH11_3.0-3.2	SE202374.002	%	70 - 130%	90

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	90
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	90

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	100
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	93
d4-1,2-dichloroethane (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	112
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	110
d8-toluene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	116
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	112

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	100
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	93
d4-1,2-dichloroethane (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	112
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	110
d8-toluene (Surrogate)	BH11_0.1-0.2	SE202374.001	%	60 - 130%	116
	BH11_3.0-3.2	SE202374.002	%	60 - 130%	112

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result
LB192307.001	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	0

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB192467.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB192579.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192405.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192314.001	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
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	88

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192314.001	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

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.

OP Pesticides in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB192314.001	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	92

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192314.001		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)	%	-	86
		2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	92

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192314.001		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)	%	-	88

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB192492.001	Chloride	mg/kg	0.25	<0.25
	Sulfate	mg/kg	5	<5.0

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

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

Sample Number	Parameter	Units	LOR	Result
LB192404.001	Arsenic, As	mg/kg	1	<1
	Calcium, Ca	mg/kg	5	<5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Potassium, K	mg/kg	10	<10
	Magnesium, Mg	mg/kg	5	<5
	Manganese, Mn	mg/kg	1	<1
	Sodium, Na	mg/kg	5	<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

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB192314.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192315.001	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)	%	-	120
		d8-toluene (Surrogate)	%	-	124
		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
LB192315.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	120

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

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

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

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

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192307.007	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25	22.338325358	200	0

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192467.018	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	320	31.3707057410	31	2
SE202390.009	LB192467.016	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	86	39.8959011406	32	4

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192538.011	pHf	pH Units	-	6.6	6.556	30	0
		pHfox	pH Units	-	4.9	5.054	30	3

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192405.017	Mercury	mg/kg	0.05	<0.05	<0.05	185	0
SE202384.001	LB192405.014	Mercury	mg/kg	0.05	0.0266286583	0.0267489167	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.001	LB192316.011	% Moisture	%w/w	1	10.1	9.2	40	10
SE202382.001	LB192316.020	% Moisture	%w/w	1	19.7	18.9	35	4

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	30	4

OP Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR

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

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

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

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

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192314.025		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
				TEQ (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
				TEQ (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
				TEQ (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	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	5
SE202382.001	LB192314.023		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

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023		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	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192314.023		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	4

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192467.018	pH	pH Units	0.1	6.9	6.61	31	4
SE202390.009	LB192467.016	pH	pH Units	0.1	7.1	7.1	31	0

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202374.002	LB192492.004	Chloride	mg/kg	0.25	280	62.633911483	30	8
		Sulfate	mg/kg	5	380	33.205801435	31	12

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202382.001	LB192404.014	Arsenic, As	mg/kg	1	7	6	46	11
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	198	0
		Chromium, Cr	mg/kg	0.5	9.4	8.1	36	15
		Copper, Cu	mg/kg	0.5	35	31	32	11
		Nickel, Ni	mg/kg	0.5	22	20	32	9
		Lead, Pb	mg/kg	1	21	20	35	4
		Zinc, Zn	mg/kg	2	97	93	32	4
SE202385.001	LB192404.017	Arsenic, As	mg/kg	1	11	11	39	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	7.5	10	36	30
		Copper, Cu	mg/kg	0.5	37	46	31	22
		Nickel, Ni	mg/kg	0.5	3.7	3.1	45	20
		Lead, Pb	mg/kg	1	19	20	35	7
		Zinc, Zn	mg/kg	2	15	18	42	13

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192314.024		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	64	49	110	27
			TRH C29-C36	mg/kg	45	71	52	103	31
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	140	<110	123	20
			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

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192314.024	TRH F Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	120	<90	120	25
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE202382.001	LB192314.023		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

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192315.014	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	-	11.7	11.8	50	1
			d8-toluene (Surrogate)	mg/kg	-	11.9	12.1	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.5	50	3
		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
SE202382.001	LB192315.020	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	-	11.0	12.3	50	11
			d8-toluene (Surrogate)	mg/kg	-	10.0	11.3	50	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10.6	50	3
		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)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202378.003	LB192315.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.7	11.8	30	1
			d8-toluene (Surrogate)	mg/kg	-	11.9	12.1	30	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.5	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE202382.001	LB192315.020		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	12.3	30	11
			d8-toluene (Surrogate)	mg/kg	-	10.0	11.3	30	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10.6	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192307.002	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	NA	297.5	80 - 120	112

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192467.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	303	85 - 115	94

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192405.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	100

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	90
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	91
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	84
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	89
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	89
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	79
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	90

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		Dichlorvos	mg/kg	0.5	1.8	2	60 - 140	89
		Diazinon (Dimpylate)	mg/kg	0.5	1.8	2	60 - 140	92
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	94
		Ethion	mg/kg	0.2	1.5	2	60 - 140	74
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		Naphthalene	mg/kg	0.1	4.9	4	60 - 140	123
		Acenaphthylene	mg/kg	0.1	5.1	4	60 - 140	127
		Acenaphthene	mg/kg	0.1	5.1	4	60 - 140	128
		Phenanthrene	mg/kg	0.1	5.2	4	60 - 140	129
		Anthracene	mg/kg	0.1	4.9	4	60 - 140	122
		Fluoranthene	mg/kg	0.1	4.7	4	60 - 140	119
		Pyrene	mg/kg	0.1	5.2	4	60 - 140	129
		Benzo(a)pyrene	mg/kg	0.1	4.9	4	60 - 140	122
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	83

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192467.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR

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

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

Soluble Anions (1:5) in Soil by Ion Chromatography (continued)

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192492.002	Chloride	mg/kg	0.25	91	100	70 - 130	91
	Sulfate	mg/kg	5	89	100	70 - 130	89

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 %
LB192404.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	102
	Calcium, Ca	mg/kg	5	9300	10367	80 - 120	90
	Cadmium, Cd	mg/kg	0.3	6.2	5.41	80 - 120	114
	Chromium, Cr	mg/kg	0.5	34	38.31	80 - 120	88
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	100
	Potassium, K	mg/kg	10	1300	1348	80 - 120	95
	Magnesium, Mg	mg/kg	5	9800	10422	80 - 120	94
	Manganese, Mn	mg/kg	1	680	660	80 - 120	103
	Sodium, Na	mg/kg	5	740	756	80 - 120	98
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	97
	Lead, Pb	mg/kg	1	91	89.9	80 - 120	102
	Zinc, Zn	mg/kg	2	270	273	80 - 120	100

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192314.002		TRH C10-C14	mg/kg	20	33	40	60 - 140	83
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	95
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	110
	TRH F Bands	TRH >C10-C16	mg/kg	25	33	40	60 - 140	83
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	125
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	105

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192315.002	Monocyclic	Benzene	mg/kg	0.1	3.8	5	60 - 140	76
	Aromatic	Toluene	mg/kg	0.1	4.2	5	60 - 140	84
		Ethylbenzene	mg/kg	0.1	4.0	5	60 - 140	79
		m/p-xylene	mg/kg	0.2	7.9	10	60 - 140	79
		o-xylene	mg/kg	0.1	3.9	5	60 - 140	78
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.6	10	70 - 130	126
		d8-toluene (Surrogate)	mg/kg	-	12.1	10	70 - 130	121
		Bromofluorobenzene (Surrogate)	mg/kg	-	12.0	10	70 - 130	120

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192315.002		TRH C6-C10	mg/kg	25	92	92.5	60 - 140	100
		TRH C6-C9	mg/kg	20	81	80	60 - 140	101
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.6	10	70 - 130	126
		Bromofluorobenzene (Surrogate)	mg/kg	-	12.0	10	70 - 130	120
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	68	62.5	60 - 140	109

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 identifer 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%
SE202348.001	LB192405.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	101

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202390.001	LB192314.004		Naphthalene	mg/kg	0.1	3.8	<0.1	4	94
			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	3.8	<0.1	4	96
			Acenaphthene	mg/kg	0.1	3.9	<0.1	4	97
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	3.9	<0.1	4	96
			Anthracene	mg/kg	0.1	3.7	<0.1	4	90
			Fluoranthene	mg/kg	0.1	3.7	0.1	4	89
			Pyrene	mg/kg	0.1	4.0	0.1	4	96
			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	3.8	<0.1	4	91
			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	3.8	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	3.9	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	3.8	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	30	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	-	91
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	101
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	93

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%
SE202348.001	LB192404.004	Arsenic, As	mg/kg	1	56	1	50	110
		Cadmium, Cd	mg/kg	0.3	49	<0.3	50	97
		Chromium, Cr	mg/kg	0.5	57	1.2	50	111
		Copper, Cu	mg/kg	0.5	56	1.0	50	110
		Nickel, Ni	mg/kg	0.5	55	0.7	50	108
		Lead, Pb	mg/kg	1	57	1	50	112
		Zinc, Zn	mg/kg	2	59	2	50	114

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202390.001	LB192314.004		TRH C10-C14	mg/kg	20	79	<20	40	155 ⑤
			TRH C15-C28	mg/kg	45	170	200	40	-58 ⑤
			TRH C29-C36	mg/kg	45	100	<45	40	165 ⑤
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	350	200	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	290	220	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	82	<25	40	155 ⑤
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	82	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	200	220	40	-40 ⑤
			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%
SE202390.001	LB192315.004	Monocyclic	Benzene	mg/kg	0.1	3.6	<0.1	5	72
		Aromatic	Toluene	mg/kg	0.1	4.1	<0.1	5	81
			Ethylbenzene	mg/kg	0.1	3.8	<0.1	5	76
			m/p-xylene	mg/kg	0.2	7.7	<0.2	10	76
			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 identifer 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%
SE202390.001	LB192315.004	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10.9	10	125
			d8-toluene (Surrogate)	mg/kg	-	12.1	10.3	10	121
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.9	10.7	10	109
		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%
SE202390.001	LB192315.004		TRH C6-C10	mg/kg	25	77	<25	92.5	83
			TRH C6-C9	mg/kg	20	69	<20	80	86
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10.9	10	125
			d8-toluene (Surrogate)	mg/kg	-	12.1	10.3	10	121
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.9	10.7	-	109
		VPH F	Benzene (F0)	mg/kg	0.1	3.6	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	54	<25	62.5	86

MATRIX SPIKE DUPLICATES

SE202374 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE203349 R0

CLIENT DETAILS

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Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	5

LABORATORY DETAILS

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SGS Reference	**SE203349 R0**
Date Received	27 Feb 2020
Date Reported	05 Mar 2020

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	pH in water	3 items
Analysis Date	pH in water	3 items
Duplicate	VOCs in Water	1 item
	Volatile Petroleum Hydrocarbons in Water	1 item

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	3 Water
Date documentation received	27/2/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	13.7°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194238	26 Feb 2020	27 Feb 2020	11 Mar 2020	04 Mar 2020	11 Mar 2020	05 Mar 2020
BH2M	SE203349.002	LB194238	26 Feb 2020	27 Feb 2020	11 Mar 2020	04 Mar 2020	11 Mar 2020	05 Mar 2020
BH3M	SE203349.003	LB194238	26 Feb 2020	27 Feb 2020	11 Mar 2020	04 Mar 2020	11 Mar 2020	05 Mar 2020

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194051	26 Feb 2020	27 Feb 2020	25 Mar 2020	02 Mar 2020	25 Mar 2020	03 Mar 2020
BH2M	SE203349.002	LB194051	26 Feb 2020	27 Feb 2020	25 Mar 2020	02 Mar 2020	25 Mar 2020	03 Mar 2020
BH3M	SE203349.003	LB194051	26 Feb 2020	27 Feb 2020	25 Mar 2020	02 Mar 2020	25 Mar 2020	03 Mar 2020

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194031	26 Feb 2020	27 Feb 2020	25 Mar 2020	28 Feb 2020	25 Mar 2020	02 Mar 2020
BH2M	SE203349.002	LB194031	26 Feb 2020	27 Feb 2020	25 Mar 2020	28 Feb 2020	25 Mar 2020	02 Mar 2020
BH3M	SE203349.003	LB194031	26 Feb 2020	27 Feb 2020	25 Mar 2020	28 Feb 2020	25 Mar 2020	02 Mar 2020

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194040	26 Feb 2020	27 Feb 2020	25 Mar 2020	02 Mar 2020	25 Mar 2020	02 Mar 2020
BH2M	SE203349.002	LB194040	26 Feb 2020	27 Feb 2020	25 Mar 2020	02 Mar 2020	25 Mar 2020	02 Mar 2020
BH3M	SE203349.003	LB194040	26 Feb 2020	27 Feb 2020	25 Mar 2020	02 Mar 2020	25 Mar 2020	02 Mar 2020

Metals in Water (Dissolved) by ICPOES

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194070	26 Feb 2020	27 Feb 2020	24 Aug 2020	02 Mar 2020	24 Aug 2020	02 Mar 2020
BH2M	SE203349.002	LB194070	26 Feb 2020	27 Feb 2020	24 Aug 2020	02 Mar 2020	24 Aug 2020	02 Mar 2020
BH3M	SE203349.003	LB194070	26 Feb 2020	27 Feb 2020	24 Aug 2020	02 Mar 2020	24 Aug 2020	02 Mar 2020

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
BH1M	SE203349.001	LB194059	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	05 Mar 2020
BH2M	SE203349.002	LB194059	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	05 Mar 2020
BH3M	SE203349.003	LB194059	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	05 Mar 2020

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194031	26 Feb 2020	27 Feb 2020	27 Feb 2020	28 Feb 2020†	27 Feb 2020	02 Mar 2020†
BH2M	SE203349.002	LB194031	26 Feb 2020	27 Feb 2020	27 Feb 2020	28 Feb 2020†	27 Feb 2020	02 Mar 2020†
BH3M	SE203349.003	LB194031	26 Feb 2020	27 Feb 2020	27 Feb 2020	28 Feb 2020†	27 Feb 2020	02 Mar 2020†

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
BH1M	SE203349.001	LB194265	26 Feb 2020	27 Feb 2020	24 Aug 2020	04 Mar 2020	24 Aug 2020	04 Mar 2020
BH2M	SE203349.002	LB194265	26 Feb 2020	27 Feb 2020	24 Aug 2020	04 Mar 2020	24 Aug 2020	04 Mar 2020
BH3M	SE203349.003	LB194265	26 Feb 2020	27 Feb 2020	24 Aug 2020	04 Mar 2020	24 Aug 2020	04 Mar 2020

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
BH1M	SE203349.001	LB194059	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	05 Mar 2020
BH2M	SE203349.002	LB194059	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	05 Mar 2020
BH3M	SE203349.003	LB194059	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	05 Mar 2020

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194060	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	04 Mar 2020
BH2M	SE203349.002	LB194060	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	04 Mar 2020
BH3M	SE203349.003	LB194060	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	04 Mar 2020

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M	SE203349.001	LB194060	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	04 Mar 2020
BH2M	SE203349.002	LB194060	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	04 Mar 2020
BH3M	SE203349.003	LB194060	26 Feb 2020	27 Feb 2020	04 Mar 2020	02 Mar 2020	11 Apr 2020	04 Mar 2020

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 identifer 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)	BH1M	SE203349.001	%	40 - 130%	46
	BH2M	SE203349.002	%	40 - 130%	78
	BH3M	SE203349.003	%	40 - 130%	46
d14-p-terphenyl (Surrogate)	BH1M	SE203349.001	%	40 - 130%	76
	BH2M	SE203349.002	%	40 - 130%	88
	BH3M	SE203349.003	%	40 - 130%	82
d5-nitrobenzene (Surrogate)	BH1M	SE203349.001	%	40 - 130%	48
	BH2M	SE203349.002	%	40 - 130%	60
	BH3M	SE203349.003	%	40 - 130%	48

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1M	SE203349.001	%	40 - 130%	100
	BH2M	SE203349.002	%	40 - 130%	101
	BH3M	SE203349.003	%	40 - 130%	103
d4-1,2-dichloroethane (Surrogate)	BH1M	SE203349.001	%	40 - 130%	102
	BH2M	SE203349.002	%	40 - 130%	101
	BH3M	SE203349.003	%	40 - 130%	102
d8-toluene (Surrogate)	BH1M	SE203349.001	%	40 - 130%	101
	BH2M	SE203349.002	%	40 - 130%	101
	BH3M	SE203349.003	%	40 - 130%	100

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1M	SE203349.001	%	40 - 130%	100
	BH2M	SE203349.002	%	40 - 130%	101
	BH3M	SE203349.003	%	40 - 130%	103
d4-1,2-dichloroethane (Surrogate)	BH1M	SE203349.001	%	60 - 130%	102
	BH2M	SE203349.002	%	60 - 130%	101
	BH3M	SE203349.003	%	60 - 130%	102
d8-toluene (Surrogate)	BH1M	SE203349.001	%	40 - 130%	101
	BH2M	SE203349.002	%	40 - 130%	101
	BH3M	SE203349.003	%	40 - 130%	100

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.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB194238.001	Total Alkalinity as CaCO3	mg/L	5	<5

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB194051.001	Chloride	mg/L	1	<0.05
	Sulfate, SO4	mg/L	1	<1.0

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB194031.001	Conductivity @ 25 C	µS/cm	2	<2

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB194040.001	Mercury	mg/L	0.0001	<0.0001

Metals in Water (Dissolved) by ICPOES

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

Sample Number	Parameter	Units	LOR	Result
LB194070.001	Calcium, Ca	mg/L	0.1	<0.1
	Magnesium, Mg	mg/L	0.1	<0.1
	Potassium, K	mg/L	0.2	<0.2
	Sodium, Na	mg/L	0.1	<0.1

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result
LB194059.001		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)	%	-	60
		2-fluorobiphenyl (Surrogate)	%	-	68
		d14-p-terphenyl (Surrogate)	%	-	86

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB194265.001	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
	Manganese, Mn	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

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.

TRH (Total Recoverable Hydrocarbons) in Water (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB194059.001	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
LB194060.001	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
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	98
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	99

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB194060.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	98
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	99

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

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

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

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

Alkalinity

Method: ME-(AU)-[ENV]AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203445.003	LB194238.016	Total Alkalinity as CaCO3	mg/L	5	27.56824	25.85818	34	6

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203389.001	LB194051.012	Sulfate, SO4	mg/L	1	70.55	69.58	16	1

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203332.001	LB194031.019	Conductivity @ 25 C	µS/cm	2	2900	2900	15	1
SE203353.001	LB194031.018	Conductivity @ 25 C	µS/cm	2	350	350	16	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203357.001	LB194040.014	Mercury	µg/L	0.0001	-0.01988	-0.01364	200	0
SE203357.007	LB194040.021	Mercury	µg/L	0.0001	-0.01188	-0.01304	200	0

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203318.006	LB194059.024		Naphthalene	µg/L	0.1	0	0	200	0
			2-methylnaphthalene	µg/L	0.1	0	0	200	0
			1-methylnaphthalene	µg/L	0.1	0	0	200	0
			Acenaphthylene	µg/L	0.1	0	0	200	0
			Acenaphthene	µg/L	0.1	0	0	200	0
			Fluorene	µg/L	0.1	0	0	200	0
			Phenanthrene	µg/L	0.1	0	0	200	0
			Anthracene	µg/L	0.1	0	0	200	0
			Fluoranthene	µg/L	0.1	0	0	200	0
			Pyrene	µg/L	0.1	0	0	200	0
			Benzo(a)anthracene	µg/L	0.1	0	0	200	0
			Chrysene	µg/L	0.1	0	0	200	0
			Benzo(b&j)fluoranthene	µg/L	0.1	0	0	200	0
			Benzo(k)fluoranthene	µg/L	0.1	0	0	200	0
			Benzo(a)pyrene	µg/L	0.1	0	0	200	0
			Indeno(1,2,3-cd)pyrene	µg/L	0.1	0	0	200	0
			Dibenzo(ah)anthracene	µg/L	0.1	0	0	200	0
			Benzo(ghi)perylene	µg/L	0.1	0	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.24	0.26	30	8
			2-fluorobiphenyl (Surrogate)	µg/L	-	0.26	0.28	30	7
			d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.41	30	2

pH in water

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203353.001	LB194031.019	pH**	pH Units	-	6.9	6.7	16	2

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203351.001	LB194265.014	Arsenic, As	µg/L	1	0.18584507	0.17954168	200	0
		Cadmium, Cd	µg/L	0.1	0.00395385	0.00669497	200	0
		Chromium, Cr	µg/L	1	0.30475392	0.29643584	200	0
		Copper, Cu	µg/L	1	0.20830094	0.20710422	200	0
		Lead, Pb	µg/L	1	0.01776433	0.01830371	200	0
		Nickel, Ni	µg/L	1	0.8838028	0.81744725	133	0
		Zinc, Zn	µg/L	5	2.07174128	2.13230957	200	0
SE203357.003	LB194265.027	Arsenic, As	µg/L	1	5.36547308	5.35754129	34	0

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

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

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

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

Trace Metals (Dissolved) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN318

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203357.003	LB194265.027		Cadmium, Cd	µg/L	0.1	0.03918644	0.03855696	200	0
			Chromium, Cr	µg/L	1	0.08983249	0.09838203	200	0
			Copper, Cu	µg/L	1	1.70076914	1.74304156	73	2
			Lead, Pb	µg/L	1	0.01543322	0.01423424	200	0
			Nickel, Ni	µg/L	1	1.45897347	1.47736915	83	1
			Zinc, Zn	µg/L	5	38.72620378	38.70847839	28	0

TRH (Total Recoverable Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203318.006	LB194059.024		TRH C10-C14	µg/L	50	0	0	200	0
			TRH C15-C28	µg/L	200	0	0	200	0
			TRH C29-C36	µg/L	200	0	0	200	0
			TRH C37-C40	µg/L	200	0	0	200	0
			TRH C10-C40	µg/L	320	0	0	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	0	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	-0.034141808	0	200	0
			TRH >C16-C34 (F3)	µg/L	500	0	0	200	0
			TRH >C34-C40 (F4)	µg/L	500	0	0	200	0
SE203339.001	LB194059.025		TRH C10-C14	µg/L	50	0	0	200	0
			TRH C15-C28	µg/L	200	207	130	149	3
			TRH C29-C36	µg/L	200	0	0	200	0
			TRH C37-C40	µg/L	200	0	0	200	0
			TRH C10-C40	µg/L	320	207	130	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	0	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	-0.4100463281	0	200	0
			TRH >C16-C34 (F3)	µg/L	500	0	0	200	0
			TRH >C34-C40 (F4)	µg/L	500	0	0	200	0

VOCs in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203276.001	LB194060.023	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.4	9.5	30	1
			d8-toluene (Surrogate)	µg/L	-	9.6	9.5	30	1
			Bromofluorobenzene (Surrogate)	µg/L	-	9.9	10.0	30	1
SE203346.001	LB194060.025	Monocyclic	Benzene	µg/L	0.5	<0.0005	0.0002	200	0
		Aromatic	Toluene	µg/L	0.5	<0.0005	0.0001	200	0
			Ethylbenzene	µg/L	0.5	<0.0005	<0.0005	200	0
			m/p-xylene	µg/L	1	<0.001	0.000	200	0
			o-xylene	µg/L	0.5	<0.0005	0.0005	146	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.0005	0.0005	200	1
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	0.0	30	7
			d8-toluene (Surrogate)	µg/L	-	0.0	0.0	30	33 ②
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	0.0	30	4

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203346.001	LB194060.025		TRH C6-C10	µg/L	50	<0.05	0.03	200	0
			TRH C6-C9	µg/L	40	<0.04	0.02	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	0.0	30	7
			d8-toluene (Surrogate)	µg/L	-	0.0	0.0	30	33 ②
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	0.0	30	4
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.0005	0.0002	200	0

LABORATORY CONTROL SAMPLES

SE203349 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.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194238.002	Total Alkalinity as CaCO3	mg/L	5	63	59.5	76 - 124	106

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194051.002	Chloride	mg/L	1	19	20	80 - 120	97
	Sulfate, SO4	mg/L	1	19	20	80 - 120	96

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194031.002	Conductivity @ 25 C	µS/cm	2	290	303	90 - 110	95

Metals in Water (Dissolved) by ICPOES

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194070.002	Calcium, Ca	mg/L	0.1	50	50.5	80 - 120	99
	Magnesium, Mg	mg/L	0.1	49	50.5	80 - 120	96
	Potassium, K	mg/L	0.2	52	55	80 - 120	95
	Sodium, Na	mg/L	0.1	49	50.5	80 - 120	97

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194059.002		Naphthalene	µg/L	0.1	26	40	60 - 140	64
		Acenaphthylene	µg/L	0.1	33	40	60 - 140	83
		Acenaphthene	µg/L	0.1	30	40	60 - 140	76
		Phenanthrene	µg/L	0.1	32	40	60 - 140	81
		Anthracene	µg/L	0.1	31	40	60 - 140	77
		Fluoranthene	µg/L	0.1	32	40	60 - 140	81
		Pyrene	µg/L	0.1	34	40	60 - 140	86
		Benzo(a)pyrene	µg/L	0.1	33	40	60 - 140	82
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.3	0.5	40 - 130	60
		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

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194031.003	pH**	No unit	-	7.4	7.415	98 - 102	100

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194265.002	Arsenic, As	µg/L	1	20	20	80 - 120	100
	Cadmium, Cd	µg/L	0.1	20	20	80 - 120	101
	Chromium, Cr	µg/L	1	21	20	80 - 120	105
	Copper, Cu	µg/L	1	21	20	80 - 120	104
	Lead, Pb	µg/L	1	21	20	80 - 120	105
	Manganese, Mn	µg/L	1	21	20	80 - 120	107
	Nickel, Ni	µg/L	1	21	20	80 - 120	104
	Zinc, Zn	µg/L	5	22	20	80 - 120	110

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194059.002		TRH C10-C14	µg/L	50	780	1200	60 - 140	65
		TRH C15-C28	µg/L	200	910	1200	60 - 140	76
		TRH C29-C36	µg/L	200	980	1200	60 - 140	82
	TRH F Bands	TRH >C10-C16	µg/L	60	870	1200	60 - 140	73
		TRH >C16-C34 (F3)	µg/L	500	1000	1200	60 - 140	86
		TRH >C34-C40 (F4)	µg/L	500	<500	600	60 - 140	78

VOCs in Water

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

Sample Number	Parameter	Units	LOR

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

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

VOCs in Water (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194060.002	Monocyclic	Benzene	µg/L	0.5	50	45.45	60 - 140	109
	Aromatic	Toluene	µg/L	0.5	49	45.45	60 - 140	108
		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	50	45.45	60 - 140	109
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.6	10	60 - 140	106
		d8-toluene (Surrogate)	µg/L	-	10.5	10	70 - 130	105
		Bromofluorobenzene (Surrogate)	µg/L	-	10.0	10	70 - 130	100

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194060.002		TRH C6-C10	µg/L	50	930	946.63	60 - 140	98
		TRH C6-C9	µg/L	40	800	818.71	60 - 140	98
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.6	10	60 - 140	106
		d8-toluene (Surrogate)	µg/L	-	10.5	10	70 - 130	105
		Bromofluorobenzene (Surrogate)	µg/L	-	10.0	10	70 - 130	100
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	640	639.67	60 - 140	99

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water — Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203343.019	LB194040.004	Mercury	mg/L	0.0001	0.0075	-0.0144	0.008	93

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203456.001	LB194265.004	Chromium, Cr	µg/L	1	29	8	20	103

VOCs in Water — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203336.001	LB194060.026	Monocyclic	Benzene	µg/L	0.5	0.045	0	45.45	99
		Aromatic	Toluene	µg/L	0.5	0.046	0.02564173	45.45	100
			Ethylbenzene	µg/L	0.5	0.045	0.022064243	45.45	99
			m/p-xylene	µg/L	1	0.089	0.066754588	90.9	98
			o-xylene	µg/L	0.5	0.045	0.031188158	45.45	99
		Polycyclic	Naphthalene	µg/L	0.5	0.046	0.022575304	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	9.930280232	-	101
			d8-toluene (Surrogate)	µg/L	-	0.0	9.95282429	-	104
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	9.585896535	-	101

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203336.001	LB194060.026	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	9.930280232	-	101
			d8-toluene (Surrogate)	µg/L	-	0.0	9.95282429	-	104
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	9.585896535	-	101
		VPH F	Benzene (F0)	µg/L	0.5	0.045	0	-	-

MATRIX SPIKE DUPLICATES

SE203349 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE203349A R0

CLIENT DETAILS

Contact	Nicholas Grbich
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Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	5

LABORATORY DETAILS

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Laboratory	SGS Alexandria Environmental
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SGS Reference	**SE203349A R0**
Date Received	06 Mar 2020
Date Reported	09 Mar 2020

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	TRH Silica Gel (Total Recoverable Hydrocarbons - Silica Gel) in Water	1 item

SAMPLE SUMMARY

HOLDING TIME SUMMARY

SE203349A 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH Silica Gel (Total Recoverable Hydrocarbons - Silica Gel) in Water — **Method: ME-(AU)-[ENV]AN403**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2M	SE203349A.002	LB194548	26 Feb 2020	06 Mar 2020	04 Mar 2020	09 Mar 2020†	18 Apr 2020	09 Mar 2020

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No surrogates were required for this job.

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.

TRH Silica Gel (Total Recoverable Hydrocarbons - Silica Gel) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB194548.001	TRH C10-C14-Silica	µg/L	50	<50
	TRH C15-C28-Silica	µg/L	200	<200
	TRH C29-C36-Silica	µg/L	200	<200
	TRH C37-C40-Silica	µg/L	200	<200

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

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

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

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

Original	Duplicate	Parameter	Units	LOR

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

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

TRH Silica Gel (Total Recoverable Hydrocarbons - Silica Gel) in Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194548.002	TRH C10-C14-Silica	µg/L	50	810	1200	60 - 140	67
	TRH C15-C28-Silica	µg/L	200	950	1200	60 - 140	79
	TRH C29-C36-Silica	µg/L	200	1000	1200	60 - 140	84
	TRH >C10-C16-Silica	µg/L	60	880	1200	60 - 140	73
	TRH >C16-C34-Silica	µg/L	500	1100	1200	60 - 140	89
	TRH >C34-C40-Silica	µg/L	500	500	600	60 - 140	84

MATRIX SPIKES

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

QC Sample	Sample Number	Parameter	Units	LOR

MATRIX SPIKE DUPLICATES

SE203349A R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE203216 R0

CLIENT DETAILS

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Project	**E24445 Tallawong Station Precinct South,**
Order Number	**E24445**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
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SGS Reference	**SE203216 R0**
Date Received	25 Feb 2020
Date Reported	03 Mar 2020

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	pH in water	4 items
Analysis Date	pH in water	4 items
Matrix Spike	Metals in Water (Dissolved) by ICPOES	1 item
	Trace Metals (Dissolved) in Water by ICPMS	1 item

SAMPLE SUMMARY

HOLDING TIME SUMMARY

SE203216 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB194120	21 Feb 2020	25 Feb 2020	06 Mar 2020	02 Mar 2020	06 Mar 2020	03 Mar 2020
BH8M	SE203216.002	LB194120	21 Feb 2020	25 Feb 2020	06 Mar 2020	02 Mar 2020	06 Mar 2020	03 Mar 2020
BH11M	SE203216.003	LB194120	21 Feb 2020	25 Feb 2020	06 Mar 2020	02 Mar 2020	06 Mar 2020	03 Mar 2020
BH13M	SE203216.004	LB194120	21 Feb 2020	25 Feb 2020	06 Mar 2020	02 Mar 2020	06 Mar 2020	03 Mar 2020

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB193801	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	28 Feb 2020
BH8M	SE203216.002	LB193801	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	28 Feb 2020
BH11M	SE203216.003	LB193801	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	28 Feb 2020
BH13M	SE203216.004	LB193801	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	28 Feb 2020

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB193780	21 Feb 2020	25 Feb 2020	20 Mar 2020	26 Feb 2020	20 Mar 2020	27 Feb 2020
BH8M	SE203216.002	LB193780	21 Feb 2020	25 Feb 2020	20 Mar 2020	26 Feb 2020	20 Mar 2020	27 Feb 2020
BH11M	SE203216.003	LB193780	21 Feb 2020	25 Feb 2020	20 Mar 2020	26 Feb 2020	20 Mar 2020	27 Feb 2020
BH13M	SE203216.004	LB193780	21 Feb 2020	25 Feb 2020	20 Mar 2020	26 Feb 2020	20 Mar 2020	27 Feb 2020

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB193786	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	27 Feb 2020
BH8M	SE203216.002	LB193786	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	27 Feb 2020
BH11M	SE203216.003	LB193786	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	27 Feb 2020
BH13M	SE203216.004	LB193786	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	27 Feb 2020
GWQD1	SE203216.005	LB193786	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	27 Feb 2020
GWQR1	SE203216.008	LB193786	21 Feb 2020	25 Feb 2020	20 Mar 2020	27 Feb 2020	20 Mar 2020	27 Feb 2020

Metals in Water (Dissolved) by ICPOES

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB193906	21 Feb 2020	25 Feb 2020	19 Aug 2020	28 Feb 2020	19 Aug 2020	02 Mar 2020
BH8M	SE203216.002	LB193906	21 Feb 2020	25 Feb 2020	19 Aug 2020	28 Feb 2020	19 Aug 2020	02 Mar 2020
BH11M	SE203216.003	LB193906	21 Feb 2020	25 Feb 2020	19 Aug 2020	28 Feb 2020	19 Aug 2020	02 Mar 2020
BH13M	SE203216.004	LB193906	21 Feb 2020	25 Feb 2020	19 Aug 2020	28 Feb 2020	19 Aug 2020	02 Mar 2020

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
BH7M	SE203216.001	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
BH8M	SE203216.002	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
BH11M	SE203216.003	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
BH13M	SE203216.004	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
GWQD1	SE203216.005	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
GWQR1	SE203216.008	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB193780	21 Feb 2020	25 Feb 2020	22 Feb 2020	26 Feb 2020†	22 Feb 2020	27 Feb 2020†
BH8M	SE203216.002	LB193780	21 Feb 2020	25 Feb 2020	22 Feb 2020	26 Feb 2020†	22 Feb 2020	27 Feb 2020†
BH11M	SE203216.003	LB193780	21 Feb 2020	25 Feb 2020	22 Feb 2020	26 Feb 2020†	22 Feb 2020	27 Feb 2020†
BH13M	SE203216.004	LB193780	21 Feb 2020	25 Feb 2020	22 Feb 2020	26 Feb 2020†	22 Feb 2020	27 Feb 2020†

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
BH7M	SE203216.001	LB193874	21 Feb 2020	25 Feb 2020	19 Aug 2020	27 Feb 2020	19 Aug 2020	28 Feb 2020
BH8M	SE203216.002	LB193874	21 Feb 2020	25 Feb 2020	19 Aug 2020	27 Feb 2020	19 Aug 2020	28 Feb 2020
BH11M	SE203216.003	LB193874	21 Feb 2020	25 Feb 2020	19 Aug 2020	27 Feb 2020	19 Aug 2020	28 Feb 2020
BH13M	SE203216.004	LB193874	21 Feb 2020	25 Feb 2020	19 Aug 2020	27 Feb 2020	19 Aug 2020	28 Feb 2020
GWQD1	SE203216.005	LB193874	21 Feb 2020	25 Feb 2020	19 Aug 2020	27 Feb 2020	19 Aug 2020	28 Feb 2020
GWQR1	SE203216.008	LB193874	21 Feb 2020	25 Feb 2020	19 Aug 2020	27 Feb 2020	19 Aug 2020	28 Feb 2020

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
BH7M	SE203216.001	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
BH8M	SE203216.002	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020

HOLDING TIME SUMMARY

SE203216 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Water (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11M	SE203216.003	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
BH13M	SE203216.004	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
GWQD1	SE203216.005	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020
GWQR1	SE203216.008	LB193766	21 Feb 2020	25 Feb 2020	28 Feb 2020	26 Feb 2020	06 Apr 2020	03 Mar 2020

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
BH8M	SE203216.002	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
BH11M	SE203216.003	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
BH13M	SE203216.004	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWQD1	SE203216.005	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWTB1	SE203216.006	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWTS1	SE203216.007	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWQR1	SE203216.008	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7M	SE203216.001	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
BH8M	SE203216.002	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
BH11M	SE203216.003	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
BH13M	SE203216.004	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWQD1	SE203216.005	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWTB1	SE203216.006	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWTS1	SE203216.007	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020
GWQR1	SE203216.008	LB193807	21 Feb 2020	25 Feb 2020	28 Feb 2020	27 Feb 2020	07 Apr 2020	02 Mar 2020

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 identifer 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)	BH7M	SE203216.001	%	40 - 130%	58
	BH8M	SE203216.002	%	40 - 130%	46
	BH11M	SE203216.003	%	40 - 130%	58
	BH13M	SE203216.004	%	40 - 130%	46
d14-p-terphenyl (Surrogate)	BH7M	SE203216.001	%	40 - 130%	88
	BH8M	SE203216.002	%	40 - 130%	80
	BH11M	SE203216.003	%	40 - 130%	88
	BH13M	SE203216.004	%	40 - 130%	76
d5-nitrobenzene (Surrogate)	BH7M	SE203216.001	%	40 - 130%	42
	BH8M	SE203216.002	%	40 - 130%	44
	BH11M	SE203216.003	%	40 - 130%	44
	BH13M	SE203216.004	%	40 - 130%	44

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH7M	SE203216.001	%	40 - 130%	85
	BH8M	SE203216.002	%	40 - 130%	89
	BH11M	SE203216.003	%	40 - 130%	85
	BH13M	SE203216.004	%	40 - 130%	90
	GWQD1	SE203216.005	%	40 - 130%	92
	GWTB1	SE203216.006	%	40 - 130%	88
	GWTS1	SE203216.007	%	40 - 130%	113
	GWQR1	SE203216.008	%	40 - 130%	90
d4-1,2-dichloroethane (Surrogate)	BH7M	SE203216.001	%	40 - 130%	100
	BH8M	SE203216.002	%	40 - 130%	105
	BH11M	SE203216.003	%	40 - 130%	103
	BH13M	SE203216.004	%	40 - 130%	102
	GWQD1	SE203216.005	%	40 - 130%	103
	GWTB1	SE203216.006	%	40 - 130%	101
	GWTS1	SE203216.007	%	40 - 130%	95
	GWQR1	SE203216.008	%	40 - 130%	102
d8-toluene (Surrogate)	BH7M	SE203216.001	%	40 - 130%	97
	BH8M	SE203216.002	%	40 - 130%	99
	BH11M	SE203216.003	%	40 - 130%	98
	BH13M	SE203216.004	%	40 - 130%	100
	GWQD1	SE203216.005	%	40 - 130%	98
	GWTB1	SE203216.006	%	40 - 130%	97
	GWTS1	SE203216.007	%	40 - 130%	95
	GWQR1	SE203216.008	%	40 - 130%	97

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH7M	SE203216.001	%	40 - 130%	85
	BH8M	SE203216.002	%	40 - 130%	89
	BH11M	SE203216.003	%	40 - 130%	85
	BH13M	SE203216.004	%	40 - 130%	90
	GWQD1	SE203216.005	%	40 - 130%	92
	GWQR1	SE203216.008	%	40 - 130%	90
d4-1,2-dichloroethane (Surrogate)	BH7M	SE203216.001	%	60 - 130%	100
	BH8M	SE203216.002	%	60 - 130%	105
	BH11M	SE203216.003	%	60 - 130%	103
	BH13M	SE203216.004	%	60 - 130%	102
	GWQD1	SE203216.005	%	60 - 130%	103
	GWQR1	SE203216.008	%	60 - 130%	102
d8-toluene (Surrogate)	BH7M	SE203216.001	%	40 - 130%	97
	BH8M	SE203216.002	%	40 - 130%	99
	BH11M	SE203216.003	%	40 - 130%	98
	BH13M	SE203216.004	%	40 - 130%	100
	GWQD1	SE203216.005	%	40 - 130%	98
	GWQR1	SE203216.008	%	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.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB194120.001	Total Alkalinity as CaCO3	mg/L	5	<5

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB193801.001	Chloride	mg/L	1	<0.05
	Sulfate, SO4	mg/L	1	<1.0

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB193780.001	Conductivity @ 25 C	µS/cm	2	<2

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB193786.001	Mercury	mg/L	0.0001	<0.0001

Metals in Water (Dissolved) by ICPOES

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

Sample Number	Parameter	Units	LOR	Result
LB193906.001	Calcium, Ca	mg/L	0.1	<0.1
	Magnesium, Mg	mg/L	0.1	<0.1
	Potassium, K	mg/L	0.2	<0.2
	Sodium, Na	mg/L	0.1	<0.1

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result
LB193766.001		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)	%	-	60
		2-fluorobiphenyl (Surrogate)	%	-	62
		d14-p-terphenyl (Surrogate)	%	-	84

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB193874.001	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
	Manganese, Mn	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

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.

TRH (Total Recoverable Hydrocarbons) in Water (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB193766.001	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
LB193807.001	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
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	105
		d8-toluene (Surrogate)	%	-	101
		Bromofluorobenzene (Surrogate)	%	-	85

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB193807.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	105
		d8-toluene (Surrogate)	%	-	101
		Bromofluorobenzene (Surrogate)	%	-	85

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

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

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

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

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203272A.001	LB193801.013	Sulfate, SO4	mg/L	1	<1.0	<1.0	200	0

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203216.004	LB193780.008	Conductivity @ 25 C	µS/cm	2	13000	13000	15	0

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203261.002	LB193786.014	Mercury	µg/L	0.0001	-0.0057	-0.00644	200	0
SE203288.014	LB193786.018	Mercury	µg/L	0.0001	<0.0001	0.0000	200	190

Metals in Water (Dissolved) by ICPOES

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203299.004	LB193906.014	Calcium, Ca	mg/L	0.1	18	18	16	1
		Magnesium, Mg	mg/L	0.1	7.7	7.8	16	1
		Potassium, K	mg/L	0.2	2.2	2.2	20	0
		Sodium, Na	mg/L	0.1	24	24	17	1
SE203318.007	LB193906.028	Calcium, Ca	mg/L	0.1	155.58	159.24	15	2
		Magnesium, Mg	mg/L	0.1	23.569	23.908	15	1
		Potassium, K	mg/L	0.2	18.407	18.661	16	1
		Sodium, Na	mg/L	0.1	42.89	43.11	16	1
SE203339.001	LB193906.032	Calcium, Ca	mg/L	0.1	424.16	426.38	15	1
		Magnesium, Mg	mg/L	0.1	396.64	400.56	15	1
		Potassium, K	mg/L	0.2	205	193	15	6
		Sodium, Na	mg/L	0.1	5542	5205	15	6

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203261.002	LB193766.017		Naphthalene	µg/L	0.1	0.19	0.22	79	0
			2-methylnaphthalene	µg/L	0.1	1.87	2.29	35	20
			1-methylnaphthalene	µg/L	0.1	1.46	1.8	36	21
			Acenaphthylene	µg/L	0.1	0.07	0.06	184	0
			Acenaphthene	µg/L	0.1	0.14	0.14	101	0
			Fluorene	µg/L	0.1	0.13	0.13	107	0
			Phenanthrene	µg/L	0.1	0.46	0.43	52	7
			Anthracene	µg/L	0.1	0.07	0.08	163	0
			Fluoranthene	µg/L	0.1	0.41	0.37	56	10
			Pyrene	µg/L	0.1	0.38	0.38	56	0
			Benzo(a)anthracene	µg/L	0.1	0.17	0.15	93	13
			Chrysene	µg/L	0.1	0.12	0.11	117	9
			Benzo(b&j)fluoranthene	µg/L	0.1	0.12	0.11	117	9
			Benzo(k)fluoranthene	µg/L	0.1	0.06	0.06	197	0
			Benzo(a)pyrene	µg/L	0.1	0.12	0.19	95	45
			Indeno(1,2,3-cd)pyrene	µg/L	0.1	0.1	0.08	141	0
			Dibenzo(ah)anthracene	µg/L	0.1	0.02	0.01	200	0
			Benzo(ghi)perylene	µg/L	0.1	0.1	0.09	135	0
		Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.2	0.21	30	5
			2-fluorobiphenyl (Surrogate)	µg/L	-	0.32	0.34	30	6
			d14-p-terphenyl (Surrogate)	µg/L	-	0.49	0.41	30	18

pH in water

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203216.004	LB193780.008	pH**	pH Units	-	6.9	6.9	16	0

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

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

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

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

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203238.003	LB193874.014	Arsenic, As	µg/L	1	2	2	61	6
		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	3	3	45	1
		Lead, Pb	µg/L	1	<1	<1	200	0
		Nickel, Ni	µg/L	1	1	1	106	1
		Zinc, Zn	µg/L	5	8	8	80	1
SE203256.001	LB193874.021	Arsenic, As	µg/L	1	1	1	91	9
		Cadmium, Cd	µg/L	0.1	<0.1	<0.1	200	0
		Chromium, Cr	µg/L	1	2	2	57	6
		Copper, Cu	µg/L	1	4	4	40	2
		Lead, Pb	µg/L	1	2	2	80	3
		Manganese, Mn	µg/L	1	4	4	42	6
		Zinc, Zn	µg/L	5	45	45	26	0

VOCs in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203149.002	LB193807.026	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
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	9.3	30	6
			d8-toluene (Surrogate)	µg/L	-	9.3	10.2	30	9
			Bromofluorobenzene (Surrogate)	µg/L	-	9.1	9.7	30	6

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE203142.001	LB193807.025		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	9.3	30	6
			d8-toluene (Surrogate)	µg/L	-	9.8	10.6	30	8
			Bromofluorobenzene (Surrogate)	µg/L	-	9.1	9.6	30	6
		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
SE203149.002	LB193807.026		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	9.3	30	6
			d8-toluene (Surrogate)	µg/L	-	9.3	10.2	30	9
			Bromofluorobenzene (Surrogate)	µg/L	-	9.1	9.7	30	6
		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 SAMPLES

SE203216 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.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB194120.002	Total Alkalinity as CaCO3	mg/L	5	73	59.5	76 - 124	123

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193801.002	Chloride	mg/L	1	17	20	80 - 120	87
	Sulfate, SO4	mg/L	1	17	20	80 - 120	86

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193780.002	Conductivity @ 25 C	µS/cm	2	310	303	90 - 110	104

Metals in Water (Dissolved) by ICPOES

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193906.002	Calcium, Ca	mg/L	0.1	58	50.5	80 - 120	114
	Magnesium, Mg	mg/L	0.1	56	50.5	80 - 120	110
	Potassium, K	mg/L	0.2	55	55	80 - 120	100
	Sodium, Na	mg/L	0.1	56	50.5	80 - 120	110

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193766.002		Naphthalene	µg/L	0.1	27	40	60 - 140	67
		Acenaphthylene	µg/L	0.1	30	40	60 - 140	74
		Acenaphthene	µg/L	0.1	31	40	60 - 140	77
		Phenanthrene	µg/L	0.1	37	40	60 - 140	93
		Anthracene	µg/L	0.1	31	40	60 - 140	76
		Fluoranthene	µg/L	0.1	36	40	60 - 140	90
		Pyrene	µg/L	0.1	39	40	60 - 140	98
		Benzo(a)pyrene	µg/L	0.1	36	40	60 - 140	90
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.3	0.5	40 - 130	60
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	68
		d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	88

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193780.003	pH**	No unit	-	7.4	7.415	98 - 102	99

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193874.002	Arsenic, As	µg/L	1	19	20	80 - 120	93
	Cadmium, Cd	µg/L	0.1	19	20	80 - 120	96
	Chromium, Cr	µg/L	1	21	20	80 - 120	104
	Copper, Cu	µg/L	1	21	20	80 - 120	106
	Lead, Pb	µg/L	1	19	20	80 - 120	96
	Manganese, Mn	µg/L	1	20	20	80 - 120	101
	Nickel, Ni	µg/L	1	20	20	80 - 120	100
	Zinc, Zn	µg/L	5	19	20	80 - 120	95

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193766.002		TRH C10-C14	µg/L	50	760	1200	60 - 140	63
		TRH C15-C28	µg/L	200	940	1200	60 - 140	78
		TRH C29-C36	µg/L	200	970	1200	60 - 140	81
	TRH F Bands	TRH >C10-C16	µg/L	60	830	1200	60 - 140	69
		TRH >C16-C34 (F3)	µg/L	500	1100	1200	60 - 140	94
		TRH >C34-C40 (F4)	µg/L	500	<500	600	60 - 140	68

VOCs in Water

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

Sample Number	Parameter	Units	LOR

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

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

VOCs in Water (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193807.002	Monocyclic	Benzene	µg/L	0.5	53	45.45	60 - 140	116
	Aromatic	Toluene	µg/L	0.5	54	45.45	60 - 140	120
		Ethylbenzene	µg/L	0.5	46	45.45	60 - 140	101
		m/p-xylene	µg/L	1	95	90.9	60 - 140	105
		o-xylene	µg/L	0.5	48	45.45	60 - 140	105
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	10	60 - 140	97
		d8-toluene (Surrogate)	µg/L	-	10.4	10	70 - 130	104
		Bromofluorobenzene (Surrogate)	µg/L	-	10.8	10	70 - 130	108

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB193807.002		TRH C6-C10	µg/L	50	760	946.63	60 - 140	81
		TRH C6-C9	µg/L	40	550	818.71	60 - 140	68
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	10	60 - 140	97
		d8-toluene (Surrogate)	µg/L	-	10.4	10	70 - 130	104
		Bromofluorobenzene (Surrogate)	µg/L	-	10.8	10	70 - 130	108
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	470	639.67	60 - 140	73

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Metals in Water (Dissolved) by ICPOES

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203216.001	LB193906.004	Calcium, Ca	mg/L	0.1	180	140	50.5	90
		Magnesium, Mg	mg/L	0.1	270	230	50.5	93
		Potassium, K	mg/L	0.2	78	30	55	87
		Sodium, Na	mg/L	0.1	1700	1700	50.5	-36 ⑤

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203129.001	LB193874.004	Arsenic, As	µg/L	1	37	4	20	163 ④
		Cadmium, Cd	µg/L	0.1	18	<0.1	20	92
		Copper, Cu	µg/L	1	17	<1	20	85
		Lead, Pb	µg/L	1	18	<1	20	88
		Manganese, Mn	µg/L	1	190	170	20	83
		Zinc, Zn	µg/L	5	18	<5	20	77

VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203216.001	LB193807.027	Monocyclic	Benzene	µg/L	0.5	36	<0.5	45.45	78
		Aromatic	Toluene	µg/L	0.5	37	<0.5	45.45	82
			Ethylbenzene	µg/L	0.5	36	<0.5	45.45	78
			m/p-xylene	µg/L	1	72	<1	90.9	79
			o-xylene	µg/L	0.5	36	<0.5	45.45	80
		Polycyclic	Naphthalene	µg/L	0.5	33	<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.8	10.0	-	98
			d8-toluene (Surrogate)	µg/L	-	9.3	9.7	-	93
			Bromofluorobenzene (Surrogate)	µg/L	-	11.3	8.5	-	113

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE203216.001	LB193807.027		TRH C6-C10	µg/L	50	760	<50	946.63	80
			TRH C6-C9	µg/L	40	670	<40	818.71	82
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.8	10.0	-	98
			d8-toluene (Surrogate)	µg/L	-	9.3	9.7	-	93
			Bromofluorobenzene (Surrogate)	µg/L	-	11.3	8.5	-	113
		VPH F	Benzene (F0)	µg/L	0.5	36	<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	540	<50	639.67	84

MATRIX SPIKE DUPLICATES

SE203216 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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STATEMENT OF QA/QC PERFORMANCE

SE202242 R0

CLIENT DETAILS

Contact	Nicholas Grbich
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Telephone	61 2 95160722
Facsimile	(Not specified)
Email	nicholas.grbich@eiaustralia.com.au
Project	**E24445.E02 Tallawong Station, Rouse Hill**
Order Number	**E24445.E02**
Samples	100

LABORATORY DETAILS

Manager	Huong Crawford
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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE202242 R0**
Date Received	28 Jan 2020
Date Reported	05 Feb 2020

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	Alkalinity in Soil	5 items
	Conductivity and TDS by Calculation - Soil	5 items
	pH in soil (1:5)	5 items
	Soluble Anions (1:5) in Soil by Ion Chromatography	2 items
Analysis Date	Conductivity and TDS by Calculation - Soil	8 items
Surrogate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

HOLDING TIME SUMMARY

SE202242 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_3.8-4.0	SE202242.081	LB192157	22 Jan 2020	28 Jan 2020	29 Jan 2020	31 Jan 2020†	14 Feb 2020	03 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192157	22 Jan 2020	28 Jan 2020	29 Jan 2020	31 Jan 2020†	14 Feb 2020	03 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192157	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	14 Feb 2020	03 Feb 2020
BH4_3.2-3.45	SE202242.088	LB192157	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	14 Feb 2020	03 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192157	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	14 Feb 2020	03 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192157	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	14 Feb 2020	03 Feb 2020
BH6_1.5-1.7	SE202242.093	LB192157	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	14 Feb 2020	03 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192157	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	14 Feb 2020	03 Feb 2020
BH7_2.8-3.0	SE202242.096	LB192157	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	14 Feb 2020	03 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192157	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	14 Feb 2020	03 Feb 2020
BH8_2.2-2.3	SE202242.099	LB192157	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	14 Feb 2020	03 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192157	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	14 Feb 2020	03 Feb 2020

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_3.8-4.0	SE202242.081	LB192152	22 Jan 2020	28 Jan 2020	29 Jan 2020	31 Jan 2020†	29 Jan 2020	04 Feb 2020†
BH1_4.2-4.5	SE202242.082	LB192152	22 Jan 2020	28 Jan 2020	29 Jan 2020	31 Jan 2020†	29 Jan 2020	04 Feb 2020†
BH3_6.0-6.45	SE202242.086	LB192152	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	30 Jan 2020	04 Feb 2020†
BH4_3.2-3.45	SE202242.088	LB192152	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	30 Jan 2020	04 Feb 2020†
BH4_4.5-4.95	SE202242.089	LB192152	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	30 Jan 2020	04 Feb 2020†
BH5_3.0-3.1	SE202242.091	LB192152	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	31 Jan 2020	04 Feb 2020†
BH6_1.5-1.7	SE202242.093	LB192152	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	31 Jan 2020	04 Feb 2020†
BH6_3.0-3.2	SE202242.094	LB192152	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	31 Jan 2020	04 Feb 2020†
BH7_2.8-3.0	SE202242.096	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	04 Feb 2020	04 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	04 Feb 2020	04 Feb 2020
BH8_2.2-2.3	SE202242.099	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	04 Feb 2020	04 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	04 Feb 2020	04 Feb 2020

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_3.8-4.0	SE202242.081	LB192200	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	05 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192200	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	05 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192200	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH4_3.2-3.45	SE202242.088	LB192200	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192200	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192200	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	05 Feb 2020
BH6_1.5-1.7	SE202242.093	LB192200	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	05 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192200	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	05 Feb 2020
BH7_2.8-3.0	SE202242.096	LB192200	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	05 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192200	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	05 Feb 2020
BH8_2.2-2.3	SE202242.099	LB192200	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	05 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192200	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	05 Feb 2020

Fibre ID in bulk materials

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP26_surface fragment	SE202242.079	LB192368	22 Jan 2020	28 Jan 2020	21 Jan 2021	05 Feb 2020	21 Jan 2021	05 Feb 2020

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Fibre Identification in soil (continued) — Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP22_0.2-0.3	SE202242.013	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020

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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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Fibre Identification in soil (continued)

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP56_0.2-0.3	SE202242.073	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192343	22 Jan 2020	28 Jan 2020	21 Jan 2021	04 Feb 2020	21 Jan 2021	05 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192343	23 Jan 2020	28 Jan 2020	22 Jan 2021	04 Feb 2020	22 Jan 2021	05 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192343	24 Jan 2020	28 Jan 2020	23 Jan 2021	04 Feb 2020	23 Jan 2021	05 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192343	28 Jan 2020	28 Jan 2020	27 Jan 2021	04 Feb 2020	27 Jan 2021	05 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192343	28 Jan 2020	28 Jan 2020	27 Jan 2021	04 Feb 2020	27 Jan 2021	05 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192343	28 Jan 2020	28 Jan 2020	27 Jan 2021	04 Feb 2020	27 Jan 2021	05 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192343	28 Jan 2020	28 Jan 2020	27 Jan 2021	04 Feb 2020	27 Jan 2021	05 Feb 2020

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_3.8-4.0	SE202242.081	LB192328	22 Jan 2020	28 Jan 2020	19 Feb 2020	04 Feb 2020	19 Feb 2020	04 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192328	22 Jan 2020	28 Jan 2020	19 Feb 2020	04 Feb 2020	19 Feb 2020	04 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192328	23 Jan 2020	28 Jan 2020	20 Feb 2020	04 Feb 2020	20 Feb 2020	04 Feb 2020
BH4_3.2-3.45	SE202242.088	LB192328	23 Jan 2020	28 Jan 2020	20 Feb 2020	04 Feb 2020	20 Feb 2020	04 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192328	23 Jan 2020	28 Jan 2020	20 Feb 2020	04 Feb 2020	20 Feb 2020	04 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192328	24 Jan 2020	28 Jan 2020	21 Feb 2020	04 Feb 2020	21 Feb 2020	04 Feb 2020
BH6_1.5-1.7	SE202242.093	LB192328	24 Jan 2020	28 Jan 2020	21 Feb 2020	04 Feb 2020	21 Feb 2020	04 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192328	24 Jan 2020	28 Jan 2020	21 Feb 2020	04 Feb 2020	21 Feb 2020	04 Feb 2020
BH7_2.8-3.0	SE202242.096	LB192328	28 Jan 2020	28 Jan 2020	25 Feb 2020	04 Feb 2020	25 Feb 2020	04 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192328	28 Jan 2020	28 Jan 2020	25 Feb 2020	04 Feb 2020	25 Feb 2020	04 Feb 2020
BH8_2.2-2.3	SE202242.099	LB192328	28 Jan 2020	28 Jan 2020	25 Feb 2020	04 Feb 2020	25 Feb 2020	04 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192328	28 Jan 2020	28 Jan 2020	25 Feb 2020	04 Feb 2020	25 Feb 2020	04 Feb 2020

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192167	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	03 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192167	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	03 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192167	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	03 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192167	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192167	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192167	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192167	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192167	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil (continued) Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP28_0.2-0.3	SE202242.022	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192168	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	03 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192168	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	03 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192169	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192169	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192169	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192169	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192169	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192169	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	04 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192169	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192170	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	04 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192171	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192171	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192171	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	05 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192171	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	05 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192171	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	05 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil (continued) — Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_4.3-4.5	SE202242.084	LB192171	22 Jan 2020	28 Jan 2020	19 Feb 2020	31 Jan 2020	19 Feb 2020	05 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192171	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192171	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192171	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192171	23 Jan 2020	28 Jan 2020	20 Feb 2020	31 Jan 2020	20 Feb 2020	05 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192171	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	05 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192171	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	05 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192171	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	05 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192171	24 Jan 2020	28 Jan 2020	21 Feb 2020	31 Jan 2020	21 Feb 2020	05 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192171	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	05 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192173	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	04 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192173	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	04 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192173	28 Jan 2020	28 Jan 2020	25 Feb 2020	31 Jan 2020	25 Feb 2020	04 Feb 2020

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192067	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP14_1.8-1.9	SE202242.002	LB192067	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP15_0.2-0.3	SE202242.003	LB192067	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP16_0.7-0.8	SE202242.004	LB192067	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP16_1.9-2.0	SE202242.005	LB192067	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP17_0.2-0.3	SE202242.006	LB192067	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP17_0.9-1.0	SE202242.007	LB192067	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP18_0.2-0.3	SE202242.008	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP18_2.4-2.5	SE202242.009	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP19_0.2-0.3	SE202242.010	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP20_1.0-1.1	SE202242.011	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP21_0.2-0.3	SE202242.012	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP22_0.2-0.3	SE202242.013	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP22_2.0-2.1	SE202242.014	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP23_0.7-0.8	SE202242.015	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP24_0.2-0.3	SE202242.016	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP24_1.6-1.7	SE202242.017	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP25_0.2-0.3	SE202242.018	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP26_0.2-0.3	SE202242.019	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP26_0.7-0.8	SE202242.020	LB192067	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP27_0.2-0.3	SE202242.021	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP28_0.2-0.3	SE202242.022	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP28_1.6-1.7	SE202242.023	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP29_0.2-0.3	SE202242.024	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP30_1.2-1.3	SE202242.025	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP31_0.2-0.3	SE202242.026	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP32_0.2-0.3	SE202242.027	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP33_1.5-1.6	SE202242.028	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP34_0.2-0.3	SE202242.029	LB192072	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP35_0.2-0.3	SE202242.030	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP35_2.4-2.5	SE202242.031	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP36_0.7-0.8	SE202242.032	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP36_1.4-1.5	SE202242.033	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP37_0.2-0.3	SE202242.034	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP37_1.2-1.3	SE202242.035	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP38_0.2-0.3	SE202242.036	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP38_1.0-1.1	SE202242.037	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP39_0.2-0.3	SE202242.038	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP39_1.2-1.3	SE202242.039	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP40_0.2-0.3	SE202242.040	LB192072	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP40_0.9-1.0	SE202242.041	LB192075	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP41_0.2-0.3	SE202242.042	LB192075	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP41_0.8-0.9	SE202242.043	LB192075	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP42_0.2-0.3	SE202242.044	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP42_2.1-2.2	SE202242.045	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP42_2.6-2.7	SE202242.046	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP43_0.2-0.3	SE202242.047	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP43_1.8-1.9	SE202242.048	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP44_1.0-1.1	SE202242.049	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP44_2.4-2.5	SE202242.050	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP45_0.2-0.3	SE202242.051	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP45_2.4-2.5	SE202242.052	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP46_0.2-0.3	SE202242.053	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP46_1.5-1.6	SE202242.054	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP47_0.2-0.3	SE202242.055	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP47_0.9-1.0	SE202242.056	LB192075	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP48_0.2-0.3	SE202242.057	LB192075	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP48_1.5-1.6	SE202242.058	LB192075	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP49_0.2-0.3	SE202242.059	LB192075	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP49_2.7-2.8	SE202242.060	LB192075	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP50_0.2-0.3	SE202242.061	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP50_0.9-1.0	SE202242.062	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP51_0.9-1.0	SE202242.063	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP51_2.2-2.3	SE202242.064	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP52_0.2-0.3	SE202242.065	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP52_1.4-1.5	SE202242.066	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP53_0.2-0.3	SE202242.067	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP53_1.1-1.2	SE202242.068	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP54_0.2-0.3	SE202242.069	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP54_0.8-0.9	SE202242.070	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP55_0.2-0.3	SE202242.071	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP55_0.7-0.8	SE202242.072	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP56_0.2-0.3	SE202242.073	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP56_1.2-1.3	SE202242.074	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP57_0.2-0.3	SE202242.075	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP57_1.3-1.4	SE202242.076	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP58_0.2-0.3	SE202242.077	LB192081	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
TP58_0.8-0.9	SE202242.078	LB192088	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH1_0.1-0.2	SE202242.080	LB192088	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH1_3.8-4.0	SE202242.081	LB192088	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH1_4.2-4.5	SE202242.082	LB192088	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH2_0.1-0.2	SE202242.083	LB192088	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH2_4.3-4.5	SE202242.084	LB192088	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH3_0.1-0.2	SE202242.085	LB192088	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH3_6.0-6.45	SE202242.086	LB192088	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH4_0.1-0.2	SE202242.087	LB192088	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH4_3.2-3.45	SE202242.088	LB192088	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH4_4.5-4.95	SE202242.089	LB192088	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH5_0.1-0.2	SE202242.090	LB192088	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH5_3.0-3.1	SE202242.091	LB192088	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH6_0.1-0.2	SE202242.092	LB192088	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH6_1.5-1.7	SE202242.093	LB192088	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH6_3.0-3.2	SE202242.094	LB192088	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH7_0.1-0.2	SE202242.095	LB192088	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH7_2.8-3.0	SE202242.096	LB192088	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH7_3.8-4.0	SE202242.097	LB192088	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH8_0.1-0.2	SE202242.098	LB192088	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH8_2.2-2.3	SE202242.099	LB192088	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020
BH8_3.2-3.5	SE202242.100	LB192088	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	04 Feb 2020	31 Jan 2020

OC Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OC Pesticides in Soil (continued) Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP15_0.2-0.3	SE202242.003	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OC Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP51_0.9-1.0	SE202242.063	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020

OP Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP31_0.2-0.3	SE202242.026	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH4_4.5-4.95	SE202242.089	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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
TP44_1.0-1.1	SE202242.049	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

PCBs in Soil Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PCBs in Soil (continued) Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP21_0.2-0.3	SE202242.012	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PCBs in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP55_0.7-0.8	SE202242.072	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	05 Feb 2020

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_3.8-4.0	SE202242.081	LB192152	22 Jan 2020	28 Jan 2020	29 Jan 2020	31 Jan 2020†	01 Feb 2020	31 Jan 2020
BH1_4.2-4.5	SE202242.082	LB192152	22 Jan 2020	28 Jan 2020	29 Jan 2020	31 Jan 2020†	01 Feb 2020	31 Jan 2020
BH3_6.0-6.45	SE202242.086	LB192152	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	01 Feb 2020	31 Jan 2020
BH4_3.2-3.45	SE202242.088	LB192152	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	01 Feb 2020	31 Jan 2020
BH4_4.5-4.95	SE202242.089	LB192152	23 Jan 2020	28 Jan 2020	30 Jan 2020	31 Jan 2020†	01 Feb 2020	31 Jan 2020
BH5_3.0-3.1	SE202242.091	LB192152	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	01 Feb 2020	31 Jan 2020
BH6_1.5-1.7	SE202242.093	LB192152	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	01 Feb 2020	31 Jan 2020
BH6_3.0-3.2	SE202242.094	LB192152	24 Jan 2020	28 Jan 2020	31 Jan 2020	31 Jan 2020	01 Feb 2020	31 Jan 2020
BH7_2.8-3.0	SE202242.096	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	01 Feb 2020	31 Jan 2020
BH7_3.8-4.0	SE202242.097	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	01 Feb 2020	31 Jan 2020
BH8_2.2-2.3	SE202242.099	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	01 Feb 2020	31 Jan 2020
BH8_3.2-3.5	SE202242.100	LB192152	28 Jan 2020	28 Jan 2020	04 Feb 2020	31 Jan 2020	01 Feb 2020	31 Jan 2020

Soil Texture (AS4419)

Method: ME-(AU)-[ENV]AN051

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_3.8-4.0	SE202242.081	LB192142	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	04 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192142	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	04 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192142	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH4_3.2-3.45	SE202242.088	LB192142	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192142	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192142	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH6_1.5-1.7	SE202242.093	LB192142	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192142	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH7_2.8-3.0	SE202242.096	LB192142	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192142	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH8_2.2-2.3	SE202242.099	LB192142	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192142	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_3.8-4.0	SE202242.081	LB192082	22 Jan 2020	28 Jan 2020	29 Jan 2020	30 Jan 2020†	27 Feb 2020	03 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192082	22 Jan 2020	28 Jan 2020	29 Jan 2020	30 Jan 2020†	27 Feb 2020	03 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192082	23 Jan 2020	28 Jan 2020	30 Jan 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH4_3.2-3.45	SE202242.088	LB192082	23 Jan 2020	28 Jan 2020	30 Jan 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192082	23 Jan 2020	28 Jan 2020	30 Jan 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Soluble Anions (1:5) in Soil by Ion Chromatography (continued) — Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH5_3.0-3.1	SE202242.091	LB192082	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH6_1.5-1.7	SE202242.093	LB192082	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192082	24 Jan 2020	28 Jan 2020	31 Jan 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH7_2.8-3.0	SE202242.096	LB192082	28 Jan 2020	28 Jan 2020	04 Feb 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192082	28 Jan 2020	28 Jan 2020	04 Feb 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH8_2.2-2.3	SE202242.099	LB192082	28 Jan 2020	28 Jan 2020	04 Feb 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192082	28 Jan 2020	28 Jan 2020	04 Feb 2020	30 Jan 2020	27 Feb 2020	03 Feb 2020

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
TP14_0.2-0.3	SE202242.001	LB192161	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	03 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192161	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	03 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192161	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	03 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192161	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192161	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192161	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192161	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192161	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192162	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	03 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192162	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	03 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192163	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192163	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192163	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192163	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192163	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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
TP45_0.2-0.3	SE202242.051	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192163	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192163	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192164	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192165	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192165	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192165	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	04 Feb 2020
BH1_3.8-4.0	SE202242.081	LB192165	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	04 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192165	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	04 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192165	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	04 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192165	22 Jan 2020	28 Jan 2020	20 Jul 2020	31 Jan 2020	20 Jul 2020	04 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192165	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192165	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192165	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH4_3.2-3.45	SE202242.088	LB192165	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192165	23 Jan 2020	28 Jan 2020	21 Jul 2020	31 Jan 2020	21 Jul 2020	04 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192165	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192165	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192165	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH6_1.5-1.7	SE202242.093	LB192165	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192165	24 Jan 2020	28 Jan 2020	22 Jul 2020	31 Jan 2020	22 Jul 2020	04 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192165	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH7_2.8-3.0	SE202242.096	LB192165	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192166	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192166	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH8_2.2-2.3	SE202242.099	LB192166	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192166	28 Jan 2020	28 Jan 2020	26 Jul 2020	31 Jan 2020	26 Jul 2020	04 Feb 2020

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
TP14_0.2-0.3	SE202242.001	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192066	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192066	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP18_2.4-2.5	SE202242.009	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192066	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192071	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192071	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192074	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192074	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP54_0.2-0.3	SE202242.069	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192080	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192087	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192087	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192087	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192087	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192065	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192065	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192065	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	03 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP36_0.7-0.8	SE202242.032	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP47_0.2-0.3	SE202242.055	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH7_3.8-4.0	SE202242.097	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020

Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP14_0.2-0.3	SE202242.001	LB192065	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP14_1.8-1.9	SE202242.002	LB192065	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP15_0.2-0.3	SE202242.003	LB192065	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP16_0.7-0.8	SE202242.004	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP16_1.9-2.0	SE202242.005	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP17_0.2-0.3	SE202242.006	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP17_0.9-1.0	SE202242.007	LB192065	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP18_0.2-0.3	SE202242.008	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP18_2.4-2.5	SE202242.009	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP19_0.2-0.3	SE202242.010	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP20_1.0-1.1	SE202242.011	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP21_0.2-0.3	SE202242.012	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP22_0.2-0.3	SE202242.013	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP22_2.0-2.1	SE202242.014	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP23_0.7-0.8	SE202242.015	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP24_0.2-0.3	SE202242.016	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP24_1.6-1.7	SE202242.017	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP25_0.2-0.3	SE202242.018	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP26_0.2-0.3	SE202242.019	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP26_0.7-0.8	SE202242.020	LB192065	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP27_0.2-0.3	SE202242.021	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP28_0.2-0.3	SE202242.022	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP28_1.6-1.7	SE202242.023	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP29_0.2-0.3	SE202242.024	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP30_1.2-1.3	SE202242.025	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP31_0.2-0.3	SE202242.026	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP32_0.2-0.3	SE202242.027	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP33_1.5-1.6	SE202242.028	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP34_0.2-0.3	SE202242.029	LB192070	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP35_0.2-0.3	SE202242.030	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP35_2.4-2.5	SE202242.031	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP36_0.7-0.8	SE202242.032	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP36_1.4-1.5	SE202242.033	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP37_0.2-0.3	SE202242.034	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP37_1.2-1.3	SE202242.035	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP38_0.2-0.3	SE202242.036	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP38_1.0-1.1	SE202242.037	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP39_0.2-0.3	SE202242.038	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP39_1.2-1.3	SE202242.039	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP40_0.2-0.3	SE202242.040	LB192070	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP40_0.9-1.0	SE202242.041	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP41_0.2-0.3	SE202242.042	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP41_0.8-0.9	SE202242.043	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP42_0.2-0.3	SE202242.044	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP42_2.1-2.2	SE202242.045	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP42_2.6-2.7	SE202242.046	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP43_0.2-0.3	SE202242.047	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP43_1.8-1.9	SE202242.048	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP44_1.0-1.1	SE202242.049	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP44_2.4-2.5	SE202242.050	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP45_0.2-0.3	SE202242.051	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP45_2.4-2.5	SE202242.052	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP46_0.2-0.3	SE202242.053	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP46_1.5-1.6	SE202242.054	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020

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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Volatile Petroleum Hydrocarbons in Soil (continued) — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP47_0.2-0.3	SE202242.055	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP47_0.9-1.0	SE202242.056	LB192073	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP48_0.2-0.3	SE202242.057	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP48_1.5-1.6	SE202242.058	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP49_0.2-0.3	SE202242.059	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP49_2.7-2.8	SE202242.060	LB192073	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP50_0.2-0.3	SE202242.061	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP50_0.9-1.0	SE202242.062	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP51_0.9-1.0	SE202242.063	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP51_2.2-2.3	SE202242.064	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP52_0.2-0.3	SE202242.065	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP52_1.4-1.5	SE202242.066	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP53_0.2-0.3	SE202242.067	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP53_1.1-1.2	SE202242.068	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP54_0.2-0.3	SE202242.069	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP54_0.8-0.9	SE202242.070	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP55_0.2-0.3	SE202242.071	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP55_0.7-0.8	SE202242.072	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP56_0.2-0.3	SE202242.073	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP56_1.2-1.3	SE202242.074	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP57_0.2-0.3	SE202242.075	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP57_1.3-1.4	SE202242.076	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP58_0.2-0.3	SE202242.077	LB192077	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
TP58_0.8-0.9	SE202242.078	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH1_0.1-0.2	SE202242.080	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH1_4.2-4.5	SE202242.082	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH2_0.1-0.2	SE202242.083	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH2_4.3-4.5	SE202242.084	LB192084	22 Jan 2020	28 Jan 2020	05 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH3_0.1-0.2	SE202242.085	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH3_6.0-6.45	SE202242.086	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH4_0.1-0.2	SE202242.087	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH4_4.5-4.95	SE202242.089	LB192084	23 Jan 2020	28 Jan 2020	06 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH5_0.1-0.2	SE202242.090	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH5_3.0-3.1	SE202242.091	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH6_0.1-0.2	SE202242.092	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH6_3.0-3.2	SE202242.094	LB192084	24 Jan 2020	28 Jan 2020	07 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH7_0.1-0.2	SE202242.095	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH7_3.8-4.0	SE202242.097	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH8_0.1-0.2	SE202242.098	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020
BH8_3.2-3.5	SE202242.100	LB192084	28 Jan 2020	28 Jan 2020	11 Feb 2020	30 Jan 2020	10 Mar 2020	04 Feb 2020

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 identifer 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)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	100
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	97
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	105
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	95
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	99
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	94
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	97
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	99
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	97
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	99
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	99
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	104
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	97
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	99
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	99
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	97
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	101
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	94
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	95
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	97
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	100
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	99
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	101
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	98
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	93
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	95
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	95
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	101
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	97
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	91
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	97
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	95
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	91
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	88
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	95
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	97
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	91
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	103
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	96
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	93
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	109
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	102
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	113
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	118
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	104
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	113
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	111
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	112
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	109
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	113
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	113
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	111
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	113
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	110
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	93
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	105
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	114
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	112
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	99
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	106
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	107

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP50_0.9-1.0	SE202242.062	%	60 - 130%	125
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	112
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	103
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	119
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	118
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	105
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	113
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	109
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	115
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	103
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	99
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	104
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	102
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	109
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	104
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	102
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	105
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	109
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	117
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	107
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	108
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	99
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	101
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	99
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	93
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	103
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	102
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	93
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	96
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	99
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	95
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	105
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	109

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	87
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	88
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	88
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	88
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	87
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	86
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	89
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	85
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	89
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	85
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	86
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	90
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	86
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	89
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	92
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	90
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	87
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	87
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	88
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	89
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	88
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	85
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	86
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	87
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	87

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

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

OP Pesticides in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP31_0.2-0.3	SE202242.026	%	60 - 130%	86
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	84
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	86
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	87
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	87
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	87
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	84
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	84
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	84
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	86
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	78
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	82
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	88
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	87
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	84
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	80
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	80
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	79
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	85
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	94
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	81
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	81
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	87
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	82
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	80
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	81
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	80
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	81
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	85
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	90
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	73
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	84
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	80
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	85
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	82
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	71
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	78
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	78
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	77
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	75
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	79
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	76
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	76
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	77
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	73
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	81
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	76
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	78
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	75
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	78
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	76
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	76
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	83
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	89
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	86
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	87
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	95
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	87
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	86
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	89
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	76

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OP Pesticides in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH5_0.1-0.2	SE202242.090	%	60 - 130%	87
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	83
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	79
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	86
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	84
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	88
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	87
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	93
d14-p-terphenyl (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	82
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	83
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	82
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	82
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	82
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	82
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	85
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	82
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	84
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	81
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	82
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	84
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	84
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	82
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	88
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	85
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	83
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	82
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	87
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	87
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	83
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	83
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	81
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	84
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	86
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	84
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	85
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	85
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	84
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	84
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	84
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	82
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	84
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	85
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	85
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	77
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	85
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	84
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	85
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	81
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	88
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	89
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	83
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	87
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	92
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	93
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	89
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	90
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	87
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	89
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	85
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	89
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	89

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	TP46_1.5-1.6	SE202242.054	%	60 - 130%	92
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	92
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	81
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	90
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	92
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	89
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	92
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	81
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	85
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	86
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	86
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	81
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	85
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	86
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	80
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	86
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	82
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	85
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	87
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	82
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	82
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	93
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	83
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	88
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	84
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	87
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	81
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	84
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	90
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	82
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	83
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	84
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	72
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	84
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	78
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	77
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	82
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	83
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	82
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	83
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	89

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP14_0.2-0.3	SE202242.001	%	70 - 130%	87
	TP14_1.8-1.9	SE202242.002	%	70 - 130%	88
	TP15_0.2-0.3	SE202242.003	%	70 - 130%	88
	TP16_0.7-0.8	SE202242.004	%	70 - 130%	88
	TP16_1.9-2.0	SE202242.005	%	70 - 130%	87
	TP17_0.2-0.3	SE202242.006	%	70 - 130%	86
	TP17_0.9-1.0	SE202242.007	%	70 - 130%	89
	TP18_0.2-0.3	SE202242.008	%	70 - 130%	85
	TP18_2.4-2.5	SE202242.009	%	70 - 130%	89
	TP19_0.2-0.3	SE202242.010	%	70 - 130%	85
	TP20_1.0-1.1	SE202242.011	%	70 - 130%	86
	TP21_0.2-0.3	SE202242.012	%	70 - 130%	90
	TP22_0.2-0.3	SE202242.013	%	70 - 130%	86
	TP22_2.0-2.1	SE202242.014	%	70 - 130%	89
	TP23_0.7-0.8	SE202242.015	%	70 - 130%	92
	TP24_0.2-0.3	SE202242.016	%	70 - 130%	90
	TP24_1.6-1.7	SE202242.017	%	70 - 130%	87

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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 %
2-fluorobiphenyl (Surrogate)	TP25_0.2-0.3	SE202242.018	%	70 - 130%	87
	TP26_0.2-0.3	SE202242.019	%	70 - 130%	88
	TP26_0.7-0.8	SE202242.020	%	70 - 130%	89
	TP27_0.2-0.3	SE202242.021	%	70 - 130%	88
	TP28_0.2-0.3	SE202242.022	%	70 - 130%	85
	TP28_1.6-1.7	SE202242.023	%	70 - 130%	86
	TP29_0.2-0.3	SE202242.024	%	70 - 130%	87
	TP30_1.2-1.3	SE202242.025	%	70 - 130%	87
	TP31_0.2-0.3	SE202242.026	%	70 - 130%	86
	TP32_0.2-0.3	SE202242.027	%	70 - 130%	84
	TP33_1.5-1.6	SE202242.028	%	70 - 130%	86
	TP34_0.2-0.3	SE202242.029	%	70 - 130%	87
	TP35_0.2-0.3	SE202242.030	%	70 - 130%	87
	TP35_2.4-2.5	SE202242.031	%	70 - 130%	87
	TP36_0.7-0.8	SE202242.032	%	70 - 130%	84
	TP36_1.4-1.5	SE202242.033	%	70 - 130%	84
	TP37_0.2-0.3	SE202242.034	%	70 - 130%	84
	TP37_1.2-1.3	SE202242.035	%	70 - 130%	86
	TP38_0.2-0.3	SE202242.036	%	70 - 130%	78
	TP38_1.0-1.1	SE202242.037	%	70 - 130%	82
	TP39_0.2-0.3	SE202242.038	%	70 - 130%	88
	TP39_1.2-1.3	SE202242.039	%	70 - 130%	87
	TP40_0.2-0.3	SE202242.040	%	70 - 130%	84
	TP40_0.9-1.0	SE202242.041	%	70 - 130%	80
	TP41_0.2-0.3	SE202242.042	%	70 - 130%	80
	TP41_0.8-0.9	SE202242.043	%	70 - 130%	79
	TP42_0.2-0.3	SE202242.044	%	70 - 130%	85
	TP42_2.1-2.2	SE202242.045	%	70 - 130%	94
	TP42_2.6-2.7	SE202242.046	%	70 - 130%	81
	TP43_0.2-0.3	SE202242.047	%	70 - 130%	81
	TP43_1.8-1.9	SE202242.048	%	70 - 130%	87
	TP44_1.0-1.1	SE202242.049	%	70 - 130%	82
	TP44_2.4-2.5	SE202242.050	%	70 - 130%	80
	TP45_0.2-0.3	SE202242.051	%	70 - 130%	81
	TP45_2.4-2.5	SE202242.052	%	70 - 130%	80
	TP46_0.2-0.3	SE202242.053	%	70 - 130%	81
	TP46_1.5-1.6	SE202242.054	%	70 - 130%	85
	TP47_0.2-0.3	SE202242.055	%	70 - 130%	90
	TP47_0.9-1.0	SE202242.056	%	70 - 130%	73
	TP48_0.2-0.3	SE202242.057	%	70 - 130%	84
	TP48_1.5-1.6	SE202242.058	%	70 - 130%	80
	TP49_0.2-0.3	SE202242.059	%	70 - 130%	85
	TP49_2.7-2.8	SE202242.060	%	70 - 130%	82
	TP50_0.2-0.3	SE202242.061	%	70 - 130%	71
	TP50_0.9-1.0	SE202242.062	%	70 - 130%	78
	TP51_0.9-1.0	SE202242.063	%	70 - 130%	78
	TP51_2.2-2.3	SE202242.064	%	70 - 130%	77
	TP52_0.2-0.3	SE202242.065	%	70 - 130%	75
	TP52_1.4-1.5	SE202242.066	%	70 - 130%	79
	TP53_0.2-0.3	SE202242.067	%	70 - 130%	76
	TP53_1.1-1.2	SE202242.068	%	70 - 130%	76
	TP54_0.2-0.3	SE202242.069	%	70 - 130%	77
	TP54_0.8-0.9	SE202242.070	%	70 - 130%	73
	TP55_0.2-0.3	SE202242.071	%	70 - 130%	81
	TP55_0.7-0.8	SE202242.072	%	70 - 130%	76
	TP56_0.2-0.3	SE202242.073	%	70 - 130%	78
	TP56_1.2-1.3	SE202242.074	%	70 - 130%	75
	TP57_0.2-0.3	SE202242.075	%	70 - 130%	78
	TP57_1.3-1.4	SE202242.076	%	70 - 130%	76
	TP58_0.2-0.3	SE202242.077	%	70 - 130%	76
	TP58_0.8-0.9	SE202242.078	%	70 - 130%	83

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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 %
2-fluorobiphenyl (Surrogate)	BH1_0.1-0.2	SE202242.080	%	70 - 130%	89
	BH1_4.2-4.5	SE202242.082	%	70 - 130%	86
	BH2_0.1-0.2	SE202242.083	%	70 - 130%	87
	BH2_4.3-4.5	SE202242.084	%	70 - 130%	95
	BH3_0.1-0.2	SE202242.085	%	70 - 130%	87
	BH3_6.0-6.45	SE202242.086	%	70 - 130%	86
	BH4_0.1-0.2	SE202242.087	%	70 - 130%	89
	BH4_4.5-4.95	SE202242.089	%	70 - 130%	76
	BH5_0.1-0.2	SE202242.090	%	70 - 130%	87
	BH5_3.0-3.1	SE202242.091	%	70 - 130%	83
	BH6_0.1-0.2	SE202242.092	%	70 - 130%	79
	BH6_3.0-3.2	SE202242.094	%	70 - 130%	86
	BH7_0.1-0.2	SE202242.095	%	70 - 130%	84
	BH7_3.8-4.0	SE202242.097	%	70 - 130%	88
	BH8_0.1-0.2	SE202242.098	%	70 - 130%	87
	BH8_3.2-3.5	SE202242.100	%	70 - 130%	93
d14-p-terphenyl (Surrogate)	TP14_0.2-0.3	SE202242.001	%	70 - 130%	82
	TP14_1.8-1.9	SE202242.002	%	70 - 130%	83
	TP15_0.2-0.3	SE202242.003	%	70 - 130%	82
	TP16_0.7-0.8	SE202242.004	%	70 - 130%	82
	TP16_1.9-2.0	SE202242.005	%	70 - 130%	82
	TP17_0.2-0.3	SE202242.006	%	70 - 130%	82
	TP17_0.9-1.0	SE202242.007	%	70 - 130%	85
	TP18_0.2-0.3	SE202242.008	%	70 - 130%	82
	TP18_2.4-2.5	SE202242.009	%	70 - 130%	84
	TP19_0.2-0.3	SE202242.010	%	70 - 130%	81
	TP20_1.0-1.1	SE202242.011	%	70 - 130%	82
	TP21_0.2-0.3	SE202242.012	%	70 - 130%	84
	TP22_0.2-0.3	SE202242.013	%	70 - 130%	84
	TP22_2.0-2.1	SE202242.014	%	70 - 130%	82
	TP23_0.7-0.8	SE202242.015	%	70 - 130%	88
	TP24_0.2-0.3	SE202242.016	%	70 - 130%	85
	TP24_1.6-1.7	SE202242.017	%	70 - 130%	83
	TP25_0.2-0.3	SE202242.018	%	70 - 130%	82
	TP26_0.2-0.3	SE202242.019	%	70 - 130%	87
	TP26_0.7-0.8	SE202242.020	%	70 - 130%	87
	TP27_0.2-0.3	SE202242.021	%	70 - 130%	83
	TP28_0.2-0.3	SE202242.022	%	70 - 130%	83
	TP28_1.6-1.7	SE202242.023	%	70 - 130%	81
	TP29_0.2-0.3	SE202242.024	%	70 - 130%	84
	TP30_1.2-1.3	SE202242.025	%	70 - 130%	86
	TP31_0.2-0.3	SE202242.026	%	70 - 130%	84
	TP32_0.2-0.3	SE202242.027	%	70 - 130%	85
	TP33_1.5-1.6	SE202242.028	%	70 - 130%	85
	TP34_0.2-0.3	SE202242.029	%	70 - 130%	84
	TP35_0.2-0.3	SE202242.030	%	70 - 130%	84
	TP35_2.4-2.5	SE202242.031	%	70 - 130%	84
	TP36_0.7-0.8	SE202242.032	%	70 - 130%	82
	TP36_1.4-1.5	SE202242.033	%	70 - 130%	84
	TP37_0.2-0.3	SE202242.034	%	70 - 130%	85
	TP37_1.2-1.3	SE202242.035	%	70 - 130%	85
	TP38_0.2-0.3	SE202242.036	%	70 - 130%	77
	TP38_1.0-1.1	SE202242.037	%	70 - 130%	85
	TP39_0.2-0.3	SE202242.038	%	70 - 130%	84
	TP39_1.2-1.3	SE202242.039	%	70 - 130%	85
	TP40_0.2-0.3	SE202242.040	%	70 - 130%	81
	TP40_0.9-1.0	SE202242.041	%	70 - 130%	88
	TP41_0.2-0.3	SE202242.042	%	70 - 130%	89
	TP41_0.8-0.9	SE202242.043	%	70 - 130%	83
	TP42_0.2-0.3	SE202242.044	%	70 - 130%	87
	TP42_2.1-2.2	SE202242.045	%	70 - 130%	92

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	TP42_2.6-2.7	SE202242.046	%	70 - 130%	93
	TP43_0.2-0.3	SE202242.047	%	70 - 130%	89
	TP43_1.8-1.9	SE202242.048	%	70 - 130%	90
	TP44_1.0-1.1	SE202242.049	%	70 - 130%	87
	TP44_2.4-2.5	SE202242.050	%	70 - 130%	89
	TP45_0.2-0.3	SE202242.051	%	70 - 130%	85
	TP45_2.4-2.5	SE202242.052	%	70 - 130%	89
	TP46_0.2-0.3	SE202242.053	%	70 - 130%	89
	TP46_1.5-1.6	SE202242.054	%	70 - 130%	92
	TP47_0.2-0.3	SE202242.055	%	70 - 130%	92
	TP47_0.9-1.0	SE202242.056	%	70 - 130%	81
	TP48_0.2-0.3	SE202242.057	%	70 - 130%	90
	TP48_1.5-1.6	SE202242.058	%	70 - 130%	92
	TP49_0.2-0.3	SE202242.059	%	70 - 130%	89
	TP49_2.7-2.8	SE202242.060	%	70 - 130%	92
	TP50_0.2-0.3	SE202242.061	%	70 - 130%	81
	TP50_0.9-1.0	SE202242.062	%	70 - 130%	85
	TP51_0.9-1.0	SE202242.063	%	70 - 130%	86
	TP51_2.2-2.3	SE202242.064	%	70 - 130%	86
	TP52_0.2-0.3	SE202242.065	%	70 - 130%	81
	TP52_1.4-1.5	SE202242.066	%	70 - 130%	85
	TP53_0.2-0.3	SE202242.067	%	70 - 130%	86
	TP53_1.1-1.2	SE202242.068	%	70 - 130%	80
	TP54_0.2-0.3	SE202242.069	%	70 - 130%	86
	TP54_0.8-0.9	SE202242.070	%	70 - 130%	82
	TP55_0.2-0.3	SE202242.071	%	70 - 130%	85
	TP55_0.7-0.8	SE202242.072	%	70 - 130%	87
	TP56_0.2-0.3	SE202242.073	%	70 - 130%	82
	TP56_1.2-1.3	SE202242.074	%	70 - 130%	82
	TP57_0.2-0.3	SE202242.075	%	70 - 130%	93
	TP57_1.3-1.4	SE202242.076	%	70 - 130%	83
	TP58_0.2-0.3	SE202242.077	%	70 - 130%	88
	TP58_0.8-0.9	SE202242.078	%	70 - 130%	84
	BH1_0.1-0.2	SE202242.080	%	70 - 130%	87
	BH1_4.2-4.5	SE202242.082	%	70 - 130%	81
	BH2_0.1-0.2	SE202242.083	%	70 - 130%	84
	BH2_4.3-4.5	SE202242.084	%	70 - 130%	90
	BH3_0.1-0.2	SE202242.085	%	70 - 130%	82
	BH3_6.0-6.45	SE202242.086	%	70 - 130%	83
	BH4_0.1-0.2	SE202242.087	%	70 - 130%	84
	BH4_4.5-4.95	SE202242.089	%	70 - 130%	72
	BH5_0.1-0.2	SE202242.090	%	70 - 130%	84
	BH5_3.0-3.1	SE202242.091	%	70 - 130%	78
	BH6_0.1-0.2	SE202242.092	%	70 - 130%	77
	BH6_3.0-3.2	SE202242.094	%	70 - 130%	82
	BH7_0.1-0.2	SE202242.095	%	70 - 130%	83
	BH7_3.8-4.0	SE202242.097	%	70 - 130%	82
	BH8_0.1-0.2	SE202242.098	%	70 - 130%	83
	BH8_3.2-3.5	SE202242.100	%	70 - 130%	89
d5-nitrobenzene (Surrogate)	TP14_0.2-0.3	SE202242.001	%	70 - 130%	81
	TP14_1.8-1.9	SE202242.002	%	70 - 130%	81
	TP15_0.2-0.3	SE202242.003	%	70 - 130%	82
	TP16_0.7-0.8	SE202242.004	%	70 - 130%	81
	TP16_1.9-2.0	SE202242.005	%	70 - 130%	82
	TP17_0.2-0.3	SE202242.006	%	70 - 130%	82
	TP17_0.9-1.0	SE202242.007	%	70 - 130%	83
	TP18_0.2-0.3	SE202242.008	%	70 - 130%	81
	TP18_2.4-2.5	SE202242.009	%	70 - 130%	81
	TP19_0.2-0.3	SE202242.010	%	70 - 130%	79
	TP20_1.0-1.1	SE202242.011	%	70 - 130%	78
	TP21_0.2-0.3	SE202242.012	%	70 - 130%	84

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 identifer 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)	TP22_0.2-0.3	SE202242.013	%	70 - 130%	79
	TP22_2.0-2.1	SE202242.014	%	70 - 130%	81
	TP23_0.7-0.8	SE202242.015	%	70 - 130%	82
	TP24_0.2-0.3	SE202242.016	%	70 - 130%	80
	TP24_1.6-1.7	SE202242.017	%	70 - 130%	80
	TP25_0.2-0.3	SE202242.018	%	70 - 130%	80
	TP26_0.2-0.3	SE202242.019	%	70 - 130%	81
	TP26_0.7-0.8	SE202242.020	%	70 - 130%	82
	TP27_0.2-0.3	SE202242.021	%	70 - 130%	79
	TP28_0.2-0.3	SE202242.022	%	70 - 130%	76
	TP28_1.6-1.7	SE202242.023	%	70 - 130%	77
	TP29_0.2-0.3	SE202242.024	%	70 - 130%	78
	TP30_1.2-1.3	SE202242.025	%	70 - 130%	78
	TP31_0.2-0.3	SE202242.026	%	70 - 130%	77
	TP32_0.2-0.3	SE202242.027	%	70 - 130%	76
	TP33_1.5-1.6	SE202242.028	%	70 - 130%	79
	TP34_0.2-0.3	SE202242.029	%	70 - 130%	80
	TP35_0.2-0.3	SE202242.030	%	70 - 130%	78
	TP35_2.4-2.5	SE202242.031	%	70 - 130%	76
	TP36_0.7-0.8	SE202242.032	%	70 - 130%	75
	TP36_1.4-1.5	SE202242.033	%	70 - 130%	76
	TP37_0.2-0.3	SE202242.034	%	70 - 130%	76
	TP37_1.2-1.3	SE202242.035	%	70 - 130%	80
	TP38_0.2-0.3	SE202242.036	%	70 - 130%	73
	TP38_1.0-1.1	SE202242.037	%	70 - 130%	72
	TP39_0.2-0.3	SE202242.038	%	70 - 130%	79
	TP39_1.2-1.3	SE202242.039	%	70 - 130%	80
	TP40_0.2-0.3	SE202242.040	%	70 - 130%	78
	TP40_0.9-1.0	SE202242.041	%	70 - 130%	93
	TP41_0.2-0.3	SE202242.042	%	70 - 130%	92
	TP41_0.8-0.9	SE202242.043	%	70 - 130%	85
	TP42_0.2-0.3	SE202242.044	%	70 - 130%	89
	TP42_2.1-2.2	SE202242.045	%	70 - 130%	117
	TP42_2.6-2.7	SE202242.046	%	70 - 130%	94
	TP43_0.2-0.3	SE202242.047	%	70 - 130%	91
	TP43_1.8-1.9	SE202242.048	%	70 - 130%	90
	TP44_1.0-1.1	SE202242.049	%	70 - 130%	86
	TP44_2.4-2.5	SE202242.050	%	70 - 130%	84
	TP45_0.2-0.3	SE202242.051	%	70 - 130%	89
	TP45_2.4-2.5	SE202242.052	%	70 - 130%	85
	TP46_0.2-0.3	SE202242.053	%	70 - 130%	84
	TP46_1.5-1.6	SE202242.054	%	70 - 130%	87
	TP47_0.2-0.3	SE202242.055	%	70 - 130%	90
	TP47_0.9-1.0	SE202242.056	%	70 - 130%	76
	TP48_0.2-0.3	SE202242.057	%	70 - 130%	85
	TP48_1.5-1.6	SE202242.058	%	70 - 130%	85
	TP49_0.2-0.3	SE202242.059	%	70 - 130%	83
	TP49_2.7-2.8	SE202242.060	%	70 - 130%	85
	TP50_0.2-0.3	SE202242.061	%	70 - 130%	73
	TP50_0.9-1.0	SE202242.062	%	70 - 130%	81
	TP51_0.9-1.0	SE202242.063	%	70 - 130%	83
	TP51_2.2-2.3	SE202242.064	%	70 - 130%	83
	TP52_0.2-0.3	SE202242.065	%	70 - 130%	82
	TP52_1.4-1.5	SE202242.066	%	70 - 130%	81
	TP53_0.2-0.3	SE202242.067	%	70 - 130%	80
	TP53_1.1-1.2	SE202242.068	%	70 - 130%	74
	TP54_0.2-0.3	SE202242.069	%	70 - 130%	82
	TP54_0.8-0.9	SE202242.070	%	70 - 130%	81
	TP55_0.2-0.3	SE202242.071	%	70 - 130%	81
	TP55_0.7-0.8	SE202242.072	%	70 - 130%	84
	TP56_0.2-0.3	SE202242.073	%	70 - 130%	76

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 identifer 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)	TP56_1.2-1.3	SE202242.074	%	70 - 130%	81
	TP57_0.2-0.3	SE202242.075	%	70 - 130%	83
	TP57_1.3-1.4	SE202242.076	%	70 - 130%	76
	TP58_0.2-0.3	SE202242.077	%	70 - 130%	73
	TP58_0.8-0.9	SE202242.078	%	70 - 130%	72
	BH1_0.1-0.2	SE202242.080	%	70 - 130%	78
	BH1_4.2-4.5	SE202242.082	%	70 - 130%	75
	BH2_0.1-0.2	SE202242.083	%	70 - 130%	76
	BH2_4.3-4.5	SE202242.084	%	70 - 130%	83
	BH3_0.1-0.2	SE202242.085	%	70 - 130%	74
	BH3_6.0-6.45	SE202242.086	%	70 - 130%	76
	BH4_0.1-0.2	SE202242.087	%	70 - 130%	76
	BH4_4.5-4.95	SE202242.089	%	70 - 130%	66 ①
	BH5_0.1-0.2	SE202242.090	%	70 - 130%	76
	BH5_3.0-3.1	SE202242.091	%	70 - 130%	72
	BH6_0.1-0.2	SE202242.092	%	70 - 130%	70
	BH6_3.0-3.2	SE202242.094	%	70 - 130%	75
	BH7_0.1-0.2	SE202242.095	%	70 - 130%	74
	BH7_3.8-4.0	SE202242.097	%	70 - 130%	78
	BH8_0.1-0.2	SE202242.098	%	70 - 130%	79
	BH8_3.2-3.5	SE202242.100	%	70 - 130%	83

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	100
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	97
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	105
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	95
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	99
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	94
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	97
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	99
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	97
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	99
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	99
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	104
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	97
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	99
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	99
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	97
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	101
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	94
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	95
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	97
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	100
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	99
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	101
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	98
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	93
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	95
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	95
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	101
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	97
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	91
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	97
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	95
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	91
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	88
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	95
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	97
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	91

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

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

PCBs in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP39_0.2-0.3	SE202242.038	%	60 - 130%	103
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	96
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	93
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	109
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	102
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	113
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	118
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	104
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	113
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	111
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	112
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	109
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	113
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	113
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	111
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	113
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	110
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	93
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	105
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	114
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	112
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	99
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	106
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	107
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	125
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	112
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	103
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	119
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	118
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	105
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	113
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	109
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	115
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	103
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	99
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	104
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	102
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	109
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	104
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	102
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	105
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	109
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	117
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	107
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	108
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	99
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	101
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	99
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	93
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	103
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	102
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	93
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	96
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	99
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	95
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	105
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	109

VOC's 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 identifer 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)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	88
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	81
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	88
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	86
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	88
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	91
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	92
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	88
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	86
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	89
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	88
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	90
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	87
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	86
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	87
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	90
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	89
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	89
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	88
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	85
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	89
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	79
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	76
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	77
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	78
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	84
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	72
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	84
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	64
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	74
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	77
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	70
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	69
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	68
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	82
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	86
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	84
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	85
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	74
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	71
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	109
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	109
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	95
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	105
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	116
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	99
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	105
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	98
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	103
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	94
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	98
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	94
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	95
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	102
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	98
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	102
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	99
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	86
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	96
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	92
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	87

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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)	TP50_0.9-1.0	SE202242.062	%	60 - 130%	88
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	85
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	84
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	80
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	84
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	81
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	83
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	86
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	86
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	82
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	83
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	84
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	78
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	81
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	79
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	78
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	76
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	76
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	80
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	81
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	80
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	77
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	78
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	75
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	67
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	85
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	80
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	76
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	74
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	72
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	75
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	66
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	84
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	80
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	85
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	81
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	90
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	88
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	86
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	84
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	83
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	85
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	82
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	86
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	86
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	82
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	86
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	88
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	88
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	86
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	84
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	83
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	95
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	73
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	88
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	85
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	79
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	89
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	73
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	76

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 identifer 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)	TP34_0.2-0.3	SE202242.029	%	60 - 130%	80
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	82
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	88
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	76
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	89
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	88
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	92
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	89
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	88
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	86
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	73
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	74
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	113
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	111
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	115
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	99
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	109
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	91
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	101
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	98
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	100
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	91
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	99
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	92
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	103
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	106
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	98
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	101
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	99
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	81
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	98
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	91
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	84
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	81
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	78
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	78
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	78
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	80
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	79
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	80
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	82
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	85
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	80
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	79
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	85
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	75
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	80
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	75
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	75
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	127
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	117
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	101
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	96
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	91
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	112
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	106
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	111
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	97
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	105
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	108
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	124

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 identifer 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)	BH6_3.0-3.2	SE202242.094	%	60 - 130%	72
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	98
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	88
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	93
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	92
d8-toluene (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	88
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	83
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	89
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	85
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	95
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	92
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	91
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	87
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	86
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	88
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	85
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	89
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	87
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	83
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	87
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	88
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	89
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	87
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	86
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	84
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	104
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	89
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	86
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	86
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	88
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	95
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	79
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	93
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	90
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	90
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	88
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	83
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	88
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	91
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	92
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	103
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	89
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	90
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	72
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	83
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	112
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	110
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	95
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	100
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	110
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	91
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	102
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	98
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	100
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	91
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	98
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	92
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	89
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	106
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	99
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	103

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	TP48_0.2-0.3	SE202242.057	%	60 - 130%	100
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	81
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	100
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	77
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	87
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	85
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	81
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	81
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	80
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	83
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	80
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	83
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	85
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	87
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	82
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	81
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	87
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	79
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	84
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	77
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	78
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	105
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	107
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	113
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	119
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	112
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	110
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	109
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	107
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	106
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	110
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	121
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	98
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	103
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	113
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	106
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	98
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	94

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	88
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	81
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	88
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	86
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	88
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	91
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	92
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	88
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	86
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	89
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	88
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	90
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	87
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	86
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	87
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	90
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	89
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	89
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	88
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	85

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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)	TP27_0.2-0.3	SE202242.021	%	60 - 130%	89
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	79
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	76
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	77
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	78
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	84
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	72
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	84
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	64
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	74
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	77
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	70
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	69
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	68
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	82
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	86
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	84
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	85
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	74
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	71
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	109
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	109
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	95
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	105
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	116
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	99
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	105
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	98
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	103
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	94
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	98
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	94
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	95
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	102
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	98
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	102
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	99
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	86
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	96
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	92
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	87
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	88
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	85
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	84
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	80
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	84
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	81
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	83
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	86
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	86
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	82
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	83
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	84
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	78
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	81
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	79
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	78
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	76
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	76
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	80
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	81

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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)	BH2_4.3-4.5	SE202242.084	%	60 - 130%	80
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	77
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	78
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	75
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	67
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	85
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	80
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	76
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	74
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	72
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	75
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	66
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	84
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	80
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	85
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	81
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	90
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	88
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	86
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	84
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	83
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	85
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	82
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	86
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	86
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	82
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	86
	TP24_0.2-0.3	SE202242.016	%	60 - 130%	88
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	88
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	86
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	84
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	83
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	95
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	73
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	88
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	85
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	79
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	89
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	73
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	76
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	80
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	82
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	88
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	76
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	89
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	88
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	92
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	89
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	88
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	86
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	73
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	74
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	113
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	111
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	115
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	99
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	109
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	91
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	101
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	98

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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)	TP44_1.0-1.1	SE202242.049	%	60 - 130%	100
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	91
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	99
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	92
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	103
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	106
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	98
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	101
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	99
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	81
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	98
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	91
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	84
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	81
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	78
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	78
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	78
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	80
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	79
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	80
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	82
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	85
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	80
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	79
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	85
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	75
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	80
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	75
	TP58_0.2-0.3	SE202242.077	%	60 - 130%	75
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	127
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	117
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	101
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	96
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	91
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	112
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	106
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	111
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	97
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	105
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	108
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	124
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	72
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	98
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	88
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	93
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	92
d8-toluene (Surrogate)	TP14_0.2-0.3	SE202242.001	%	60 - 130%	88
	TP14_1.8-1.9	SE202242.002	%	60 - 130%	83
	TP15_0.2-0.3	SE202242.003	%	60 - 130%	89
	TP16_0.7-0.8	SE202242.004	%	60 - 130%	85
	TP16_1.9-2.0	SE202242.005	%	60 - 130%	95
	TP17_0.2-0.3	SE202242.006	%	60 - 130%	92
	TP17_0.9-1.0	SE202242.007	%	60 - 130%	91
	TP18_0.2-0.3	SE202242.008	%	60 - 130%	87
	TP18_2.4-2.5	SE202242.009	%	60 - 130%	86
	TP19_0.2-0.3	SE202242.010	%	60 - 130%	88
	TP20_1.0-1.1	SE202242.011	%	60 - 130%	85
	TP21_0.2-0.3	SE202242.012	%	60 - 130%	89
	TP22_0.2-0.3	SE202242.013	%	60 - 130%	87
	TP22_2.0-2.1	SE202242.014	%	60 - 130%	83
	TP23_0.7-0.8	SE202242.015	%	60 - 130%	87

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

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Volatile Petroleum Hydrocarbons in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	TP24_0.2-0.3	SE202242.016	%	60 - 130%	88
	TP24_1.6-1.7	SE202242.017	%	60 - 130%	89
	TP25_0.2-0.3	SE202242.018	%	60 - 130%	87
	TP26_0.2-0.3	SE202242.019	%	60 - 130%	86
	TP26_0.7-0.8	SE202242.020	%	60 - 130%	84
	TP27_0.2-0.3	SE202242.021	%	60 - 130%	104
	TP28_0.2-0.3	SE202242.022	%	60 - 130%	89
	TP28_1.6-1.7	SE202242.023	%	60 - 130%	86
	TP29_0.2-0.3	SE202242.024	%	60 - 130%	86
	TP30_1.2-1.3	SE202242.025	%	60 - 130%	88
	TP31_0.2-0.3	SE202242.026	%	60 - 130%	95
	TP32_0.2-0.3	SE202242.027	%	60 - 130%	79
	TP33_1.5-1.6	SE202242.028	%	60 - 130%	93
	TP34_0.2-0.3	SE202242.029	%	60 - 130%	90
	TP35_0.2-0.3	SE202242.030	%	60 - 130%	90
	TP35_2.4-2.5	SE202242.031	%	60 - 130%	88
	TP36_0.7-0.8	SE202242.032	%	60 - 130%	83
	TP36_1.4-1.5	SE202242.033	%	60 - 130%	88
	TP37_0.2-0.3	SE202242.034	%	60 - 130%	91
	TP37_1.2-1.3	SE202242.035	%	60 - 130%	92
	TP38_0.2-0.3	SE202242.036	%	60 - 130%	103
	TP38_1.0-1.1	SE202242.037	%	60 - 130%	89
	TP39_0.2-0.3	SE202242.038	%	60 - 130%	90
	TP39_1.2-1.3	SE202242.039	%	60 - 130%	72
	TP40_0.2-0.3	SE202242.040	%	60 - 130%	83
	TP40_0.9-1.0	SE202242.041	%	60 - 130%	112
	TP41_0.2-0.3	SE202242.042	%	60 - 130%	110
	TP41_0.8-0.9	SE202242.043	%	60 - 130%	95
	TP42_0.2-0.3	SE202242.044	%	60 - 130%	100
	TP42_2.1-2.2	SE202242.045	%	60 - 130%	110
	TP42_2.6-2.7	SE202242.046	%	60 - 130%	91
	TP43_0.2-0.3	SE202242.047	%	60 - 130%	102
	TP43_1.8-1.9	SE202242.048	%	60 - 130%	98
	TP44_1.0-1.1	SE202242.049	%	60 - 130%	100
	TP44_2.4-2.5	SE202242.050	%	60 - 130%	91
	TP45_0.2-0.3	SE202242.051	%	60 - 130%	98
	TP45_2.4-2.5	SE202242.052	%	60 - 130%	92
	TP46_0.2-0.3	SE202242.053	%	60 - 130%	89
	TP46_1.5-1.6	SE202242.054	%	60 - 130%	106
	TP47_0.2-0.3	SE202242.055	%	60 - 130%	99
	TP47_0.9-1.0	SE202242.056	%	60 - 130%	103
	TP48_0.2-0.3	SE202242.057	%	60 - 130%	100
	TP48_1.5-1.6	SE202242.058	%	60 - 130%	81
	TP49_0.2-0.3	SE202242.059	%	60 - 130%	100
	TP49_2.7-2.8	SE202242.060	%	60 - 130%	77
	TP50_0.2-0.3	SE202242.061	%	60 - 130%	87
	TP50_0.9-1.0	SE202242.062	%	60 - 130%	85
	TP51_0.9-1.0	SE202242.063	%	60 - 130%	81
	TP51_2.2-2.3	SE202242.064	%	60 - 130%	81
	TP52_0.2-0.3	SE202242.065	%	60 - 130%	80
	TP52_1.4-1.5	SE202242.066	%	60 - 130%	83
	TP53_0.2-0.3	SE202242.067	%	60 - 130%	80
	TP53_1.1-1.2	SE202242.068	%	60 - 130%	83
	TP54_0.2-0.3	SE202242.069	%	60 - 130%	85
	TP54_0.8-0.9	SE202242.070	%	60 - 130%	87
	TP55_0.2-0.3	SE202242.071	%	60 - 130%	82
	TP55_0.7-0.8	SE202242.072	%	60 - 130%	81
	TP56_0.2-0.3	SE202242.073	%	60 - 130%	87
	TP56_1.2-1.3	SE202242.074	%	60 - 130%	79
	TP57_0.2-0.3	SE202242.075	%	60 - 130%	84
	TP57_1.3-1.4	SE202242.076	%	60 - 130%	77

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	TP58_0.2-0.3	SE202242.077	%	60 - 130%	78
	TP58_0.8-0.9	SE202242.078	%	60 - 130%	105
	BH1_0.1-0.2	SE202242.080	%	60 - 130%	107
	BH1_4.2-4.5	SE202242.082	%	60 - 130%	113
	BH2_0.1-0.2	SE202242.083	%	60 - 130%	119
	BH2_4.3-4.5	SE202242.084	%	60 - 130%	112
	BH3_0.1-0.2	SE202242.085	%	60 - 130%	110
	BH3_6.0-6.45	SE202242.086	%	60 - 130%	109
	BH4_0.1-0.2	SE202242.087	%	60 - 130%	107
	BH4_4.5-4.95	SE202242.089	%	60 - 130%	106
	BH5_0.1-0.2	SE202242.090	%	60 - 130%	110
	BH5_3.0-3.1	SE202242.091	%	60 - 130%	121
	BH6_0.1-0.2	SE202242.092	%	60 - 130%	98
	BH6_3.0-3.2	SE202242.094	%	60 - 130%	103
	BH7_0.1-0.2	SE202242.095	%	60 - 130%	113
	BH7_3.8-4.0	SE202242.097	%	60 - 130%	106
	BH8_0.1-0.2	SE202242.098	%	60 - 130%	98
	BH8_3.2-3.5	SE202242.100	%	60 - 130%	94

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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result
LB192157.015	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	<25

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB192152.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0.13

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB192200.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192167.001	Mercury	mg/kg	0.05	<0.05
LB192168.001	Mercury	mg/kg	0.05	<0.05
LB192169.001	Mercury	mg/kg	0.05	<0.05
LB192170.001	Mercury	mg/kg	0.05	<0.05
LB192171.001	Mercury	mg/kg	0.05	<0.05
LB192173.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192066.001		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
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	98
LB192071.001		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

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.

OC Pesticides in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB192071.001		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
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101
LB192074.001		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
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	115
LB192080.001		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
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	110

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.

OC Pesticides in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB192087.001		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
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192066.001		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
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	93
		d14-p-terphenyl (Surrogate)	%	-	89
LB192071.001		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
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	90
LB192074.001		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

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.

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB192074.001		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	81
		d14-p-terphenyl (Surrogate)	%	-	95
LB192080.001		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
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	81
		d14-p-terphenyl (Surrogate)	%	-	91
LB192087.001		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
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	93
		d14-p-terphenyl (Surrogate)	%	-	90

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

Sample Number		Parameter	Units	LOR	Result
LB192066.001		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)	%	-	89
		2-fluorobiphenyl (Surrogate)	%	-	93
		d14-p-terphenyl (Surrogate)	%	-	89
LB192071.001		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

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.

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

Sample Number		Parameter	Units	LOR	Result
LB192071.001		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)	%	-	86
		2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	90
LB192074.001		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)	%	-	97
		2-fluorobiphenyl (Surrogate)	%	-	81
		d14-p-terphenyl (Surrogate)	%	-	95
LB192080.001		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)	%	-	83
		2-fluorobiphenyl (Surrogate)	%	-	81
		d14-p-terphenyl (Surrogate)	%	-	91
LB192087.001		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

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.

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

Sample Number		Parameter	Units	LOR	Result
LB192087.001		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)	%	-	82
		2-fluorobiphenyl (Surrogate)	%	-	93
		d14-p-terphenyl (Surrogate)	%	-	90

PCBs in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB192066.001		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)	%	-	98
LB192071.001		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)	%	-	101
LB192074.001		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)	%	-	115
LB192080.001		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)	%	-	110
LB192087.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2

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.

PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB192087.001		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)	%	-	101

Soluble Anions (1:5) in Soil by Ion Chromatography — Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB192082.001	Chloride	mg/kg	0.25	<0.25
	Sulfate	mg/kg	5	<5.0

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

Sample Number	Parameter	Units	LOR	Result
LB192161.001	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
LB192162.001	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
LB192163.001	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
LB192164.001	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
LB192165.001	Arsenic, As	mg/kg	1	<1
	Calcium, Ca	mg/kg	5	<5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Potassium, K	mg/kg	10	<10
	Magnesium, Mg	mg/kg	5	<5
	Manganese, Mn	mg/kg	1	<1
	Sodium, Na	mg/kg	5	<5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0
LB192166.001	Arsenic, As	mg/kg	1	<1
	Calcium, Ca	mg/kg	5	<5
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	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.

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

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

Sample Number	Parameter	Units	LOR	Result
LB192166.001	Copper, Cu	mg/kg	0.5	<0.5
	Potassium, K	mg/kg	10	<10
	Magnesium, Mg	mg/kg	5	<5
	Manganese, Mn	mg/kg	1	<1
	Sodium, Na	mg/kg	5	<5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB192066.001	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
LB192071.001	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
LB192074.001	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
LB192080.001	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
LB192087.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB192065.001	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)	%	-	88
		d8-toluene (Surrogate)	%	-	93
		Bromofluorobenzene (Surrogate)	%	-	93
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB192070.001	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)	%	-	83
		d8-toluene (Surrogate)	%	-	102
		Bromofluorobenzene (Surrogate)	%	-	80
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB192073.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1

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
LB192073.001	Monocyclic Aromatic Hydrocarbons	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)	%	-	116
		d8-toluene (Surrogate)	%	-	114
		Bromofluorobenzene (Surrogate)	%	-	110
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB192077.001	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)	%	-	86
		d8-toluene (Surrogate)	%	-	87
		Bromofluorobenzene (Surrogate)	%	-	88
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB192084.001	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)	%	-	108
		d8-toluene (Surrogate)	%	-	119
		Bromofluorobenzene (Surrogate)	%	-	77
	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
LB192065.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
LB192070.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	83
LB192073.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	116
LB192077.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86
LB192084.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	108

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

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

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

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

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.100	LB192152.017	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	560	53.253061224	30	2

Field pH for Acid Sulphate Soil

Method: ME-(AU)-[ENV]AN104

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.096	LB192328.017	pHf	pH Units	-	8.3	8.239	30	1
		pHfox	pH Units	-	5.7	5.828	30	2

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192167.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.019	LB192167.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.029	LB192168.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.038	LB192168.024	Mercury	mg/kg	0.05	<0.05	<0.05	194	0
SE202242.048	LB192169.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.057	LB192169.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.067	LB192170.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.076	LB192170.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.089	LB192171.014	Mercury	mg/kg	0.05	0.07	0.06	106	24
SE202242.095	LB192171.020	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE202242.100	LB192173.009	Mercury	mg/kg	0.05	<0.05	0.05	130	3

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192067.011	% Moisture	%w/w	1	6.6	8.7	43	27
SE202242.020	LB192067.022	% Moisture	%w/w	1	15.4	16.4	36	6
SE202242.030	LB192072.011	% Moisture	%w/w	1	11.2	11.7	39	5
SE202242.040	LB192072.022	% Moisture	%w/w	1	9.9	12.2	39	21
SE202242.050	LB192075.011	% Moisture	%w/w	1	18.3	18.4	35	1
SE202242.060	LB192075.022	% Moisture	%w/w	1	17.5	15.3	36	13
SE202242.070	LB192081.011	% Moisture	%w/w	1	15.3	14.2	37	8
SE202242.077	LB192081.019	% Moisture	%w/w	1	10.9	11.5	39	6
SE202242.088	LB192088.011	% Moisture	%w/w	1	15.1	16.1	36	6
SE202242.098	LB192088.022	% Moisture	%w/w	1	16.1	18.2	36	12
SE202242.100	LB192088.025	% Moisture	%w/w	1	19.6	19.1	35	2

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

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

OC Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	30	1
SE202242.019	LB192066.028		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.143	30	1
SE202242.030	LB192071.014		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

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

OC Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.030	LB192071.014		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	30	6
SE202242.040	LB192071.027		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.14	30	1
SE202242.050	LB192074.014		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0

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

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

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

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

OC Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.050	LB192074.014	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.18	30	7
SE202242.060	LB192074.027		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.13	30	22
SE202242.070	LB192080.014		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.16	30	7
SE202242.077	LB192080.022		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

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

OC Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.077	LB192080.022		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.16	30	2
SE202242.091	LB192087.023		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.146	30	5
SE202242.095	LB192087.024		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0

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

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

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

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

OC Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.095	LB192087.024		Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.144	30	3

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1
SE202242.019	LB192066.028		Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.2326700775	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0.0123677165	200	0
			Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.0447153744	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0.0120689635	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4379117802	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4277031837	30	1
SE202242.030	LB192071.014		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

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

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

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

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

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.030	LB192071.014		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	4
SE202242.040	LB192071.027		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	185	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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	13
SE202242.050	LB192074.014		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	2
SE202242.060	LB192074.027		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
SE202242.070	LB192080.014		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
			Methidathion	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

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

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

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

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

OP Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.070	LB192080.014		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	4
SE202242.077	LB192080.022		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
			Methidathion	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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
SE202242.091	LB192087.023		Dichlorvos	mg/kg	0.5	<0.5	0.0096970087	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.0118282952	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4876987935	30	16
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4661488428	30	17
SE202242.095	LB192087.024		Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0.0230171192	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4514092443	30	7
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4355392073	30	5

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014	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	139	34
		Pyrene	mg/kg	0.1	0.2	<0.1	129	41
		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&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014		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	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1
SE202242.019	LB192066.028		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0.0069312002	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0.0066476350	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0.0080899049	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0.0019163841	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0.0376792531	200	0
			Anthracene	mg/kg	0.1	<0.1	0.0367113435	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.0760863782	173	0
			Pyrene	mg/kg	0.1	<0.1	0.0813700925	166	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0485837274	200	0
			Chrysene	mg/kg	0.1	<0.1	0.0495711108	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.0670020351	188	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.0263654981	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.0528974868	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.0463972014	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.0054865565	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.0483196987	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4082395747	30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4379117802	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4277031837	30	1
SE202242.030	LB192071.014		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	184	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	183	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	195	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	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.030	LB192071.014	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	4
SE202242.040	LB192071.027		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	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
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	13
SE202242.050	LB192074.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	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	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	2
SE202242.060	LB192074.027		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	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

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.060	LB192074.027		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
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
SE202242.070	LB192080.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	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	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	4
SE202242.077	LB192080.022		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	183	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	190	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	158	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	171	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	145	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

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.077	LB192080.022		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	-	0.4	0.4	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
SE202242.091	LB192087.023		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0.0013314470	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0.0024775950	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0.0010598080	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0.0009443202	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0	200	0
			Anthracene	mg/kg	0.1	<0.1	0.0022905230	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0055027670	200	0
			Chrysene	mg/kg	0.1	<0.1	0.0057495875	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.0058517262	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4300681085	30	18
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4876987935	30	16
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4661488428	30	17
SE202242.095	LB192087.024		Naphthalene	mg/kg	0.1	<0.1	0.0057558412	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0.0054188405	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0.0049754703	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0.0313215352	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0.0072838327	200	0
			Fluorene	mg/kg	0.1	<0.1	0.0104379604	200	0
			Phenanthrene	mg/kg	0.1	0.1	0.1270954534	107	3
			Anthracene	mg/kg	0.1	<0.1	0.0398854322	200	0
			Fluoranthene	mg/kg	0.1	0.2	0.2983238269	67	22
			Pyrene	mg/kg	0.1	0.3	0.3262669029	64	23
			Benzo(a)anthracene	mg/kg	0.1	0.1	0.1586001844	100	21
			Chrysene	mg/kg	0.1	0.1	0.1712334498	93	15
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.2373200712	77	21
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.0919117515	146	0
			Benzo(a)pyrene	mg/kg	0.1	0.2	0.1997916051	85	19
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	0.1636655631	100	28
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.0252669629	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.1	0.1694207031	97	26
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	0.2	0.2684354815	92	20
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	0.3	0.3684354815	97	14
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.3	0.3184354815	78	16
			Total PAH (18)	mg/kg	0.8	1.6	1.9445052908	75	20
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.3961948450	30	6
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4514092443	30	7
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4355392073	30	5

PCBs in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014	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

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

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

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

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

PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014		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
SE202242.019	LB192066.028		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.143	30	1
SE202242.030	LB192071.014		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	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	6
SE202242.040	LB192071.027		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
SE202242.050	LB192074.014		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	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	7
SE202242.060	LB192074.027		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

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

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

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

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

PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.060	LB192074.027	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	22
SE202242.070	LB192080.014		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	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	7
SE202242.077	LB192080.022		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
SE202242.091	LB192087.023		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.146	30	5
SE202242.095	LB192087.024		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.144	30	3

pH in soil (1:5) — Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.100	LB192152.017	pH	pH Units	0.1	8.6	8.7	31	0

Soluble Anions (1:5) in Soil by Ion Chromatography — Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.100	LB192082.017	Chloride	mg/kg	0.25	530	540	30	2
		Sulfate	mg/kg	5	130	130	34	4

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

Original	Duplicate	Parameter	Units	LOR

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

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

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

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192161.014	Arsenic, As	mg/kg	1	5	5	50	11
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	8.7	7.2	36	18
		Copper, Cu	mg/kg	0.5	16	18	33	10
		Nickel, Ni	mg/kg	0.5	9.4	10	35	6
		Lead, Pb	mg/kg	1	14	17	36	17
		Zinc, Zn	mg/kg	2	38	40	35	6
SE202242.019	LB192161.024	Arsenic, As	mg/kg	1	7	7	44	6
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	11	10	35	3
		Copper, Cu	mg/kg	0.5	15	16	33	7
		Nickel, Ni	mg/kg	0.5	6.9	6.6	37	3
		Lead, Pb	mg/kg	1	19	22	35	15
		Zinc, Zn	mg/kg	2	39	43	35	10
SE202242.029	LB192162.014	Arsenic, As	mg/kg	1	8	9	42	11
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	11	13	34	14
		Copper, Cu	mg/kg	0.5	17	14	33	19
		Nickel, Ni	mg/kg	0.5	9.4	8.3	36	13
		Lead, Pb	mg/kg	1	15	17	36	13
		Zinc, Zn	mg/kg	2	55	41	34	29
SE202242.038	LB192162.024	Arsenic, As	mg/kg	1	7	7	43	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	11	13	34	22
		Copper, Cu	mg/kg	0.5	23	21	32	13
		Nickel, Ni	mg/kg	0.5	11	20	33	61 ②
		Lead, Pb	mg/kg	1	31	25	34	19
		Zinc, Zn	mg/kg	2	70	65	33	7
SE202242.048	LB192163.014	Arsenic, As	mg/kg	1	8	7	44	10
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	15	15	33	5
		Copper, Cu	mg/kg	0.5	8.7	8.3	36	4
		Nickel, Ni	mg/kg	0.5	5.5	5.2	39	7
		Lead, Pb	mg/kg	1	14	13	37	3
		Zinc, Zn	mg/kg	2	100	160	32	40 ②
SE202242.057	LB192163.024	Arsenic, As	mg/kg	1	5	7	46	30
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	11	12	34	10
		Copper, Cu	mg/kg	0.5	11	12	34	6
		Nickel, Ni	mg/kg	0.5	7.3	7.9	37	8
		Lead, Pb	mg/kg	1	16	17	36	10
		Zinc, Zn	mg/kg	2	39	44	35	12
SE202242.067	LB192164.014	Arsenic, As	mg/kg	1	6	6	47	4
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	7.8	7.7	36	2
		Copper, Cu	mg/kg	0.5	19	18	33	7
		Nickel, Ni	mg/kg	0.5	14	14	34	4
		Lead, Pb	mg/kg	1	14	15	37	5
		Zinc, Zn	mg/kg	2	68	69	33	1
SE202242.076	LB192164.024	Arsenic, As	mg/kg	1	7	6	45	11
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	21	18	33	12
		Copper, Cu	mg/kg	0.5	6.5	7.6	37	15
		Nickel, Ni	mg/kg	0.5	3.1	2.7	47	14
		Lead, Pb	mg/kg	1	11	10	39	7
		Zinc, Zn	mg/kg	2	24	20	39	16
SE202242.087	LB192165.014	Arsenic, As	mg/kg	1	6	5	48	7
		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	39	33	31	19
		Nickel, Ni	mg/kg	0.5	16	15	33	4

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

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

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

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

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.087	LB192165.014	Lead, Pb	mg/kg	1	13	15	37	11
		Zinc, Zn	mg/kg	2	53	59	34	11
SE202242.096	LB192165.024	Calcium, Ca	mg/kg	5	5000	4300	30	14
		Potassium, K	mg/kg	10	620	590	32	4
		Magnesium, Mg	mg/kg	5	2000	2100	30	5
		Manganese, Mn	mg/kg	1	720	700	30	3
		Sodium, Na	mg/kg	5	770	830	31	8
SE202242.097	LB192166.014	Arsenic, As	mg/kg	1	7	7	45	6
		Calcium, Ca	mg/kg	5	8800	6500	30	30 ②
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	10	9.6	35	6
		Copper, Cu	mg/kg	0.5	23	25	32	8
		Potassium, K	mg/kg	10	750	670	31	10
		Magnesium, Mg	mg/kg	5	2200	2100	30	4
		Manganese, Mn	mg/kg	1	740	740	30	0
		Sodium, Na	mg/kg	5	870	1000	31	16
		Nickel, Ni	mg/kg	0.5	19	21	32	9
		Lead, Pb	mg/kg	1	18	17	36	6
		Zinc, Zn	mg/kg	2	83	87	32	6
SE202242.100	LB192166.018	Arsenic, As	mg/kg	1	10	10	40	6
		Calcium, Ca	mg/kg	5	8300	6700	30	21
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	185	0
		Chromium, Cr	mg/kg	0.5	11	10	35	8
		Copper, Cu	mg/kg	0.5	28	27	32	3
		Potassium, K	mg/kg	10	720	690	31	4
		Magnesium, Mg	mg/kg	5	4100	3200	30	27
		Manganese, Mn	mg/kg	1	730	720	30	2
		Sodium, Na	mg/kg	5	670	660	32	2
		Nickel, Ni	mg/kg	0.5	18	17	33	6
		Lead, Pb	mg/kg	1	19	17	35	12
		Zinc, Zn	mg/kg	2	81	78	33	4

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192066.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE202242.019	LB192066.028		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE202242.030	LB192071.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.030	LB192071.014	TRH F Bands	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
SE202242.040	LB192071.027		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	49	132	9
			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
SE202242.050	LB192074.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE202242.060	LB192074.027		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
SE202242.070	LB192080.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE202242.077	LB192080.022		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
SE202242.091	LB192087.023		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.091	LB192087.023	TRH F Bands	TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE202242.095	LB192087.024		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	53	126	16
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	53	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192065.014	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	-	8.5	8.6	50	1
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.8	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	8.8	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
SE202242.020	LB192065.025	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	-	8.3	8.6	50	4
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.6	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	8.8	50	3
		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
SE202242.030	LB192070.014	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	-	8.2	7.4	50	11
			d8-toluene (Surrogate)	mg/kg	-	9.0	8.1	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	8.4	50	12
		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
SE202242.040	LB192070.025	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	-	7.4	7.5	50	2
			d8-toluene (Surrogate)	mg/kg	-	8.3	7.3	50	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	7.5	50	6
		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
SE202242.050	LB192073.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.050	LB192073.014	Monocyclic	Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	-	9.1	10.0	50	10
			d8-toluene (Surrogate)	mg/kg	-	9.1	9.9	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10.0	50	6
		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
SE202242.060	LB192073.025	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	-	9.1	8.4	50	7
			d8-toluene (Surrogate)	mg/kg	-	7.7	8.4	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	8.4	50	9
		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
SE202242.070	LB192077.014	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	-	8.5	7.7	50	10
			d8-toluene (Surrogate)	mg/kg	-	8.7	7.9	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.1	50	6
		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
SE202242.077	LB192077.022	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	-	7.5	7.6	50	0
			d8-toluene (Surrogate)	mg/kg	-	7.8	7.7	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	7.9	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
SE202242.090	LB192084.014	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	184	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.5	11.3	50	7
			d8-toluene (Surrogate)	mg/kg	-	11.0	9.6	50	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	10.9	50	25
		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
SE202242.100	LB192084.022	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	-	9.2	9.3	50	2
			d8-toluene (Surrogate)	mg/kg	-	9.4	11.0	50	16

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.100	LB192084.022	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.6	50	10
		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)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.010	LB192065.014		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	-	8.5	8.6	30	1
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.8	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	8.8	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
SE202242.020	LB192065.025		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	-	8.3	8.6	30	4
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.6	30	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	8.8	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE202242.030	LB192070.014		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	-	8.2	7.4	30	11
			d8-toluene (Surrogate)	mg/kg	-	9.0	8.1	30	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	8.4	30	12
		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
SE202242.040	LB192070.025		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	-	7.4	7.5	30	2
			d8-toluene (Surrogate)	mg/kg	-	8.3	7.3	30	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	7.5	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
SE202242.050	LB192073.014		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	-	9.1	10.0	30	10
			d8-toluene (Surrogate)	mg/kg	-	9.1	9.9	30	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10.0	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
SE202242.060	LB192073.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	8.4	30	7
			d8-toluene (Surrogate)	mg/kg	-	7.7	8.4	30	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	8.4	30	9
		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
SE202242.070	LB192077.014		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	-	8.5	7.7	30	10
			d8-toluene (Surrogate)	mg/kg	-	8.7	7.9	30	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.1	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
SE202242.077	LB192077.022		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.5	7.6	30	0
			d8-toluene (Surrogate)	mg/kg	-	7.8	7.7	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	7.9	30	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer 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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE202242.077	LB192077.022	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE202242.090	LB192084.014		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	-	10.5	11.3	30	7
			d8-toluene (Surrogate)	mg/kg	-	11.0	9.6	30	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	10.9	30	25
		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
SE202242.100	LB192084.022		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.2	9.3	30	2
			d8-toluene (Surrogate)	mg/kg	-	9.4	11.0	30	16
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.6	30	10
		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.

Alkalinity in Soil

Method: ME-(AU)-[ENV]AN002/AN135

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192157.016	Total Alkalinity as CaCO3 in Soil*	mg/kg	25	280	297.5	80 - 120	93

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192152.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	303	85 - 115	105

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192167.002	Mercury	mg/kg	0.05	0.23	0.2	70 - 130	115
LB192168.002	Mercury	mg/kg	0.05	0.22	0.2	70 - 130	111
LB192169.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	107
LB192170.002	Mercury	mg/kg	0.05	0.24	0.2	70 - 130	121
LB192171.002	Mercury	mg/kg	0.05	0.22	0.2	70 - 130	112
LB192173.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	107

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192066.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	102
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	97
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	95
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	97
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	97
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	90
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	95
LB192071.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	88
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	97
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	93
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	94
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	93
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	79
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	96
LB192074.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	116
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	113
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	112
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	112
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	110
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	103
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.15	40 - 130	111
LB192080.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	116
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	110
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	112
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	106
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	106
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	110
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	40 - 130	109
LB192087.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	125
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	124
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	124
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	124
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	121
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	117
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.15	40 - 130	115

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192066.002	Dichlorvos	mg/kg	0.5	2.0	2	60 - 140	101
	Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	103
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	100
	Ethion	mg/kg	0.2	1.7	2	60 - 140	86

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.

OP Pesticides in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192066.002	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89
LB192071.002		Dichlorvos	mg/kg	0.5	2.0	2	60 - 140	101
		Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	106
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.1	2	60 - 140	106
		Ethion	mg/kg	0.2	1.9	2	60 - 140	96
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	93
LB192074.002		Dichlorvos	mg/kg	0.5	2.5	2	60 - 140	125
		Diazinon (Dimpylate)	mg/kg	0.5	1.8	2	60 - 140	89
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	2	60 - 140	90
		Ethion	mg/kg	0.2	2.1	2	60 - 140	103
	Surrogates	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
LB192080.002		Dichlorvos	mg/kg	0.5	2.0	2	60 - 140	99
		Diazinon (Dimpylate)	mg/kg	0.5	1.4	2	60 - 140	68
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.2	2	60 - 140	62
		Ethion	mg/kg	0.2	1.3	2	60 - 140	66
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	81
LB192087.002		Dichlorvos	mg/kg	0.5	1.8	2	60 - 140	88
		Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	93
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	94
		Ethion	mg/kg	0.2	1.6	2	60 - 140	78
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192066.002		Naphthalene	mg/kg	0.1	4.3	4	60 - 140	106
		Acenaphthylene	mg/kg	0.1	4.3	4	60 - 140	107
		Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	111
		Phenanthrene	mg/kg	0.1	4.5	4	60 - 140	113
		Anthracene	mg/kg	0.1	4.2	4	60 - 140	105
		Fluoranthene	mg/kg	0.1	4.2	4	60 - 140	104
		Pyrene	mg/kg	0.1	4.4	4	60 - 140	110
		Benzo(a)pyrene	mg/kg	0.1	4.3	4	60 - 140	107
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89
LB192071.002		Naphthalene	mg/kg	0.1	4.2	4	60 - 140	106
		Acenaphthylene	mg/kg	0.1	4.3	4	60 - 140	108
		Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	110
		Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	111
		Anthracene	mg/kg	0.1	4.3	4	60 - 140	107
		Fluoranthene	mg/kg	0.1	4.2	4	60 - 140	106
		Pyrene	mg/kg	0.1	4.6	4	60 - 140	115
		Benzo(a)pyrene	mg/kg	0.1	4.3	4	60 - 140	107
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	93
LB192074.002		Naphthalene	mg/kg	0.1	3.9	4	60 - 140	96
		Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	100
		Acenaphthene	mg/kg	0.1	4.3	4	60 - 140	108
		Phenanthrene	mg/kg	0.1	4.2	4	60 - 140	105
		Anthracene	mg/kg	0.1	4.0	4	60 - 140	101
		Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	97
		Pyrene	mg/kg	0.1	4.2	4	60 - 140	106
		Benzo(a)pyrene	mg/kg	0.1	5.0	4	60 - 140	126
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84

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 Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192074.002	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
LB192080.002		Naphthalene	mg/kg	0.1	3.8	4	60 - 140	94
		Acenaphthylene	mg/kg	0.1	3.8	4	60 - 140	95
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	98
		Phenanthrene	mg/kg	0.1	4.1	4	60 - 140	103
		Anthracene	mg/kg	0.1	3.4	4	60 - 140	85
		Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	96
		Pyrene	mg/kg	0.1	4.2	4	60 - 140	104
		Benzo(a)pyrene	mg/kg	0.1	4.4	4	60 - 140	110
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	81
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	81
LB192087.002		Naphthalene	mg/kg	0.1	3.7	4	60 - 140	92
		Acenaphthylene	mg/kg	0.1	3.8	4	60 - 140	96
		Acenaphthene	mg/kg	0.1	3.8	4	60 - 140	94
		Phenanthrene	mg/kg	0.1	3.8	4	60 - 140	96
		Anthracene	mg/kg	0.1	3.7	4	60 - 140	91
		Fluoranthene	mg/kg	0.1	3.6	4	60 - 140	89
		Pyrene	mg/kg	0.1	3.9	4	60 - 140	97
		Benzo(a)pyrene	mg/kg	0.1	3.8	4	60 - 140	94
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192066.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	80
LB192071.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	82
LB192074.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	84
LB192080.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	81
LB192087.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	92

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192152.003	pH	pH Units	0.1	7.4	7.415	98 - 102	99

Soluble Anions (1:5) in Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192082.002	Chloride	mg/kg	0.25	120	100	70 - 130	118
	Sulfate	mg/kg	5	120	100	70 - 130	121

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 %
LB192161.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	102
	Cadmium, Cd	mg/kg	0.3	5.2	5.41	80 - 120	97
	Chromium, Cr	mg/kg	0.5	33	38.31	80 - 120	85
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	103
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	95
	Lead, Pb	mg/kg	1	95	89.9	80 - 120	105
	Zinc, Zn	mg/kg	2	270	273	80 - 120	100
LB192162.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	107
	Cadmium, Cd	mg/kg	0.3	5.1	5.41	80 - 120	94
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	102
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	104
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	95	89.9	80 - 120	105
	Zinc, Zn	mg/kg	2	290	273	80 - 120	105
LB192163.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	6.4	5.41	80 - 120	119
	Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	96

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.

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192163.002	Copper, Cu	mg/kg	0.5	300	290	80 - 120	104
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	98
	Lead, Pb	mg/kg	1	95	89.9	80 - 120	106
	Zinc, Zn	mg/kg	2	290	273	80 - 120	107
LB192164.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	6.4	5.41	80 - 120	119
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	103
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	103
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	98
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	290	273	80 - 120	106
LB192165.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	104
	Calcium, Ca	mg/kg	5	9300	10367	80 - 120	90
	Cadmium, Cd	mg/kg	0.3	6.3	5.41	80 - 120	117
	Chromium, Cr	mg/kg	0.5	35	38.31	80 - 120	91
	Copper, Cu	mg/kg	0.5	280	290	80 - 120	98
	Potassium, K	mg/kg	10	1300	1348	80 - 120	93
	Magnesium, Mg	mg/kg	5	9800	10422	80 - 120	94
	Manganese, Mn	mg/kg	1	660	660	80 - 120	101
	Sodium, Na	mg/kg	5	780	756	80 - 120	103
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	95
	Lead, Pb	mg/kg	1	91	89.9	80 - 120	102
	Zinc, Zn	mg/kg	2	280	273	80 - 120	101
LB192166.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	102
	Calcium, Ca	mg/kg	5	9700	10367	80 - 120	94
	Cadmium, Cd	mg/kg	0.3	6.4	5.41	80 - 120	119
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	102
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	102
	Potassium, K	mg/kg	10	1300	1348	80 - 120	97
	Magnesium, Mg	mg/kg	5	10000	10422	80 - 120	100
	Manganese, Mn	mg/kg	1	690	660	80 - 120	104
	Sodium, Na	mg/kg	5	840	756	80 - 120	111
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	98
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	103
	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	Result	Expected	Criteria %	Recovery %
LB192066.002		TRH C10-C14	mg/kg	20	43	40	60 - 140	108
		TRH C15-C28	mg/kg	45	50	40	60 - 140	125
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	83
	TRH F Bands	TRH >C10-C16	mg/kg	25	42	40	60 - 140	105
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	110
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75
LB192071.002		TRH C10-C14	mg/kg	20	44	40	60 - 140	110
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	108
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	85
	TRH F Bands	TRH >C10-C16	mg/kg	25	43	40	60 - 140	108
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	103
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75
LB192074.002		TRH C10-C14	mg/kg	20	40	40	60 - 140	100
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	103
		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	88
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80
LB192080.002		TRH C10-C14	mg/kg	20	49	40	60 - 140	123
		TRH C15-C28	mg/kg	45	49	40	60 - 140	123
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	100
	TRH F Bands	TRH >C10-C16	mg/kg	25	49	40	60 - 140	123
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	118

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 %
LB192080.002	TRH F Bands	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	105
LB192087.002		TRH C10-C14	mg/kg	20	33	40	60 - 140	83
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	90
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	75
	TRH F Bands	TRH >C10-C16	mg/kg	25	31	40	60 - 140	78
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	83
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	105

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192065.002	Monocyclic	Benzene	mg/kg	0.1	4.3	5	60 - 140	87
	Aromatic	Toluene	mg/kg	0.1	4.3	5	60 - 140	87
		Ethylbenzene	mg/kg	0.1	4.1	5	60 - 140	83
		m/p-xylene	mg/kg	0.2	8.2	10	60 - 140	82
		o-xylene	mg/kg	0.1	4.1	5	60 - 140	83
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		d8-toluene (Surrogate)	mg/kg	-	9.6	10	70 - 130	96
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	10	70 - 130	88
LB192070.002	Monocyclic	Benzene	mg/kg	0.1	3.7	5	60 - 140	74
	Aromatic	Toluene	mg/kg	0.1	3.9	5	60 - 140	77
		Ethylbenzene	mg/kg	0.1	3.7	5	60 - 140	74
		m/p-xylene	mg/kg	0.2	7.5	10	60 - 140	75
		o-xylene	mg/kg	0.1	3.7	5	60 - 140	74
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	10	70 - 130	86
		d8-toluene (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.8	10	70 - 130	98
LB192073.002	Monocyclic	Benzene	mg/kg	0.1	4.4	5	60 - 140	88
	Aromatic	Toluene	mg/kg	0.1	4.2	5	60 - 140	84
		Ethylbenzene	mg/kg	0.1	4.1	5	60 - 140	83
		m/p-xylene	mg/kg	0.2	8.4	10	60 - 140	84
		o-xylene	mg/kg	0.1	4.2	5	60 - 140	83
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.4	10	70 - 130	114
		d8-toluene (Surrogate)	mg/kg	-	11.4	10	70 - 130	114
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.2	10	70 - 130	112
LB192077.002	Monocyclic	Benzene	mg/kg	0.1	4.5	5	60 - 140	90
	Aromatic	Toluene	mg/kg	0.1	4.2	5	60 - 140	83
		Ethylbenzene	mg/kg	0.1	4.0	5	60 - 140	80
		m/p-xylene	mg/kg	0.2	8.1	10	60 - 140	81
		o-xylene	mg/kg	0.1	4.0	5	60 - 140	80
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
		d8-toluene (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
LB192084.002	Monocyclic	Benzene	mg/kg	0.1	4.0	5	60 - 140	80
	Aromatic	Toluene	mg/kg	0.1	3.7	5	60 - 140	73
		Ethylbenzene	mg/kg	0.1	3.9	5	60 - 140	77
		m/p-xylene	mg/kg	0.2	7.7	10	60 - 140	77
		o-xylene	mg/kg	0.1	3.8	5	60 - 140	76
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9	10	70 - 130	99
		d8-toluene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	10	70 - 130	79

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB192065.002		TRH C6-C10	mg/kg	25	90	92.5	60 - 140	97
		TRH C6-C9	mg/kg	20	78	80	60 - 140	98
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	10	70 - 130	88
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	65	62.5	60 - 140	104
LB192070.002		TRH C6-C10	mg/kg	25	93	92.5	60 - 140	101
		TRH C6-C9	mg/kg	20	80	80	60 - 140	100
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	10	70 - 130	86
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.8	10	70 - 130	98

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 %
LB192070.002	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	71	62.5	60 - 140	113
LB192073.002		TRH C6-C10	mg/kg	25	79	92.5	60 - 140	85
		TRH C6-C9	mg/kg	20	69	80	60 - 140	86
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.4	10	70 - 130	114
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.2	10	70 - 130	112
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	54	62.5	60 - 140	86
LB192077.002		TRH C6-C10	mg/kg	25	70	92.5	60 - 140	76
		TRH C6-C9	mg/kg	20	61	80	60 - 140	76
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	45	62.5	60 - 140	73
LB192084.002		TRH C6-C10	mg/kg	25	76	92.5	60 - 140	82
		TRH C6-C9	mg/kg	20	68	80	60 - 140	85
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9	10	70 - 130	99
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	10	70 - 130	79
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	53	62.5	60 - 140	84

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 identifer 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%
SE202242.001	LB192167.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	93
SE202242.020	LB192168.004	Mercury	mg/kg	0.05	0.19	<0.05	0.2	95
SE202242.039	LB192169.004	Mercury	mg/kg	0.05	0.19	<0.05	0.2	91
SE202242.058	LB192170.004	Mercury	mg/kg	0.05	0.18	<0.05	0.2	90
SE202242.077	LB192171.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	103
SE202275.001	LB192173.004	Mercury	mg/kg	0.05	0.20	<0.05	0.2	97

OC Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192066.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	110
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	104
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	102
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	104
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	103
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	97
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	-	102
SE202242.021	LB192071.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	111
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	109
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	108
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	107
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	108
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	96
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.021	LB192071.004		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	-	101
SE202242.041	LB192074.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	108
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	106
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	106
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	103
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	104
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	97
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16	-	107
SE202242.061	LB192080.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.3	<0.1	0.2	129
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	121
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.3	<0.1	0.2	126
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	116
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	117
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	113
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.061	LB192080.004		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.16	-	111
SE202242.078	LB192087.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	121
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	111
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	111
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	111
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	114
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	96
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16	-	109

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192066.004		Dichlorvos	mg/kg	0.5	1.8	<0.5	2	92
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	2.0	<0.5	2	96
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	<0.2	2	96
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.6	<0.2	2	82
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.4	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	91
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	85
SE202242.021	LB192071.004		Dichlorvos	mg/kg	0.5	1.7	<0.5	2	87
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	1.9	<0.5	2	88
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	<0.2	2	93
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.7	<0.2	2	84
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.1	<1.7	-	-

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 identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.021	LB192071.004	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	81
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	78
SE202242.041	LB192074.004		Dichlorvos	mg/kg	0.5	2.1	<0.5	2	103
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	1.7	<0.5	2	85
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	<0.2	2	85
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	2.0	<0.2	2	99
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.4	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	81
SE202242.061	LB192080.004		Dichlorvos	mg/kg	0.5	1.9	<0.5	2	96
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	1.4	<0.5	2	70
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.4	<0.2	2	71
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.5	<0.2	2	73
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	6.2	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	83
SE202242.078	LB192087.004		Dichlorvos	mg/kg	0.5	1.7	<0.5	2	83
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	1.9	<0.5	2	93
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	<0.2	2	94
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.3	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.6	<0.2	2	79
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.0	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	77

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192066.004	Naphthalene	mg/kg	0.1	4.1	<0.1	4	102
		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	4.1	<0.1	4	103
		Acenaphthene	mg/kg	0.1	4.2	<0.1	4	106
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.3	<0.1	4	106
		Anthracene	mg/kg	0.1	4.0	<0.1	4	99
		Fluoranthene	mg/kg	0.1	4.0	<0.1	4	98
		Pyrene	mg/kg	0.1	4.2	<0.1	4	104
		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	-	-

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 identifer 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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192066.004		Benzo(a)pyrene	mg/kg	0.1	4.1	<0.1	4	103
			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	4.1	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.3	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.2	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	33	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	85
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	91
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	85
SE202242.021	LB192071.004		Naphthalene	mg/kg	0.1	3.7	<0.1	4	93
			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	3.8	<0.1	4	96
			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	3.9	<0.1	4	97
			Anthracene	mg/kg	0.1	3.7	<0.1	4	93
			Fluoranthene	mg/kg	0.1	3.8	<0.1	4	95
			Pyrene	mg/kg	0.1	4.0	<0.1	4	99
			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	3.7	<0.1	4	92
			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	3.7	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	3.8	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	3.8	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	31	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	75
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	81
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	78
SE202242.041	LB192074.004		Naphthalene	mg/kg	0.1	3.8	<0.1	4	94
			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	3.9	<0.1	4	97
			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	4.0	<0.1	4	99
			Anthracene	mg/kg	0.1	3.8	<0.1	4	96
			Fluoranthene	mg/kg	0.1	3.6	<0.1	4	91
			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	4.5	<0.1	4	112
			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	4.5	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.6	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.6	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	31	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	93
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	81

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 identifer 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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.061	LB192080.004		Naphthalene	mg/kg	0.1	3.8	<0.1	4	94
			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	4.1	<0.1	4	102
			Anthracene	mg/kg	0.1	3.9	<0.1	4	98
			Fluoranthene	mg/kg	0.1	3.7	<0.1	4	93
			Pyrene	mg/kg	0.1	4.1	<0.1	4	103
			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	4.5	<0.1	4	111
			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	4.5	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.6	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.5	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	32	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	84
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	83
SE202242.078	LB192087.004		Naphthalene	mg/kg	0.1	3.7	<0.1	4	93
			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	3.9	<0.1	4	97
			Acenaphthene	mg/kg	0.1	3.9	<0.1	4	97
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	3.9	<0.1	4	98
			Anthracene	mg/kg	0.1	3.8	<0.1	4	94
			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	3.8	<0.1	4	94
			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	3.8	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	3.9	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	3.8	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	31	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	71
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	77

PCBs in Soil — Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192066.004	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	0.3	<0.2	0.4	86
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-

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.

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PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192066.004		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	-	99
SE202242.021	LB192071.004		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	0.3	<0.2	0.4	83
			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	-	99
SE202242.041	LB192074.004		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	0.3	<0.2	0.4	86
			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	-	112
SE202242.061	LB192080.004		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	0.3	<0.2	0.4	84
			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	-	115
SE202242.078	LB192087.004		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	0.4	<0.2	0.4	91
			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	-	111

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%
SE202242.001	LB192161.004	Arsenic, As	mg/kg	1	54	6	50	95
		Cadmium, Cd	mg/kg	0.3	43	<0.3	50	87
		Chromium, Cr	mg/kg	0.5	55	8.7	50	92
		Copper, Cu	mg/kg	0.5	63	19	50	89
		Nickel, Ni	mg/kg	0.5	53	11	50	85
		Lead, Pb	mg/kg	1	62	17	50	91
		Zinc, Zn	mg/kg	2	97	51	50	92
SE202242.020	LB192162.004	Arsenic, As	mg/kg	1	49	10	50	77
		Cadmium, Cd	mg/kg	0.3	40	<0.3	50	81
		Chromium, Cr	mg/kg	0.5	54	16	50	77
		Copper, Cu	mg/kg	0.5	52	13	50	79

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

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.020	LB192162.004	Nickel, Ni	mg/kg	0.5	46	5.2	50	81
		Lead, Pb	mg/kg	1	53	16	50	75
		Zinc, Zn	mg/kg	2	74	32	50	83
SE202242.039	LB192163.004	Arsenic, As	mg/kg	1	47	3	50	89
		Cadmium, Cd	mg/kg	0.3	38	<0.3	50	75
		Chromium, Cr	mg/kg	0.5	48	4.5	50	87
		Copper, Cu	mg/kg	0.5	56	15	50	83
		Nickel, Ni	mg/kg	0.5	50	15	50	70
		Lead, Pb	mg/kg	1	54	11	50	85
		Zinc, Zn	mg/kg	2	83	52	50	62 ⑨
SE202242.058	LB192164.004	Arsenic, As	mg/kg	1	49	5	50	88
		Cadmium, Cd	mg/kg	0.3	39	<0.3	50	77
		Chromium, Cr	mg/kg	0.5	55	8.1	50	95
		Copper, Cu	mg/kg	0.5	52	9.7	50	85
		Nickel, Ni	mg/kg	0.5	46	2.9	50	87
		Lead, Pb	mg/kg	1	55	9	50	94
		Zinc, Zn	mg/kg	2	66	23	50	85
SE202242.077	LB192165.004	Arsenic, As	mg/kg	1	50	6	50	88
		Cadmium, Cd	mg/kg	0.3	36	<0.3	50	73
		Chromium, Cr	mg/kg	0.5	53	8.3	50	90
		Copper, Cu	mg/kg	0.5	52	13	50	79
		Nickel, Ni	mg/kg	0.5	47	4.2	50	86
		Lead, Pb	mg/kg	1	57	19	50	76
		Zinc, Zn	mg/kg	2	84	32	50	103
SE202275.001	LB192166.004	Arsenic, As	mg/kg	1	48	3	50	89
		Cadmium, Cd	mg/kg	0.3	42	<0.3	50	85
		Chromium, Cr	mg/kg	0.5	73	25	50	96
		Copper, Cu	mg/kg	0.5	66	20	50	93
		Manganese, Mn	mg/kg	1	440	470	50	-59 ⑨
		Nickel, Ni	mg/kg	0.5	55	9.1	50	91
		Lead, Pb	mg/kg	1	68	24	50	89
		Zinc, Zn	mg/kg	2	63	14	50	98

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192066.004		TRH C10-C14	mg/kg	20	45	<20	40	113
			TRH C15-C28	mg/kg	45	52	<45	40	130
			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	42	<25	40	105
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	38	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	123
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
SE202242.021	LB192071.004		TRH C10-C14	mg/kg	20	42	<20	40	105
			TRH C15-C28	mg/kg	45	<45	<45	40	100
			TRH C29-C36	mg/kg	45	<45	<45	40	93
			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	40	<25	40	100
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	40	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	103
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
SE202242.041	LB192074.004		TRH C10-C14	mg/kg	20	41	<20	40	98
			TRH C15-C28	mg/kg	45	49	<45	40	103
			TRH C29-C36	mg/kg	45	49	<45	40	85
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	140	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-

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 identifer 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%
SE202242.041	LB192074.004	TRH F Bands	TRH >C10-C16	mg/kg	25	39	<25	40	93
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	35	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	103
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
SE202242.061	LB192080.004		TRH C10-C14	mg/kg	20	53	<20	40	118
			TRH C15-C28	mg/kg	45	72	<45	40	123
			TRH C29-C36	mg/kg	45	86	<45	40	125
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	210	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	55	<25	40	123
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	51	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	97	<90	40	123
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
SE202242.078	LB192087.004		TRH C10-C14	mg/kg	20	34	<20	40	85
			TRH C15-C28	mg/kg	45	<45	<45	40	95
			TRH C29-C36	mg/kg	45	<45	<45	40	78
			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	32	<25	40	80
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	28	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	113
			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%
SE202242.001	LB192065.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.9	<0.1	5	78
			Toluene	mg/kg	0.1	4.0	<0.1	5	80
			Ethylbenzene	mg/kg	0.1	3.9	<0.1	5	78
			m/p-xylene	mg/kg	0.2	7.9	<0.2	10	79
			o-xylene	mg/kg	0.1	3.9	<0.1	5	78
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.4	10	84
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.8	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	8.8	10	84
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-
			Total BTEX	mg/kg	0.6	24	<0.6	-	-
SE202242.021	LB192070.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.7	<0.1	5	74
			Toluene	mg/kg	0.1	3.3	<0.1	5	67
			Ethylbenzene	mg/kg	0.1	3.3	<0.1	5	66
			m/p-xylene	mg/kg	0.2	6.7	<0.2	10	67
			o-xylene	mg/kg	0.1	3.4	<0.1	5	66
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.2	9.5	10	72
			d8-toluene (Surrogate)	mg/kg	-	8.2	10.4	10	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	8.9	10	83
		Totals	Total Xylenes	mg/kg	0.3	10	<0.3	-	-
			Total BTEX	mg/kg	0.6	20	<0.6	-	-
SE202242.041	LB192073.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.6	<0.1	5	72
			Toluene	mg/kg	0.1	3.6	<0.1	5	71
			Ethylbenzene	mg/kg	0.1	3.7	<0.1	5	73
			m/p-xylene	mg/kg	0.2	7.4	<0.2	10	74
			o-xylene	mg/kg	0.1	3.7	<0.1	5	74
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.9	11.3	10	119
			d8-toluene (Surrogate)	mg/kg	-	11.9	11.2	10	119
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.7	10.9	10	117
		Totals	Total Xylenes	mg/kg	0.3	11	<0.3	-	-
			Total BTEX	mg/kg	0.6	22	<0.6	-	-
SE202242.061	LB192077.004	Monocyclic	Benzene	mg/kg	0.1	4.6	<0.1	5	92

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 identifer 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%
SE202242.061	LB192077.004	Monocyclic	Toluene	mg/kg	0.1	4.3	<0.1	5	85
		Aromatic	Ethylbenzene	mg/kg	0.1	4.2	<0.1	5	84
			m/p-xylene	mg/kg	0.2	8.5	<0.2	10	85
			o-xylene	mg/kg	0.1	4.2	<0.1	5	84
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	8.4	10	90
			d8-toluene (Surrogate)	mg/kg	-	9.4	8.7	10	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.1	8.7	10	91
		Totals	Total Xylenes	mg/kg	0.3	13	<0.3	-	-
			Total BTEX	mg/kg	0.6	26	<0.6	-	-
SE202242.078	LB192084.004	Monocyclic	Benzene	mg/kg	0.1	3.4	<0.1	5	68
		Aromatic	Toluene	mg/kg	0.1	3.1	<0.1	5	62
			Ethylbenzene	mg/kg	0.1	3.3	<0.1	5	66
			m/p-xylene	mg/kg	0.2	6.7	<0.2	10	67
			o-xylene	mg/kg	0.1	3.3	<0.1	5	66
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	12.7	10	101
			d8-toluene (Surrogate)	mg/kg	-	9.6	10.5	10	96
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.6	10	84
		Totals	Total Xylenes	mg/kg	0.3	10	<0.3	-	-
			Total BTEX	mg/kg	0.6	20	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE202242.001	LB192065.004		TRH C6-C10	mg/kg	25	84	<25	92.5	91
			TRH C6-C9	mg/kg	20	72	<20	80	90
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.4	10	84
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.8	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	8.8	-	84
		VPH F	Benzene (F0)	mg/kg	0.1	3.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	60	<25	62.5	96
SE202242.021	LB192070.004		TRH C6-C10	mg/kg	25	84	<25	92.5	91
			TRH C6-C9	mg/kg	20	72	<20	80	90
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.2	9.5	10	72
			d8-toluene (Surrogate)	mg/kg	-	8.2	10.4	10	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	8.9	-	83
		VPH F	Benzene (F0)	mg/kg	0.1	3.7	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	64	<25	62.5	101
SE202242.041	LB192073.004		TRH C6-C10	mg/kg	25	68	<25	92.5	74
			TRH C6-C9	mg/kg	20	60	<20	80	75
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.9	11.3	10	119
			d8-toluene (Surrogate)	mg/kg	-	11.9	11.2	10	119
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.7	10.9	-	117
		VPH F	Benzene (F0)	mg/kg	0.1	3.6	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	46	<25	62.5	74
SE202242.061	LB192077.004		TRH C6-C10	mg/kg	25	74	<25	92.5	80
			TRH C6-C9	mg/kg	20	64	<20	80	80
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	8.4	10	90
			d8-toluene (Surrogate)	mg/kg	-	9.4	8.7	10	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.1	8.7	-	91
		VPH F	Benzene (F0)	mg/kg	0.1	4.6	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	48	<25	62.5	76
SE202242.078	LB192084.004		TRH C6-C10	mg/kg	25	64	<25	92.5	69
			TRH C6-C9	mg/kg	20	58	<20	80	73
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	12.7	10	101
			d8-toluene (Surrogate)	mg/kg	-	9.6	10.5	10	96
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.6	-	84
		VPH F	Benzene (F0)	mg/kg	0.1	3.4	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	<25	62.5	70

MATRIX SPIKE DUPLICATES

SE202242 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / 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 x SDL / Mean + LR

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

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

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.
-	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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Appendix H- QA/QC Assessment

H1QUALITY CONTROL PROGRAM

H1.1PROJECT QA/QC PROTOCOLS

The overall quality assurance comprises an assessment of the reliability of the field procedures and the laboratory results against standard industry practices, documented sampling and analysis plans or remediation action plans. A summary of the project QA/QC protocols to be followed during the investigation works is presented in **Table H-1.**

Table H-1QA/QC Protocols

Task	Description	Project
Field QA/QC		
General	Work was undertaken following standard field procedures which are based on industry accepted standard practice.	Soil samples were generally collected directly off the drilling rods or hand auger. Soil samples were placed in 250 gram glass jars, which were filled to minimise headspace, and sealed using Teflon-coated lids.
	All fieldwork was supervised by a suitably qualified and experienced scientist or engineer.	Yes
Soil screening with PID	The PID was serviced and calibrated as per the manufacturer requirements. PID calibrated at the beginning and end of each day of fieldwork.	Yes
Equipment decontamination / Rinsate Samples	Sampling equipment to be decontaminated after the collection of each sample by washing with phosphate-free detergent (such as Decon 90) and potable water, followed by a final distilled water rinse. One rinsate blank would be collected per sampling event and analysed for the primary contaminants. All results should be non-detect.	Yes
Transport	Samples were stored in ice-brick cooled cooler box and transported to the primary and secondary laboratories. To ensure the integrity of the samples from collection to receipt by the analytical laboratory, samples were sent by courier to the laboratories under 'chain of custody' describing sample preservation, and transport duration.	Yes

Task	Description	Project
Trip Blanks	Trip blank samples were prepared and analysed by the primary laboratory for BTEX and naphthalene. Analytical results for trip blank samples below the laboratory PQLs, indicate that ideal sample transport and handling conditions are achieved.	Yes
Trip Spikes	Trip spike samples were prepared and analysed by the primary laboratory for BTEX. Acceptance criteria of BTEX spike recoveries are between 70% - 130%.	Yes Volatile contamination was not identified in any of soil samples or detected through field soil vapour screening with PID or unusual odour. Samples were stored under chilled / refrigerated conditions on site and in the laboratory and thus potential volatile losses were minimised. The absence of trip spike result does not affect the overall reliability of the data. Recoveries of the trip spike for Solis and GMEs was within the acceptance criteria.
QA samples	Field and laboratory QA samples will be analysed as follows: intra-laboratory and inter-laboratory duplicate samples will be collected at a rate of 1 pair per 20 primary samples	Part See **Table H-2** Calculated RPD (**table B.6**) values between most primary and field duplicate samples are within the acceptance criteria (**Section H1.2**), with the exception of: • Between soil sample TP24_0.2-0.3 and QD2: o Arsenic (76.92%) o Chromium (88.89%) o Lead (66.67%) o Nickel (74.37%) o Zinc (72.73%) • Between soil sample TP17_0.2-0.3 and QD4: o Nickel (57.43%) o Zinc (63.25%) • Between soil sample TP17_0.2-0.3 and QT4: o Lead (52.17%) • Between groundwater sample BH8Mand QT4: o GWQT1 (73.33%) The exceedances were considered a result of sample heterogeneity. RPD exceedances in question do not affect the overall conclusion drawn in regards to soil and groundwater conditions at the site.
Laboratory QA/QC		

Task	Description	Project
Laboratory analysis	The laboratories selected are NATA accredited for the analytes selected and perform their own internal QA/QC programs	Yes SGS - primary laboratory Envirolab - secondary laboratory The laboratory QA/QC reports are included in **Appendix G.**
	Appropriate detection limits were used for the analyses to be undertaken.	Practical Quantitation Limits for all tested parameters during the assessment of soils and groundwater are presented in summary tables **Table B.1 – B.5**
	Methods followed are generally in accordance with the requirements of NEPM (2013).	Yes
Holding Times	Holding times are the maximum permissible elapsed time in days from the collection of the sample to its extraction and/or analysis. All extraction and analyses should be completed within standard guidelines.	Part. Most samples were extracted within the recommended extraction date with the exception of the following: • DAM-NE: Nitrite, pH, TDS, turbidity • DAM-S: Nitrite, pH, TDS, turbidity • BH1M : pH • BH2M: pH • BH3M: pH • BH7M: pH • BH8M: pH • BH11M: pH • BH13M: pH • BH1_3.8-4.0: Alkalinity , Conductivity • BH1_4.24.5: Alkalinity , Conductivity • BH3_6.0-6.5: Alkalinity , Conductivity • BH4_4.5-4.95: Alkalinity , Conductivity The exceedances of groundwater pH holding times was considered acceptable, as field measurements of pH were taken during the GME. Soil alkalinity and conductivity exceedances do alter the reliability of the contamination assessment presented in this report.

Task	Description	Project

Laboratory Duplicates	Laboratory duplicates are field samples that are split in the laboratory and subsequently analysed a number of times in the same batch. These sub-samples are selected by the laboratory to assess the accuracy and precision of the analytical method.
	The selected laboratories should undertake QA/QC procedures such as calibration standards, laboratory control samples, surrogates, reference materials, sample duplicates and matrix spikes. Intra-laboratory duplicates should be performed at a frequency of 1 per 10 samples.
		The Laboratory duplicate samples for the analysis batches showed most calculated RPDs that were within acceptable ranges and conformed to the DAC.
		Exceptions are noted to be:
		• SE202242.038
		  o Nickel (61%)
		• SE202242.048
		  o Zinc (40%)
		• SE202242.097
		  o Calcium (30%)
		• SE202264.003
		  o Total Phosphorus (Kjeldahl Digestion) as P (18%)
		• SE202469.008
		  o TRH C15-C28 (87%)
		  o TRH C10-C36 Total (98%)
		  o TRH >C16-C34 (F3) (99%)
		• SE202429.005
		  o Manganese (38%)
		• SE203346.001
		  o d8-toluene (Surrogate) (33%)
		Exceedances of the acceptable ranges were attributed to sample heterogeneity.

Laboratory Control Standard	A laboratory control standard is a standard reference material used in preparing primary standards. The concentration should be equivalent to a mid-range standard to confirm the primary calibration. Laboratory control samples should be performed on a frequency of 1 per 20 samples or at least one per analytical run.	The Laboratory Control Samples for the analysis batches were within acceptable ranges.

Task	Description	Project

Matrix Spikes / Matrix Spike Duplicates (MS/MSD)	MS/MSDs are field samples to which a predetermined stock solution of known concentration has been added. The samples are then analysed for recovery of the known addition. Recoveries should be within the stated laboratory control limits of 70 to 130% and duplicates should have RPDs of less than 50%.	Most MS / MSD for the analysis batches were within acceptable ranges with the exception of:
		• SE202242.039
		  o Lead (62%)
		• SE202242.039
		  o Manganese (-59%)
		• SE202390.001
		  o TRH C10-C14 (155%)
		  o TRH C15-C28 (-58%)
		  o TRH C29-C36 (165%)
		  o TRH >C10-C16 (155%)
		  o TRH >C16-C34 (F3) (-40%)
		• SE202515.001
		  o Chromium (154%)
		  o Lead (25%)
		• SE202474.001
		  o TRH C6-C10 minus BTEX (F1) (139%)
		• SE202422.001
		  o TRH C15-C28 (-335%)
		  o TRH >C16-C34 (F3) (-318%)
		  o Toluene (56%)
		  o Bromofluorobenzene (Surrogate) (68%)
		  o TRH C6-C9 (58)
		  o TRH C6-C10 minus BTEX (F1) (59)
		• SE203216.001
		  o Sodium (-36%)
		  o Arsenic (163)
		Recovery failure was attributed to sample matrix interference. TRH failures were a results of significant concentrations of analyte (i.e. the concentration of analyte exceeds the spike level)

Surrogate Spikes	Surrogate spikes provide a means of checking, for every analysis that no gross errors have occurred at any stage of the procedure leading to significant analyte loss. Recoveries should be within the stated laboratory control limits of 70 to 130%.	Surrogate spikes for the analysis batches were within acceptable ranges with the exception of: • SE202242.089 o d5-nitrobenzene (66%) The number of surrogate failures was within the acceptable range of below 3.
QA/QC Conclusion	The QA/QC indicators should either all comply with the required standards or showed no variations that would have no significant effect on the quality of the data.	EI considers that although a number of discrepancies were identified, which in most cases could be attributed to the heterogeneous nature of the submitted samples, the data generally confirms that the analytical results for the various phases of laboratory testing were valid and useable for interpretation purposes.

H1.2 Calculation of Relative Percentage Difference (RPD)

The RPD values were calculated using the following equation:

$$RPD = \frac{|C_O - C_R|}{[(C_O + C_R)/2]} \times 100$$

Where:

C_O = Concentration obtained for the primary sample; and

C_R = Concentration obtained for the blind replicate or split duplicate sample.

Data precision would be deemed acceptable if RPDs are found to be less than 30%. RPDs that exceed this range may be considered acceptable where:

- Results are less than 10 times the limits of reporting (LOR);
- Results are less than 20 times the LOR and the RPD is less than 50%; or
- Heterogeneous materials or volatile compounds are encountered.

In cases where RPD value was considered unacceptable, the analytical results of primary and duplicate samples were both reviewed against the adopted assessment criteria. If the review indicates the variations in data between the primary and duplicate samples would result in a different conclusion (e.g. the higher concentration is failing the assessment criteria), the need for re-sampling / validation would be considered.

H2 FIELD QA/QC DATA PROGRAM

H2.1 Field QA Sampling Program

The field quality assurance/quality control (QA/QC) samples collected during the investigation works are summarised on **Table H-2.** Inter-lab duplicates were analysed by the secondary laboratory, Envirolab. Analytical results of the Field QA samples are tabulated in **Table H-3**, alongside calculated RPDs between the primary and field duplicate samples.

Table H-2 Field QA Sampling Program

Activity	Matrix	No. Primary Samples	Primary Sample ID	Intra-Lab Duplicate ID	Inter-Lab Duplicate ID	No. of Duplicates	Duplicate Ratio
Field QA Samples - Duplicates							
Soil Investigation	Soil	115	TP18_0.2-0.3	QD1	QT1	6	1:19
			TP24_0.2-0.3	QD2	QT2		
			TP50_0.2-0.3	QD3	QT3		
			TP17_0.2-0.3	QD4	QT4		
			TP45_0.2-0.3	QD5	QT5		
			TP14_0.2-0.3	QD6	QT6		
GME	Water	7	BH8M	GWQD1	GWQT1	1	1:7

Activity	Matrix	No. Primary Samples	Primary Sample ID	Intra-Lab Duplicate ID	Inter-Lab Duplicate ID	No. of Duplicates	Duplicate Ratio
Other Field QA Samples							
Soil Investigation	Soil	TB1 – trip blank TS1 – trip spike					
	Water	QR1 – rinsate					
GME	Water	GWQR1 - Rinsate GWTB1 – Trip blank GWTS1 – Trip spike					

H2.2Field Data Quality Indicators

A discussion of the field data quality indicators is presented below.

Table H-4Field Data Quality Indicators

QA/QC Measures	Field Data Quality Indicators	Conformance / Comments
Precision – A quantitative measure of the variability (or reproducibility) of data	Standard operation procedures appropriate and complied with	Yes
Completeness – A measure of the amount of useable data from a data collection activity	Each critical location sampled	Yes
	Samples collected at targeted locations and depth	Yes
	SAQP appropriate and complied with	Yes
	Experienced sampler	Yes
	Field documentation correct	Yes
Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event	Same sampling method used on each occasion/location	Yes
	Experienced sampler	Yes
	Climatic conditions (temperature, rainfall, wind)	Climate conditions were recorded to be fine. These climatic conditions unlikely had significant influence on the results of the investigation.
	Same type of samples collected (filtered, size, fractions)	Yes
Representativeness – The confidence (expressed qualitatively) that data are representative of	Appropriate media sampled according to SAQP	Yes
	Each media identified in SAQP sampled	Yes

QA/QC Measures	Field Data Quality Indicators	Conformance / Comments
each medium present onsite	Appropriate sample collection methodologies, handling, storage and preservation techniques used	Yes
	Consistency between field observations and laboratory results.	Yes
Accuracy – A quantitative measure of the closeness of reported data to the "true" value	Standard operation procedures appropriate and complied with	Yes
	Calibration of instruments against known standards	Yes

H2.3 CONCLUSION FOR THE FIELD QA/QC

Based on the above review of the field QA/QC data EI considered the field QA/QC programme carried out during the investigations to be appropriate and the results to be acceptable.

H3LABORATORY QA/QC

H3.1LABORATORY ACCREDITATION

Primary and intra-laboratory duplicate samples were analysed by SGS Alexandria Environmental, NSW; inter-laboratory triplicate samples were analysed by Envirolab, Chatswood NSW; all laboratories are accredited by NATA for the analyses undertaken.

A discussion of the laboratory DQIs is presented below.

Table H-5Lab Data Quality Indicators

QA/QC Measures	Laboratory Data Quality Indicators	Conformance/Comments
Completeness – A measure of the amount of useable data from a data collection activity	All critical samples analysed according to SAQP and proposal	Yes
	All analytes analysed according to SAQP in proposal	Yes
	Appropriate methods and PQLs	Yes
	Sample documentation complete	Yes
	Sample holding times complied with	Yes
Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event	Same sample analytical methods used (including clean-up)	Yes
	Same Sample PQLs	Yes
	Same laboratories (NATA-accredited)	Yes
	Same units	Yes
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present onsite	All key samples analysed according to SAQP in the proposal.	Yes
	Analysis of laboratory-prepared volatile trip spikes and trip blanks	Yes
Precision – A quantitative measure of the variability (or reproducibility) of data	Analysis of laboratory and inter-laboratory duplicates	Yes
	Analysis of field duplicates	Yes
Accuracy – A quantitative measure of the closeness of reported data to the “true” value	Analysis of rinsate blanks	Yes
	Analysis of reagent blanks	Not applicable
	Analysis of method blanks	Yes
	Analysis of matrix spikes (MS)	Yes

QA/QC Measures	Laboratory Data Quality Indicators	Conformance/Comments
	Analysis of matrix spike duplicates (MSD)	Yes
	Analysis of surrogate spikes	Yes
	Analysis of reference materials	Not applicable
	Analysis of laboratory control samples	Yes
	Analysis of laboratory-prepared spikes	Yes

Overall, it is considered that the laboratory data quality objectives for this project have been attained.

H3.2CONCLUSIONS ON LAB QA/QC

Based on the laboratory QA/QC results EI considers that although a small number of discrepancies were identified, which in most cases could be attributed to the non-homogenous nature of the submitted samples, the data generally confirms that the analytical results for the various phases of laboratory testing were valid and useable for interpretation purposes.

H4Summary of Project QA/QC

The sampling methods (including sample preservation, transport and decontamination procedures) and laboratory methods followed during this investigation works were mostly consistent with EI protocols and meeting the DQOs for this project. Some discrepancies from the DQOs were reported however they were considered to not be detrimental to the validity of collected data. It is therefore considered that the data is sufficiently precise and accurate and that the results can be relied upon for interpretation.