

**NORTH STRATHFIELD ONE
PTY LTD**



**Detailed Site
Investigation**

25 George Street, North Strathfield NSW

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Executive Summary

Background

Mr Adrian Giardina of North Strathfield One Pty Ltd ('the Client') engaged EI Australia (EI) to conduct an Detailed Site Investigation (DSI) for the property located at 25 George Street, North Strathfield NSW ('the site'). This assessment was conducted to assess the nature and degree of any potential onsite contamination associated with current and former users of the property. The investigation will form part of a Development Application package to City of Canada Bay Council for site redevelopment (proposed high density residential land use).

This site is located approximately 11.km west of the Sydney Central Business District (CBD) and is located within the Local Government Area of City of Canada Bay Council (**Figure A.1**). It is comprised of CP/ - /SP22302, covering a total area of 7,750 m², as depicted in **Figure A.2**. It is currently occupied by an industrial business park housing a number of operation businesses, including, but not limited to, *Eurella Packaging & Assembly, Car Repair & Deco and Strathfield Automotive*.

Objectives

The main objectives of the assessment were to:

- Characterise site environmental conditions in relation to the nature, degree and sources of any soil, and / or groundwater impacts;
- Target potentially impacted areas identified during the preliminary stages of the assessment for intrusive investigation;
- Understand the influence of site specific, geologic and hydrogeological conditions on the potential fate and transport of any impacts that may be identified;
- Evaluate potential risks (if any) that identified impacts may pose to human health and the environment; and
- Where site contamination is confirmed, provide data to assist in the selection and design of appropriate remedial options.

Findings

- The site was occupied by at least four (4) buildings from at least 1930; minor developments took place until approximately 1986 when the site was developed into its current configuration.
- During this period (at least), the site was used for mixed commercial purposes, consistent with its zoning.
- Analytical results for the representative soil samples collected from 17 borehole locations across the site were all below the adopted investigation criteria.
- All analytical results in groundwater were below the adopted investigation levels, with the exception of zinc and TRH-F2 however were considered to present a low human health and environmental risk.

Based on the above findings and with due regard for the Statement of Limitations (**Section 12**), EI considered that gross contamination was not present at the site. The land was deemed suitable for the intended high density residential use. Recommendations provided in **Section 11** should be implemented during construction.

Conclusions and Recommendations

The following recommendations should be implemented during construction:

- A Hazardous Materials Survey should be completed by a suitably qualified and experienced consultant, before commencement of demolition works, to identify any hazardous materials present within the building structure. All identified hazardous materials must be appropriately managed to maintain worker health and safety during site construction works;
- Following demolition, a Clearance Inspection and Certificate should be prepared by a suitably qualified and experienced consultant;
- Soil materials being removed from site (including virgin excavated natural materials or VENM) as part of any excavation works are to be classified for off-site disposal in accordance the EPA (2014) *Waste Classification Guidelines*;
- Any material being imported to the site (i.e. for landscaping purposes) should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM; and
- Should unexpected contamination (i.e. hazardous materials including asbestos, UST, odorous and stained soils) be identified during redevelopment, all works should cease and a suitability qualified environmental consultant engaged to suitably address the issue.

1. INTRODUCTION

1.1 Background and Purpose

Mr Adrian Giardina of North Strathfield One Pty Ltd ('the Client') engaged EI Australia (EI) to conduct an Detailed Site Investigation (DSI) for the property located at 25 George Street, North Strathfield NSW ('the site'). This assessment was conducted to assess the nature and degree of any potential onsite contamination associated with current and former users of the property. The investigation will form part of a Development Application package to City of Canada Bay Council for site redevelopment.

This site is located approximately 11.km west of the Sydney Central Business District (CBD) and is located within the Local Government Area of City of Canada Bay Council (**Figure A.1**). It is comprised of CP/ - /SP22302, covering a total area of 7,750 m², as depicted in **Figure A.2**. It is currently occupied by an industrial business park housing a number of operation businesses, including, but not limited to, *Eurella Packaging & Assembly, Car Repair & Deco and Strathfield Automotive*.

1.2 Proposed Development

Based on the Proposed Development Plans (Fuse Architects ref: 190329_25 George Street, dated 30 May 2019) presented in **Appendix J**, site development involves the demolition of all site structures and the construction of a total of three (3) multi-storey, high density residential buildings, overlying two (2) levels of basement car parking and a communal open space area.

1.3 Regulatory Framework

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

- NSW Environmental Planning and Assessment Act (EP&A) 1979;
- Protection of the Environment Operation (POEO) Act 1997;
- Contaminated Land Management Act 1997;
- EPA (1995) Sampling Design Guidelines;
- SEPP 55 (1998) State Environment Planning Policy 55 - The Remediation of Land; and
- DEC (2007) Guidelines for the Assessment and Management of Groundwater Contamination;
- OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites;
- Work Health and Safety Act (2011);
- Canada Bay Local Environmental Plan (2013);
- NEPC (2013) National Environmental Protection (Assessment of Site Contamination) Measure 1999 (Amendment 2013), in particular Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater and Schedule B(2) Guideline on Site Characterisation;
- EPA (2015) Contaminated Land Management: Guidelines on the Duty to Report Contamination;
- EPA (2017) Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme;
- ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality;

1.4 Project Objectives

The primary objectives of this DSI are 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 intrusive sampling and laboratory analysis, for relevant contaminants; and
- Where site contamination is confirmed, make recommendations for the appropriate management of any contaminated soils and/or groundwater.

1.5 Scope of Works

In accordance with EI fee proposal P17584.1 (15 October 2019), to achieve the above objectives, the following scope of works was adopted:

1.5.1 Desktop Study

- A review of relevant topographical, geological, hydrogeological and soil landscape maps for the project area; and
- A review of previous investigation including historical aerial photographs, SafeWork NSW records, land titles and a NSW EPA Land information records regarding any statutory notices current on the site under the Contaminated Land Management Act 1997 or Protection of the Environment Operations Act 1997.

1.5.2 Field Work & Laboratory Analysis

- Preparation of a Work Health, Environment and Safety Plan (WHSEP);
- A review of existing underground services on site, with the use of 'Dial Before You Dig' (DBYD);
- A detailed site walkover inspection;
- Drilling of boreholes at seventeen (17) locations (BH101 to BH117) distributed across accessible areas of the Site;
- Installation of three (3) groundwater monitoring wells to a maximum depth of 9.0 mBGL, constructed to standard environmental protocols to investigate potential groundwater contamination;
- Multiple level soil sampling within fill and natural soils and one round of groundwater sampling from the constructed groundwater monitoring wells; and
- Laboratory analysis of selected soil and groundwater samples for relevant analytical parameters as determined from the site history survey and field observations during the investigation programme.

2. SITE CHARACTERISATION

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	25 George Street, North Strathfield NSW
Location Description	Approx. 11.3 km west of Sydney CBD, bound by George Street (west), the rail corridor (east) and high density commercial / residential (north and south).
Site Coordinates	North-east corner of site (GDA94-MGA56): Easting: 322941.136 Northing: 6252534.871 (Source: http://maps.six.nsw.gov.au)
Site Area	Approx. 7,750 m ²
Lot and Deposited Plan (DP)	CP / - / SP2302
Site Owner	North Strathfield One Pty Ltd
State Survey Marks	Two (2) State Survey Marks (SSM) and one (1) Permanent Marker (PM) are situated in close proximity (<100 m) to the site: - SS102225 on the corner of George Street and Argonne Street; - SS114365 on the corner of George Street and Mena Street; and - PM57033N immediately adjacent the site, within the rail corridor. (Source: http://maps.six.nsw.gov.au)
Local Government Authority	City of Canada Bay Council
Current Zoning	IN1 – General Industrial (Canada Bay Local Environment Plan 2013)
Current Land Uses	The site is currently occupied by approximately seven (7) active businesses, including a textiles manufacturer, multiple mechanic / automotive repair shops, a carpentry workshop, a grocery storage warehouse and a packing / distribution warehouse.

2.2 Surrounding Land Use

The site was situated within an area of mixed land uses. Uses of the immediately surrounding land are described in **Table 2-2**.

Table 2-2 Surrounding Land Uses

Direction Relative to Site	Land Use Description
North	High density, mixed-use commercial / residential
South	High density residential with recreational open space
East	The rail corridor, followed by medium density residential lots
West	George Street, followed by medium density residential lots

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
Topography	The site lies atop a crest with a gentle slope to the west.
Site Drainage	Consistent with the general slope of the site, stormwater is assumed to flow to the west, towards Powells Creek via drainage systems discharging to various stormwater easements and the municipal stormwater system.
Regional Geology	With reference to the 1:100 000 scale Geological Series Sheet 9130 (Sydney) the site is likely to be underlain by Ashfield Shale, a formation of the Wianamatta Group (Rwa). Ashfield Shale typically consists of <i>black to dark-grey shale and laminite</i> .
Soil Landscape	The Soil Conservation Service of NSW Soil Landscapes of the Sydney 1:100,000 Sheet (Chapman and Murphy, 1989) indicates that the site is underlain by the Blacktown (bt) Residual Landscape, which typically includes red-brown podzolic soil on crests, upper slopes and well-drained areas, and yellow podzolic soils and soloths on lower slopes and in areas of poor drainage.
Acid Sulfate Soil Risk	With reference to the Parramatta - Prospect Acid Sulfate Soil Risk Map (1:25,000 scale; Murphy, 1997), the subject land lies on the boundary of land described as '<i>No Known Occurrence</i>' and '<i>Disturbed Terrain x2</i>'. In such cases, anthropogenic fill material is likely to occur up to 2 mBGL, as such, acid sulfate soils (ASS) investigation is required. With reference to the Canada Bay LEP (2013) Acid Sulfate Soils Map (Sheet ASS_004) the site lies in a '<i>Class 5</i>' area with respect to <i>Acid Sulfate Soils</i>. However, the site is <500m from a '<i>Class 2</i>' area, as such investigation for ASS is required.
Nearest Surface Water Feature	Powells Creek (located 220m to the west). Powells Creek discharges into the Parramatta River which is considered to be tidally influenced, therefore are classed as a marine water ecosystem for assessment purposes.
Inferred Groundwater Flow Direction	Groundwater was inferred to flow west, towards Powells Creek.

2.4 Site Walkover Inspection

EI staff inspected the site during intrusive investigations on 25 October 2019. The recorded observations are summarised below with a photographic log provided in **Appendix I**:

- Locally, the topographical highpoint of the site is adjacent the rail corridor at the eastern boundary, and slopes westward toward George Street;
- The site is comprised of two (2) multiple storey, brick buildings which are orientated in an east-west direction with asphalt car parking and a nature strip in the central portion of the site (**Photograph 1**);
- An overgrown, garden area is present adjacent the eastern boundary with evidence of stockpiled pallets, discarded timber and general rubbish (**Photographs 2 & 8**);
- The site is currently occupied by approximately seven (7) active businesses, including a textiles manufacturer, multiple mechanic / automotive repair shops, a carpentry workshop, a grocery storage warehouse and a packing / distribution warehouse.
- A total of three (3) businesses within the southern building are mechanics / automotive modification / repair shops. Each of these businesses contains at least three (3) in-ground hydraulic lifts (**Photographs 3 & 4**);
- The slab within each building appeared to be in good condition;
- Anecdotal information provided by the tenants of each of the active businesses and observations during the site inspection indicated that there were no underground storage tanks (USTs) present on site;
- Storage of commercial quantities of engine oils and other automotive fluids was observed in two of the automotive workshop businesses was observed, however, there was no evidence of the materials having leaked onto the surface of the concrete slab. No USTs or ASTs were observed; and
- No evidence of vegetation distress was observed.

3. PREVIOUS INVESTIGATIONS

3.1 Available documents

This DSI follows on from previous environmental assessments conducted at the site, including:

- Asset Geo (Asset, 2016) *Geotechnical Assessment for the Proposed Residential Development; 25 George Street, North Strathfield NSW*, Ref: 3771-R1, dated 19 October 2016.
- DLA Environmental Services (DLA, 2015) *Preliminary Site Investigation; 25 George Street, North Strathfield NSW*, Ref DL3686_S003443, dated October 2015.

A summary of the previous investigations is presented below in **Table 3-1**.

Table 3-1 Summary of Previous Investigation Works and Findings

Assessment Details	Project Tasks and Findings
Asset (2016) Geotechnical Assessment	
Site Description	▪ The site is in a region of gently undulating terrain in the north-south direction, the site has a gentle slope of 2° - 5° in the east-west direction; ▪ At the time of inspection the site was occupied by a two factory units with asphalt car parking in the centre of the site.
Field Work	▪ On 28-29 September 2016, Asset drilled a total of four (4) boreholes to depths ranging from 5.5-6.0 mBGL and then continued by NMLC coring between 8.5-10.0 mBGL. ▪ Soil samples were analysed for aggressivity (chloride, sulfate and pH) ▪ Rock core samples were tested for Point Load Strength Index
Subsurface Conditions	▪ Asset encountered the following stratigraphy: - o Top soil: CLAY: low plasticity, dark brown with sub angular gravels; - o Fill: Silty CLAY: low to high plasticity, dark brown to red-brown mottled orange, traces of sub angular gravels; - o Residual Soil: CLAY: high plasticity, red-brown mottled orange, traces of shale fragments; - o Bedrock: SHALE: fine grained, dark grey to black, moderately weathered, very high to extremely high strength, and iron stained.
Discussion & Recommendations	▪ Soils are classified as 'Mild' and 'non-aggressive' with respect to concrete piles; ▪ Soils are classified as 'non-aggressive' to steel; ▪ Groundwater was not observed during auger drilling;
DLA (2015) Preliminary Site Investigation	
Site Description	▪ The Site is located on Quaternary age sediments characterised by silty to peaty quartz sand, silt and clay with ferruginous and humic cementation in places; ▪ The Site is located in an area of Class 5 ASS (City of Canada Bay Council's Acid Sulfate Soils Map; Sheet ASS_002); and ▪ The Site is located on relatively flat low-lying ground, sloping slightly toward the west. The highest point on Site is located on the eastern boundary (16m AHD), with the lowest point adjacent to the western boundary (14m AHD).

Assessment Details Project Tasks and Findings

Development Controls	▪ A WorkCover NSW search of their Stored Chemical Information Database indicated that no Dangerous Goods Licences have been held for the premises; ▪ A search was conducted of all records pertaining to section 58 of the Contaminated Land Management Act 1997 (NSW) and revealed that the Site is not encumbered by any notices from the NSW EPA with regard to contaminated land. No sites in the vicinity of the Site were encumbered by any notices. ▪ A search of the NSW EPA online Protection of the Environment Operations Act 1997 (NSW) public register did not locate any records of licences, applications, notices, audits, or pollution studies/ reduction programs for the Site.
Site History	▪ Aerial photographs from 1930 to 2015, available from the NSW Lands Department and Nearmap (http://maps.au.nearmap.com/) were reviewed by DLA with relevant observations being summarised below; - o 1930: A large structure is situated along the northern boundary with 3 other buildings occupying the site, the southern portion of the site is vacant; - o 1943: One of the smaller buildings (identified in previous aerial image) has been removed; - o 1951: No significant changes visible. - o 1961: Southern portion of the site now has multiple narrow rectangular structures resembling bundles of timber. No change to central portion of the team. - o 1972: Narrow structures from 1961 aerial have been removed. - o 1986: Two large warehouse structures occupy northern and southern boundaries of the site. Central portion is occupied by sealed car parking. - o 1997: No significant changes visible. - o 2005: No significant change to the site. Northern lot is bare, southern lot has multiple large structures with landscaped gardens. - o 2010: No significant changes to site. Northern lot now occupied by multiple large buildings. - o 2015: No significant changes visible.
Site Inspection	A site inspection was completed on 28 September 2015 which revealed the following: • The site was comprised of two (2) warehousing facilities parallel to one another, separated by an asphalt car parking area with a nature strip. • The buildings consist of multi-storey brick walls with a metal roof and concrete slab flooring. • The buildings are tenanted by multiple businesses including, car mechanic(s), cleaning product storage, furniture manufacturer etc. • No surficial staining was observed within any of the inspected buildings.
Discussion	The site had been commercial / industrial in use from 1912 to 2015. No items of cultural significance / environmental heritage were identified on site and no Dangerous Goods licences have been held for the site.

4. CONCEPTUAL SITE MODEL

In accordance with NEPC (2013) *Schedule B2 – Guideline on Site Characterisation*, 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.

4.1 Contamination Sources

Base on the history review and inspection, the primary contaminant sources at the site are outlined in **Table 4-1**.

Table 4-1 Contaminant Sources

Contaminant Source	Potential Impacts
Surface filling (expected beneath slabs and building)	A wide range of potential inorganic and organic chemicals, including asbestos. Contamination from industrial/commercial works including the use of hydraulic lifts and mechanic oils and solvents.
Pesticide use in building footprints	Potential pesticide contamination of surface soils.
Contamination from on-site sources	Potential groundwater and soil contamination from mechanical workshop operations and other mechanical infrastructure such as hydraulic lifts, including heavy metals (HM), total recoverable hydrocarbons (TRH), the monocyclic aromatic hydrocarbon compounds benzene, toluene, ethyl-benzene and xylenes (BTEX), volatile organic compounds (VOCs) including chlorinated VOCs., polycyclic aromatic hydrocarbons (PAH).
Contamination from off-site sources	Potential groundwater contamination from off-site industrial sources, such as the rail corridor, including heavy metals (HM), total recoverable hydrocarbons (TRH), the monocyclic aromatic hydrocarbon compounds benzene, toluene, ethyl-benzene and xylenes (BTEX), volatile organic compounds (VOCs) including chlorinated VOCs., polycyclic aromatic hydrocarbons (PAH).

4.2 Potential Contaminants

Potential chemicals at the site, along with the potential media impacts, are outlined in **Table 4-2**. For definitions and abbreviations see glossary at the end of this report.

Table 4-2 Potential Contaminants

Contaminant	Soil Impacts ¹	Air Quality Impacts ¹	Groundwater Impacts ¹
Priority heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, and Zn)	M	L	M
Total recoverable hydrocarbons (TRH)	M	L	M

Contaminant	Soil Impacts ¹	Air Quality Impacts ¹	Groundwater Impacts ¹
Volatile organic compounds (VOC), including chlorinated volatile organic compounds (CVOC) and the 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
Phenols	L	L	L
Organochlorine and organophosphate pesticides (OCP / OPP)	M	L	L
Polychlorinated biphenyls (PCB)	M	L	L
Asbestos	M	L	N/A
LNAPL or DNAPL	M	N/A	M
Others (See Section 4.3)	L	L	L

Notes:

L – low risk; M – medium/moderate risk; H – high risk
N/A – not applicable

4.3 Other Contaminants of Concern

Per- or poly-fluoroalkyl substances (PFAS)

The EPA (2017) auditor guidelines require that PFAS is considered in assessing land contamination. EI used the following decision tree (**Table 4-3**) based on EnRisk (2016) and NEMP (2018) *PFAS National Environmental Management Plan* for prioritising the potential for PFAS to be present on site and whether PFAS sampling of soil and water was required.

Table 4-3 PFAS Decision Tree

Preliminary Screening	Decision
Did fire training occur on-site?	No
Did fire training occur, or is an airport or fire station up-gradient of or adjacent to the site? ¹	No
Have “fuel” fires ever occurred on-site? (e.g. ignition of fuel (solvent, petrol, diesel, kerosene) tanks?)	No
Have PFAS been used in manufacturing or stored on-site? ²	No
If Yes to any questions, has site analytical suite been optimised to include preliminary sampling and testing for PFAS in soil (ASLP Testing) and water?	No

Notes:

¹ Runoff from fire training areas may impact surface water, sediment and groundwater.

² PFAS is used in a 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>)

Emerging chemicals

The EPA uses chemical control orders (CCOs) as a primary legislative tool under the EHC Act 1985 to manage 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 considered chemicals controlled by CCOs and other potential emerging chemicals of relevance to this ASI, as outlined in **Table 4-4**.

Table 4-4 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 potential to impact the site? ¹	No
Were organotin products (CCO, 1989) used or stored on site? ²	No
Were PCBs used, or PCB wastes (CCO, 1997) stored on-site? ³	Yes <i>If PCB-containing pesticides were used</i>
Were scheduled chemical or wastes (CCO, 2004) used or stored? ⁴	Yes <i>If pesticides were used</i>
Are other emerging chemicals suspected? ⁵	No
If Yes to any questions, has site sampling suite been optimised to include specific sampling for chemicals of concern in soil, air and water	Yes

Notes:

¹ From burning of certain chemicals, smelting or chemical manufacturing or fire on or near the site.

² From anti-fouling paints used or removed at boat & ship yards and marinas.

³ From older transformer oils & electrical capacitors

⁴ Twenty-four mostly organochlorine pesticides and industrial by-products

⁵ Other chemicals considered as emerging e.g. 1,4 dioxane (associated with some CVOCs)

4.4 Potential Sources, Exposure Pathways and Receptors

Potential contamination sources, exposure pathways and human and environmental receptors that were considered relevant for this ASI are summarised in **Table 4-5**.

4.5 Data Gaps

Based on a review of previous investigations, there is uncertainty with regard to the quality and extent of onsite fillings beneath site structures. Furthermore, there is the potential for onsite activities, such as mechanical workshops, to have contaminated the subsurface. Targeted investigation was needed to accurately characterise the site.

Table 4-5 Conceptual Site Model

Potential Sources	Impacted Media	Chemicals of Potential Concern	Transport mechanism	Exposure pathway	Potential receptor
Fill soils of unknown origin. Historic pesticide use. Historic commercial uses (including mechanical workshop) Migration of contamination onto site from nearby properties and unknown contamination sources.	Soil	HM, TRH, PAH, OCP/OPP, PCB, BTEXN, asbestos	Disturbance of surficial 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 ▪ Users of the site post redevelopment
			Atmospheric dispersion from soil to outdoor and indoor air spaces	▪ Inhalation dust particulates	
		F1 and F2 TRH, BTEXN	Volatilisation of contamination from soil and diffusion to indoor air spaces	▪ Inhalation of vapours from impacted soil	
	Groundwater	HM, TRH, PAH, OCP, BTEXN	Plant uptake of contamination present in root zone	▪ Plant uptake	▪ Future ecological receptors (e.g. site vegetation in landscaped areas post redevelopment)
		HMs, TRH, VOC (BTEXN), PAHs	Interception of water table during excavation Potential seepage into deep basement intercepting water table (both on site and off site) Volatilisation of contamination from groundwater to indoor or outdoor air spaces	▪ Dermal contact; ▪ Ingestion; ▪ Inhalation of vapours	▪ Construction and maintenance workers ▪ Basement users post redevelopment ▪ Offsite users of constructed basements that are not water tight
			Migration of dissolved phase impacts in groundwater	▪ Biota uptake, ▪ Ingestion ▪ Dermal contact	
Building fabrics containing hazardous materials.	-	HMs (copper, lead and zinc) and asbestos	Release of hazardous materials during uncontrolled demolition of building fabrics	▪ Ingestion; ▪ Dermal contact; ▪ Inhalation of airborne contaminants	▪ Construction and maintenance workers

5. SAMPLING, ANALYTICAL AND QUALITY PLAN (SAQP)

The SAQP ensures that the data collected during the investigations, is representative and provides a robust basis for site assessment decisions. The SAQP for this ASI included the following:

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

5.1 Data Quality Objectives (DQO)

In accordance with the US EPA (2006) *Data Quality Assessment* and the EPA (2017) *Contaminated Land Management: 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 ASI is documented in **Table 5-1**.

Table 5-1 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	Characterisation of the site is required as part of a Development Application (DA) to City of Canada Bay council. 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 4.1. In light of the information derived from the available site history information and site observations, a conceptual site model was developed (Section 4).
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 1.7, the decisions that need to be made are: - Has the nature, extent and source of any soil, vapour and/or groundwater impacts onsite 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: - The proposed future land use; - Available site historical information; - Previous investigations; - Areas of concern, identified during the site inspection prior to intrusive investigations; - National and NSW EPA guidelines endorsed under the NSW <i>Contaminated Land Management Act 1997</i>; - 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 investigation, a decision must be made regarding whether the soils and/or groundwater are suitable for the proposed development, or if additional investigation or remedial works are required to make the site suitable for the 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 the sites cadastral boundaries. Vertical – From the existing ground level, fill and natural soils, and to (and including) underlying water-bearing zones. 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? <i>Soil boreholes will be advanced to natural, sampled and logged to characterise underlying conditions.</i> - What are the characteristics of groundwater at the site? <i>Groundwater monitoring wells will be installed into the top of bedrock, to determine physical characteristics, chemical composition and flow direction of groundwater underlying the site.</i> - Is the site contaminated by historic land use? <i>Soil and groundwater samples will be analysed for COPCs, with the data compared to relevant screening criteria.</i> - Is the site suitable for the proposed land use? <i>If the concentrations of contaminants in the soil are below the relevant human health-based and ecological criteria for the intended land use, then the site will be deemed suitable for the proposed development.</i>
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 were adopted, as presented below in Table 5-2. 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 accessible parts of 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 up gradient and down gradient of the redevelopment area, to determine flow direction. - An upper soil profile sample will be collected at each borehole 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. - Review of the results will be undertaken to determine if further intrusive investigation (i.e. additional sampling) is warranted.

5.2 Data Quality Indicators

To ensure that the investigation data were of an acceptable quality, they were assessed against the data quality indicators (DQI) outlined in **Table 5-2**, which related to both field and laboratory-based procedures. The assessment of data quality is discussed in **Section 7**.

Table 5-2 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 LOR Prescribed by the laboratories
Completeness	Completion (%)	-

6. ASSESSMENT METHODOLOGY

6.1 Sampling Rationale

With reference to the CSM described in **Section 4**, soil and groundwater investigation works were planned in accordance with the following rationale:

- Sampling fill and natural soils from seventeen (17) test bore locations (BH101-BH117), distributed in a gridded array within accessible areas of the site;
- Installation of three (3) groundwater monitoring wells in targeted locations and a single groundwater monitoring event (GME) to assess the impacts (if any) to groundwater;
- Laboratory analysis of representative soil and groundwater samples for the identified chemicals of concern.

6.2 Investigation Constraints

All test bores drilled and monitoring wells installed during the investigation phase achieved the planned scope described in **Section 5.1**, with minor exceptions including:

- A total of two (2) Locations within the warehouse building(s) could not be achieved as the businesses were inaccessible.

6.3 Assessment Criteria

The assessment criteria proposed for this project are outlined in **Table 6-1**. These were selected from available published guidelines that are endorsed by national and/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 6-1 Adopted Investigation Levels for Soil and Groundwater

Environmental Media	Adopted Guidelines	Rationale
Soil	NEPC (2013) Soil HILs, HSLs, EILs / ESLs and Management Limits for TRHs	Soil Health-based Investigation Levels (HILs) <u>Site-wide soils:</u> NEPM (2013) HIL-B for residential settings with limited soils access. NEPM (2013) HIL-C for public open spaces. Soil Health-based Screening Levels (HSLs) <u>Site-wide soils:</u> NEPM (2013) HSL-B for residential settings with limited soils access. NEPM (2013) HSL-C for public open spaces. <u>Asbestos HSLs</u> The NEPC (2013) HSLs (WADoH (2009)) for asbestos were referred to, noting that the soil samples were screened for asbestos on a presence/absence basis. Ecological Investigation / Screening Levels (EILs / ESLs) The NEPC (2013) residential EILs / ESLs were considered for areas of the site designated for landscaping, noting that EILs / ESLs apply to the top 2 m (root zone). Where applicable, conservative criteria for coarse-grained soil were adopted. The derived EIL criteria were based on the addition of the most conservative Added Contaminant Limit (ACL) and the Ambient Background Concentration (ACL) for an old low traffic suburb. For selected petroleum hydrocarbons and TRH fractions, the NEPC (2013) ESLs for protection of terrestrial ecosystems on residential sites were adopted. The EIL for benzo(a)pyrene was sourced from CRC Care (2017) Technical Report No. 39 <i>Risk-based management and remediation guidance for benzo(a)pyrene</i>. Management Limits for Petroleum Hydrocarbons Where the HSLs and ESLs for petroleum hydrocarbons were exceeded, samples were also assessed against the NEPC (2013) <i>Management Limits</i> for the TRH fractions F1 – F4, to assess propensity for phase-separated hydrocarbons (PSH), fire and explosive hazards and adverse effects on buried infrastructure.
Groundwater	NEPC (2013) Groundwater HSLs for Vapour Intrusion	Health-based Screening Levels (HSLs) The NEPC (2013) groundwater HSLs for vapour intrusion were used to assess potential human health impacts from residual vapours resulting from petroleum, BTEX and naphthalene impacts. The <i>HSL B</i> thresholds for low and medium-density residential sites were applied for groundwater as a conservative approach. EI note that the <i>HSL D</i> thresholds for commercial / residential exposure settings could be applied for groundwater underneath the basement car park. EI note that the proposed basement excavation will intersect the groundwater, as such the NEPM (2013) HSLs are not applicable. A soil vapour assessment will be completed during remediation works to assess for vapour intrusion risk.

Environmental Media	Adopted Guidelines	Rationale
	ANZG (2018) Marine Water Trigger Values	Groundwater Investigation Levels (GILs) for Marine Water NEPC (2013) provides GILs for typical, slightly-moderately disturbed aquatic ecosystems, which are based on the ANZG (2018) Trigger Values (TVs) for 95% level of protection of aquatic ecosystems. The marine criteria were considered relevant as the nearest surface water source is Wolli Creek that drains into Botany Bay.
	NHMRC (2018) Recreational Water Guidelines	Groundwater Investigation Levels (GILs) for Recreational Water The NHMRC (2008) <i>Recreational Water Guidelines</i> (NHMRC 2008 amended in 2018) assessed for secondary recreational contact by multiplying the NHMRC drinking water guidelines by a factor of 10. EI consider that investigation levels for drinking water quality are not relevant for the following reasons: - There is a reticulated water system to the site and region. - There is no evidence of groundwater extraction for beneficial use.
	US EPA (2018) Regional Screening Levels for Resident Tap water	US EPA (2017) Regional Screening Levels The US EPA (2018) Regional Screening Levels for resident tap water with a risk factor of $1e^{-6}$, have been applied as a screening limit <u>only</u> . An assessment against these is not provided for the following reasons: - The US EPA (2018) RSLs are based on a more conservative risk factor of ($1e^{-6}$) than the Australia CLM Framework (risk factor of $1e^{-5}$). - There is a reticulated water system to the site and region. - There is no evidence of groundwater extraction for beneficial use.

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 8**.

6.4 Soil Investigation

The soil investigation works conducted at the site are described in **Table 6-2**. Test bore locations are illustrated in **Figure A.2**.

Table 6-2 Summary of Soil Investigation Methodology

Activity/Item	Details
Fieldwork	The borehole drilling works were conducted on 25 October 2019. All test bores were able to be completed to the target depth or refusal within the natural soil profile with the exception of two (2) locations, detailed in Section 6.2 .
Drilling Method	Test bore BH108 were drilled using a hand auger (1.0 mBGL). All other test bores were advanced using a ute mounted, solid flight auger, drill rig (9.0 mBGL). Test bores BH107.M, BH109.M & BH110.M were converted into monitoring wells.

Activity/Item	Details
Soil Logging	Drilled soils were classified in the field for lithological characteristics and evaluated on a qualitative basis for odour and visual signs of contamination. Soil classifications and descriptions were based on Unified Soil Classification System (USCS) and Australian Standard (AS) 4482.1-2005. 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: ▪ Anthropogenic gravels and glass fragments observed in localised site fillings; and ▪ Extremely weathered shale occurred from approximately 1.0 mBGL.
Soil Sampling	▪ Samples were collected by dry grab method (unused, dedicated nitrile gloves) and placed into laboratory-supplied, acid-washed, solvent-rinsed glass jars. ▪ For each sample, a small aliquot was placed into a zip-lock bag for in-field screening of VOCs using a portable Photo-ionisation Detector (PID). ▪ For each fill sample, an aliquot was placed in a zip-lock bag for asbestos analysis.
Soil Vapour Screening	Screening for VOCs was performed in the field using a portable PID, fitted with a 10.9eV lamp. The maximum recorded measurement was 0.0 ppm. The low PID readings were consistent with the non-detection of any suspicious odour in the examined soils.
Management of Soil Cuttings	Soil cuttings were used as backfill for completed boreholes. Any excess waste soil was disposed of by the contracted driller.
Decontamination Procedures	Dedicated gloves were used for the collection of each sample. Sampling equipment (i.e. trowel and shovel) was decontaminated between uses by washing in a solution of potable water and Decon 90, and then rinsed with potable water.
Sample Preservation and Transport	Samples were stored in a refrigerated (ice-filled) chest, whilst on-site and in transit to the laboratory (SGS Australia (SGS)). 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 (Appendix E).
Quality Control and Laboratory Analysis	Soil samples were analysed by SGS for the identified COPCs. QA/QC testing comprised a rinsate blank, trip spike / blank samples and intra-laboratory (blind field) duplicates tested by SGS, as well as an inter-laboratory (split field) duplicate tested by Eurofins. All corresponding laboratory analytical reports are presented in Appendix F .

6.5 Groundwater Investigation

The groundwater investigation works conducted at the site are described in **Table 6-3**. Monitoring well locations are illustrated in **Figure A.2**.

Table 6-3 Summary of Groundwater Investigation Methodology

Activity/Item	Details
Fieldwork	Groundwater monitoring wells were installed and developed on 25 October 2019. Water level gauging, well purging, field testing and groundwater sampling was conducted on 4 November 2019.

Activity/Item	Details
Well Construction	Test bores BH107.M, BH109.M & BH110.M were converted to groundwater monitoring wells as follows: ▪ BH107.M installed to a total depth of 9.0 mBGL; ▪ BH109.M installed to a total depth of 5.5 mBGL; and ▪ BH110.M installed to a total depth of 6.5 mBGL. Well construction was in general accordance with the standards described in NUDLC (2012) and involved the following: ▪ 50 mm, Class 18 uPVC, threaded, machine-slotted screen and casing, with slotted intervals in shallow wells set to screen to 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 steel road box cover set in neat cement and finished flush with the concrete slab level.
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).
Management of purged groundwater	Excess purged groundwater was disposed of with the drilling spoil/mud by contracted driller.
Well Gauging and Groundwater Flow Direction	Monitoring wells were gauged for standing water level (SWL) prior to well purging at the commencement of the GME on 5 November 2019. All measured SWLs are shown in Table 8-2. Groundwater flow direction has been determined in Section 9 and presented on Figure 2. Phase separated hydrocarbons (PSH) and light non-aqueous phase liquid (LNAPL) were assessed at each location with a Heron Water Oil Interface Probe and checked visually with a clean dedicated bailer prior to sampling.
Well Purging and Field Testing	Well purging was performed using a low-flow, micro-purge pump. Measurement of water quality parameters was conducted using a water quality meter (HI98194) repeatedly during well purging and were recorded onto field data sheets (Appendix D). The field measurements included Temperature (T), Dissolved Oxygen (DO), Electrical Conductivity (EC), Reduction-Oxidation Potential (Redox) and pH. Purged water volumes removed from each well and field test results are summarised in Table 8-2. Once stable readings were obtained, groundwater sampling was performed.

Activity/Item	Details
Groundwater sampling	Groundwater was sampled using a micro-purge system. Water was continuously measured for T, EC, Redox, DO and pH. Once three consecutive field measurements were recorded to within $\pm 10\%$ for DO, $\pm 3\%$ for EC, ± 0.2 for pH, $\pm 0.2^\circ$ for temperature and ± 20 mV for Redox, this was considered to indicate that representative groundwater quality had been achieved and final physico-chemical measurements were recorded. Groundwater samples were then collected from the micro-purge sampling pump discharge point.
Decontamination Procedure	The micro-purge pump was decontaminated in a solution of potable water and Decon 90 and then rinsed with potable water between measurements/wells. The micro-purge system employed a disposable bladder and tubing system to further minimise potential contamination. All sample containers were supplied by the laboratory for the particular project and only opened once immediately prior to sampling. Ice packs were used to keep the samples cool when kept in an insulated chest. The water level probe and water quality kit probes were washed in a solution of potable water and Decon 90 and then rinsed with potable water between measurements/wells.
Sample Preservation	Sample containers (per well) 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.
Sample Transport	After sampling, refrigerated sample chests were transported to SGS under strict COC conditions. COC certificates and laboratory sample receipt documentation were provided to EI for confirmation purposes (Appendix E).
Quality Control and Laboratory Analysis	Groundwater samples were analysed by SGS for the identified COPCs. QA/QC testing comprised a rinsate blank, trip spike / blank samples and an intra-laboratory (blind field) duplicate tested by SGS, as well as an inter-laboratory (split field) duplicate tested by Eurofins. All corresponding laboratory analytical reports are presented in Appendix F .

7. DATA QUALITY ASSESSMENT

The assessment of data quality is defined as the scientific and statistical evaluation of environmental data to determine if they meet the objectives of the project (USEPA, 2006). Data quality assessment includes an evaluation of the compliance of the field sampling and laboratory analytical procedures and an assessment of the accuracy and precision of these data from the laboratory quality control measurements.

The data quality assessment for this ASI included a review of analytical procedures to confirm compliance with established laboratory protocols and an estimation of the accuracy and precision of the analytical data from a range of quality control measurements. It is summarised in **Table 8-1**.

Table 7-1 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 C / D
Sampling Plan	Use of relevant and appropriate sampling plan (density, type, and location)	Part	See Section 6.2 .
	All media sampled and duplicates collected	Yes	Soil vapour not required
	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 methodology
	Completed field and analytical laboratory sample COC procedures and documentation	Yes	See laboratory reports
Laboratory	Sample holding times within acceptable limits	Yes	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
	Laboratory duplicates	Yes	See laboratory QA/QC
	Matrix spike/matrix spike duplicates (MS/MSDs)	Yes	See laboratory QA/QC
	Surrogates (or System Monitoring Compounds)	Yes	See laboratory QA/QC
	Analytical results for replicated samples,	Yes	See QA Tables

Data Quality	Control	Conformance [Yes, Part, No]	Report Sections
	including field and laboratory duplicates and inter-laboratory duplicates, expressed as Relative Percentage Difference (RPD)		Appendix H
	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 and Appendix H
Reporting	Report reviewed by senior staff to assess project meets desired quality, EPA guidelines and project outcomes.	Yes	See document control

The findings of the data quality assessment are discussed in detail in **Appendix H**. QA/QC policies and DQOs are presented in **Appendix G**.

On the basis of the analytical data validation procedure employed, the overall quality of the soil and groundwater analytical data produced for the site were considered to be of an acceptable standard for interpretive use.

8. RESULTS

8.1 Soil Field Results

8.1.1 Subsurface Conditions

The general site lithology encountered during the drilling of the boreholes may be described as a shallow layer of anthropogenic filling, overlying natural clay and shale at depth. More detailed description is summarised in **Table 8-1** and borehole logs from the works are presented in **Appendix C**.

Table 8-1 Generalised Subsurface Profile

Layer	Description	Approx. depth to top & bottom of layer (mBGL)
Hardstand	Concrete / Asphalt	0 – 0.2
Fill / Topsoil	SAND (SP): fine to medium grained, poorly graded, sub-angular to angular, yellow to brown with trace angular gravels, dry, no odour.	0.2-0.5
	Silty CLAY (CL); low to medium plasticity, dark brown with some rounded gravels, dry, no odour.	0.4-0.8
Natural	Silty CLAY (CH); low to medium plasticity, dark brown with trace rounded gravels, dry, no odour.	0.6-1.1
	Extremely weather SHALE: light brown, dry, no odour.	1.2-6.0
Bedrock	Shale; dark grey, fine grained.	7.0+

Notes: + Termination depth of borehole

8.1.2 General Observations and PID Results

Soil samples were obtained from the test bores at various depths ranging between 0.2 m to 2.0m BGL. 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, and charcoal) and the following observations were noted:

- Low PID readings were recorded for the in-field; soil headspace samples (**Appendix C**). This was consistent with the non-detection of any suspicious odour in the examined soils; and
- Anthropogenic gravels (glass fragments) were observed in localise portions of fill materials.

8.2 Groundwater Field Results

8.2.1 Monitoring Well Construction

Three (3) groundwater monitoring wells were installed on the site (BH107.M, BH109.M & BH110.M) to assess the impacts (if any) to groundwater within the site cadastral boundaries. Well construction details for the installed groundwater monitoring wells are summarised in **Table 8-2**.

Table 8-2 Monitoring Well Construction Details

Well ID	Well Depth (mBGL)	RL (GL)	Well Stick up (m)	Screen Interval (mBGL)	Lithology Screened
BH107.M	9.0	10.51	-0.1	6.0-9.0	Weathered Shale
BH109.M	5.5	14.04	-0.1	2.5-5.5	Weathered Shale
BH110.M	6.5	12.22	-0.1	3.5-6.5	Weathered Shale

Note 1 BGL - metres below ground level.

Note 2 RL - Reduced Level – Surveyed elevation in metres relative to Australian Height Datum (mAHD).

Note 3 GL - Ground Level

8.2.2 General Observations and Field Meter Results

A single GME was conducted on three (3) wells on 4 November 2019. On this date, 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 8-3** and copies of the completed field data sheets are included in **Appendix D**.

The field data indicated that the local groundwater was slightly acidic (pH: 5.95 to 6.11), fresh to moderately (EC: 11560-11632 $\mu\text{S}/\text{cm}$, equivalent to moderate salinity).

Table 8-3 Groundwater Field Data

Well ID	SWL (mBTOC)	RL (TOC)	⁺ WL (mAHD)	Purge Volume (L)	DO (mg/L)	pH	EC (μ S/cm)	Temp (°C)	Redox (mV)	Comments
BH107.M	6.70	10.41	3.71	6	1.89	5.95	11632	22.89	405.2	Dark grey, medium to high turbidity, no odour, no sheen.
BH109.M	5.30	13.94	8.46	0.5	-	-	-	-	-	Dark grey, high turbidity, no odour, no sheen. <0.5m of water in well, unable to sample
BH110.M	6.36	12.12	5.76	0.5	-	-	-	-	-	Dark grey, high turbidity, no odour, no sheen. <0.5m of water in well, unable to sample

Notes:

SWL – Standing Water Level prior to groundwater sampling.
mBTOC – metres below top of well casing.
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).
EE – Equipment Error

DO – Dissolved Oxygen, in units of milligrams per litre (mg/L)
EC – Electrical Conductivity, in units of micro Siemens per centimetre (μ S/cm).
ppm – Parts Per Million
PID – Photo Ionisation Detector
Redox – Reduction Oxidation Potential, adjusted to Standard Hydrogen Electrode (SHE) by adding field electrode potential (205mV).
All groundwater parameters (pH, EC, redox and DO) were tested on site
* RL extrapolated from nearest point on survey plan (Higgins Norton Partners, 2003)

8.3 Laboratory Analytical Results

8.3.1 Soil Analytical Results

A summary of the laboratory analytical results for the tested soil samples is presented in **Table 8-4**. More detailed tabulation with concentrations for individual samples alongside the adopted SILs is presented in **Table B.1** at the end of this report.

Table 8-4 Summary of Soil Analytical Results

No. of primary samples	Analyte	Min. Conc. (mg/kg)	Max. Conc. (mg/kg)	Sample locations exceeding investigation levels
Hydrocarbons				
26	F1	<25	<25	None
26	F2	<25	25	None
26	F3	<90	<90	None
26	F4	<120	<120	None
26	Benzene	<0.1	<0.1	None
26	Toluene	<0.1	<0.1	None
26	Ethyl benzene	<0.1	<0.1	None
26	Total xylenes	<0.3	<0.3	None
PAHs				
26	Carcinogenic PAHs	<0.3	<0.4	None
26	Total PAH	<0.3	2.1	None
26	Benzo(a)pyrene	<0.1	0.2	None
26	Naphthalene	<0.1	<0.1	None
OCPs				
17	Total OCPs	<1	<1	None
OPPs				
17	Total OPPs	<1.7	<1.7	None
PCBs				
17	Total PCBs	<1	<1	None
Heavy Metals				
26	Arsenic	<1	12	None
26	Cadmium	<0.3	1.3	None
26	Chromium	5.7	20	None
26	Copper	2.8	100	None
26	Lead	2	320	None
26	Mercury	<0.05	0.08	None
26	Nickel	2.1	160	None
26	Zinc	3.1	260	None
Asbestos				

No. of primary samples	Analyte	Min. Conc. (mg/kg)	Max. Conc. (mg/kg)	Sample locations exceeding investigation levels
26	Asbestos	Not detected	Not detected	None

8.3.2 Groundwater Analytical Results

A summary of the laboratory analytical results for the tested groundwater samples is presented in **Table 8-4**. Laboratory analytical results for the groundwater samples are summarised in **Table B.3**, which includes the adopted GILs.

Heavy Metals

Exceedance of the ANZG (2018) Marine Water Criteria was identified for zinc (92 ug/L). However, the concentrations were representative of, or at least consistent with, background conditions for urban (Sydney metropolitan) areas, including North Strathfield. It was considered that the metal levels did not pose an immediate environmental concern, nor any threat to human health, since extraction for local use (domestic / irrigation / industrial) was not apparent on site and did not form part of the proposed development (a reticulated water supply already being available).

TRHs

Exceedance of the ANZG (2018) Marine Water Criteria was identified for TRH-F2 (74ug/L) however, following the Silica Gel Clean up analysis; all analytes were below the adopted assessment criteria.

BTEX

All BTEX analytes were below the adopted assessment criteria.

PAHs

All PAH analytes were below the adopted assessment criteria.

VOCs

VOCs were reported at less than the laboratory reporting limit.

9. SITE CHARACTERISATION

9.1 Soil Characterisation

Analytical results for the representative soil samples collected from within the site footprint were below the adopted human / ecological assessment criteria relevant for the proposed land use.

9.2 Groundwater Characterisation

A total of three (3) new groundwater monitoring wells (BH107.M, BH109.M & BH110.M) were installed in accessible locations at the site to assess the impacts (if any) to groundwater. Two (up-gradient wells) of the three wells were found to contain insufficient amount of groundwater to sample. However one groundwater sample was obtained from the down-gradient well.

LNAPL or DNAPL were not identified within the three groundwater wells installed during this investigation. Groundwater concentrations were generally reported below the adopted GIL with the exception of zinc.

EI consider the detected metal levels in groundwater is consistent with background concentrations considering significant copper and chromium concentrations were not identified in soil. Whether these results are treated as exceedances of the GILs, or representative of urban background groundwater conditions, the identified groundwater concentrations are not considered to represent a cause for environmental concern.

Additionally, the TRH concentration was in excess of the fresh water GIL Criteria for TRH F2 (74µg/L). Further evaluation of these results was completed via silica-gel clean-up of the TRH reported. Results indicated that the reported TRH compounds below the laboratory reporting limit indicating that the original TRH concentrations was not from petroleum sources and likely caused from excess sediment within the sample.

Overall groundwater quality identified at the site presents a negligible to low human health risk for future site users and will not preclude the site suitable for the proposed development.

9.3 Review of Conceptual Site Model

On the basis of investigation findings, the CSM discussed in **Section 4** was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential onsite and offsite receptors.

9.4 Data Gaps

During intrusive investigation works conducted on 25 October 2019, a total of two (2) businesses within the subject site were closed with restricted access. As such, the proposed sampling locations within each business could not be achieved. The soil materials within the vicinity these sampling locations could not be assessed. However considering these areas of the site will be excavated as part of the proposed basement construction, such soils will be captured and removed from the site and therefore the risk to future site users is negligible. All soils to be removed from site must be waste classified prior disposal and sent to an appropriately licensed EPA facility.

10. CONCLUSIONS

Mr Adrian Giardina of North Strathfield One Pty Ltd ('the Client') engaged EI Australia (EI) to conduct an Detailed Site Investigation (DSI) for the property located at 25 George Street, North Strathfield NSW ('the site'). This assessment was conducted to assess the nature and degree of any potential onsite contamination associated with current and former users of the property. The investigation will form part of a Development Application package to City of Canada Bay Council for site redevelopment (proposed high density residential land use).

This site is located approximately 11.km west of the Sydney Central Business District (CBD) and is located within the Local Government Area of City of Canada Bay Council (**Figure A.1**). It is comprised of CP/ - /SP22302, covering a total area of 7,750 m², as depicted in **Figure A.2**. It is currently occupied by an industrial business park housing a number of operation businesses, including, but not limited to, *Eurella Packaging & Assembly, Car Repair & Deco and Strathfield Automotive*.

Based on the findings from this DSI it was concluded that:

- The site was occupied by at least four (4) buildings from at least 1930; minor developments took place until approximately 1986 when the site was developed into its current configuration.
- During this period (at least), the site was used for mixed commercial purposes, consistent with its zoning.
- Analytical results for the representative soil samples collected from 17 borehole locations across the site were all below the adopted investigation criteria.
- All analytical results in groundwater were below the adopted investigation levels, with the exception of zinc and TRH-F2 however were considered to present a low human health and environmental risk.

Based on the above findings and with due regard for the Statement of Limitations (**Section 12**), EI considered that gross contamination was not present at the site. The land was deemed suitable for the intended high density residential use. Recommendations provided in **Section 11** should be implemented during construction.

11. RECOMMENDATIONS

The following recommendations should be implemented during construction:

- A Hazardous Materials Survey should be completed by a suitably qualified and experienced consultant, before commencement of demolition works, to identify any hazardous materials present within the building structure. All identified hazardous materials must be appropriately managed to maintain worker health and safety during site construction works;
- Following demolition, a Clearance Inspection and Certificate should be prepared by a suitably qualified and experienced consultant;
- Soil materials being removed from site (including virgin excavated natural materials or VENM) as part of any excavation works are to be classified for off-site disposal in accordance the EPA (2014) *Waste Classification Guidelines*;
- Any material being imported to the site (i.e. for landscaping purposes) should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM; and

Should unexpected contamination (i.e. hazardous materials including asbestos, UST, odorous and stained soils) be identified during redevelopment, all works should cease and a suitability qualified environmental consultant engaged to suitably address the issue.

12. 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.

This report and associated documents remain the property of EI subject to payment of all fees due for this assessment. The report shall not be reproduced except in full and with prior written permission by EI.

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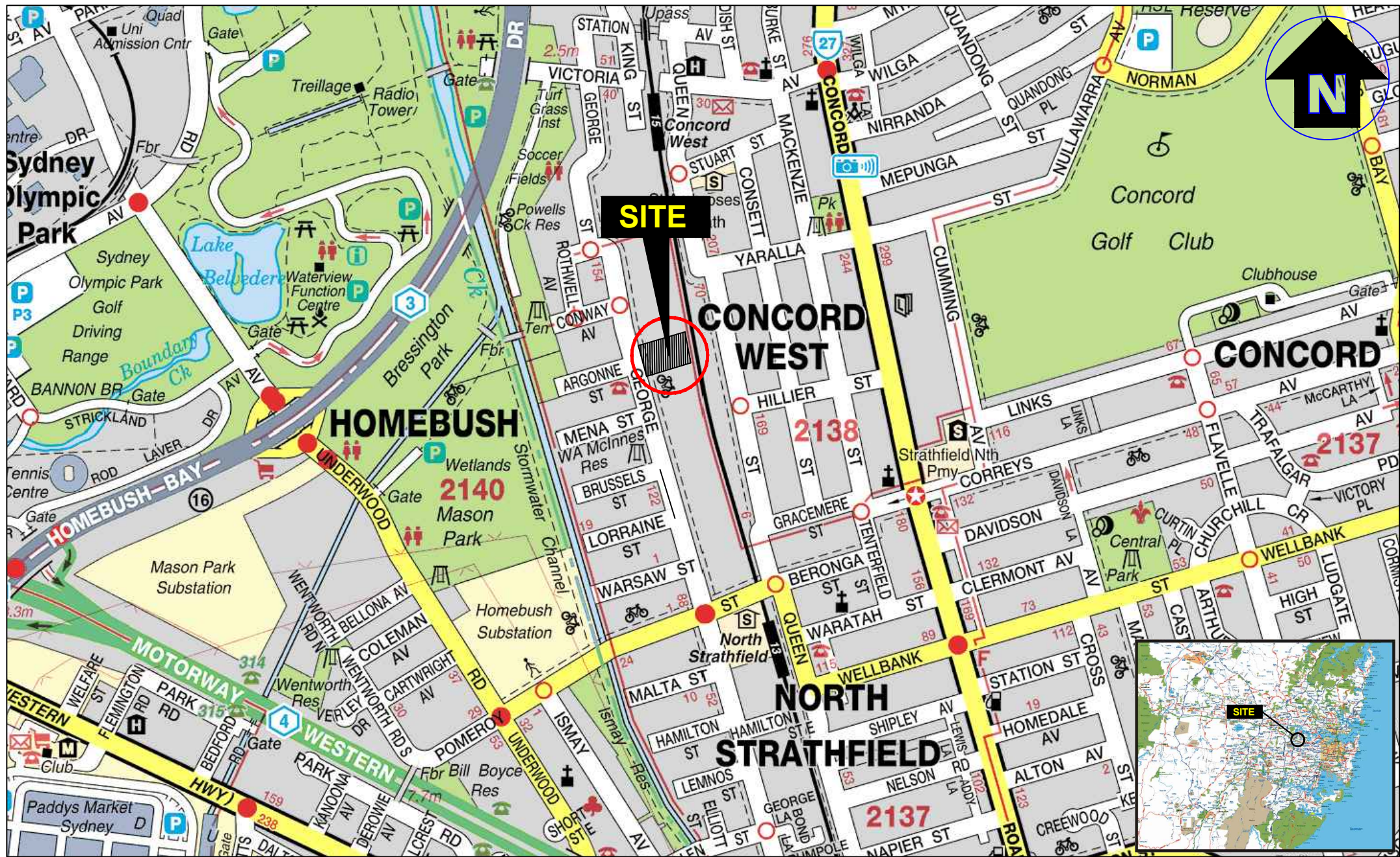
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ABBREVIATIONS

ASS	Acid sulfate soils
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
EPA	Environment Protection Authority
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)
FCS	Fibre Cement Sheeting
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
mAHD	Metres Australian Height Datum
mBGL	Metres Below Ground Level
mg/L	Milligrams per litre
µg/L	Micrograms per litre
mV	Millivolts
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
SILs	Screening Investigations Levels
SRA	Sample receipt advice (document confirming laboratory receipt of samples)
SWL	Standing Water Level
TDS	Total dissolved solids (a measure of water salinity)
TPH	Total Petroleum Hydrocarbons (superseded term equivalent to TRH)
TRH	Total Recoverable Hydrocarbons (non-specific analysis of organic compounds)
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds (specific organic compounds which are volatile)

Appendix A - Figures



Drawn:	L.C.
Approved:	-
Date:	06-11-19
Scale:	Not To Scale

North Strathfield One Pty Ltd
 Detailed Site Investigation
 25 George Street, North Strathfield NSW

Site Locality Plan

Figure:

1



LEGEND

- - - Approximate site boundary
- Approximate borehole location
- ▼ Approximate monitoring well location



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Approved:	-
Date:	06-11-19

North Strathfield One Pty Ltd
Detailed Site Investigation
25 George Street, North Strathfield NSW
Sampling Location Plan

Figure:

2

Project:
E24421 E02_Rev0

Appendix B - Tables

Table T1 – Summary Analytical Results: Fill Soils

E24421 - North Strathfield																																
Sample ID	Sampling Depth (m BGL)	Material	Sampling Date	Heavy Metals								PAHs				BTEX				TRHs				TPH		Pesticides		PCBs	Asbestos			
				As	Cd	Cr	Cu	Pb	Ni	Zn	Hg	Carcinogenic PAHs (as ΣIOP-TEQ)	Benzo(a)pyrene	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4	C ₆ -C ₉	C ₁₀ -C ₂₈	OCFs	OPPs					
BH101_0.3-0.4	0.3-0.4	SAND	30.10.2019	10	0.3	7.4	3.6	16	2.1	3.1	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH102_0.3-0.4	0.3-0.4	SAND	30.10.2019	9	<0.3	7.3	2.8	6	3.3	100	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH103_0.2-0.3	0.2-0.3	SAND	30.10.2019	10	<0.3	9.5	7.6	37	9.9	NA	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH104_0.2-0.3	0.2-0.3	SAND	30.10.2019	10	<0.3	8.1	7.9	18	5.2	100	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH105_0.2-0.3	0.2-0.3	SAND	30.10.2019	9	<0.3	7.1	3	6	22	5	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH106_0.2-0.3	0.2-0.3	SAND	30.10.2019	10	<0.3	8.1	3.2	14	4.7	27	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH107_0.3-0.4	0.3-0.4	Silty CLAY	30.10.2019	<1	<0.3	8.8	52	2	160	NA	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH108_0.0-0.1	0.0-0.1	Silty CLAY	30.10.2019	7	<0.3	15	100	59	8.3	34	<0.05	<0.3	0.1	1.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH109_0.1-0.2	0.1-0.2	SAND	30.10.2019	2	<0.3	6.4	7.7	18	6.0	130	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH110_0.3-0.4	0.3-0.4	Silty CLAY	30.10.2019	3	<0.3	17	12	16	3.6	41	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH111_0.2-0.3	0.2-0.3	SAND	30.10.2019	10	1.3	20	86	320	45	36	0.08	0.4	0.2	1.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH112_0.2-0.3	0.2-0.3	SAND	30.10.2019	3	<0.3	12	47	26	69	72	<0.05	<0.3	0.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH113_0.2-0.3	0.2-0.3	SAND	30.10.2019	1	<0.3	5.7	3.6	12	4.9	150	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH114_0.2-0.3	0.2-0.3	Silty CLAY	30.10.2019	5	<0.3	17	61	100	33	150	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH115_0.2-0.3	0.2-0.3	Silty CLAY	30.10.2019	7	<0.3	15	20	20	3.5	3	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<200	<1	<1.7	<1	No		
BH116_0.2-0.3	0.2-0.3	Silty CLAY	30.10.2019	5	<0.3	11	10	15	4.8	19	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No		
BH117_0.2-0.3	0.2-0.3	Silty CLAY	30.10.2019	2	<0.3	11	44	6	110	150	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No		
Statistical Analysis																																
Maximum Concentration				10	1.3	20	100	320	160	150	0.08	0.4	0.2	1.9	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<25	<110	<1	<1.7	<1	No			
95% UCL				NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC		
Soil Assessment Criteria																																
	HIL B - Residential with minimal soil access ²			500	150	500	30,000	1,200	1,200	60,000	120	4		400												1						
	HSL A & B - Low-high density residential ³			Source depths (0 m to <1 m BGL)											3	0.5	160	55	40	45	110						0.01 / 0.001					
				Source depths (1 m to <2 m BGL)											NL	0.5	220	NL	60	70	240											
	HSL D - Commercial / Industrial ⁴			Source depths (0 m to <1 m BGL)											NL	3	NL	NL	230	260	NL						0.05 / 0.001					
				Source depths (1 m to <2 m BGL)											NL	3	NL	NL	NL	370	NL											
	EIL / ESL ^{5, 6}			100		205	90	1,260	35	190		33 ¹³		170	50	85	70	105	180	120	300	2,800										
Management Limits for TPH																					700	1,000	2,500	10,000								
NSW EPA (2014)	General Solid Waste ⁷	CT1 (mg/kg)		100	20	100		100	40		4		0.8	200		10	288	600	1,000						650	10,000	<50	250	<50			
		TCLP1 (mg/L) / SCC1 (mg/kg)		5.0 / 500	1.0 / 100	5 / 1,900		5 / 1,500	2 / 1,050		0.2 / 50		0.04 / 10	NR / 200		0.5 / 18	14.4 / 518	30 / 1,080	50 / 1,800						NR / 650	NR / 10,000	NR / <50	NR / 250	NR / <50			
	Restricted Solid Waste ⁸	CT2 (mg/kg)		400	80	400		400	160		16		3.2	800		40	1,152	2,400	4,000						2,600	40,000	NR	1,000	NR			
		TCLP2 (mg/L) / SCC2 (mg/kg)		20 / 2,000	4 / 400	20 / 7,600		20 / 6,000	8 / 4,200		0.8 / 200		0.16 / 23	NR / 800		2 / 72	57.6 / 2,073	120 / 4,320	200 / 7,200						NR / 2,600	NR / 40,000	NR / <50	NR / 1,000	NR / <50			
	Special Waste / Scheduled Waste																						> 2 mg/kg - Scheduled Waste ⁹			> 2 mg/kg - PCB Waste ¹⁰	Where detected Special Waste (Asbestos Waste)					
US EPA (2018) RSLs ¹¹				Resident Soil																												

Notes: All results are recorded in mg/kg, unless otherwise specified.

	Highlighted value indicates concentration exceeds human health criteria
	Highlighted value indicates concentration exceeds the waste assessment criteria
	Highlighted value indicates concentration exceeds ecological health criteria
	Highlighted value indicates concentration exceeded

- 1
- NEPC 1999 Amendment 2013 'HIL A' - Health Investigation Limit for Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry)), also includes childcare centres, preschools and primary schools.
- 2
- NEPC 1999 Amendment 2013 'HIL B' - Health Investigation Limit for Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments.
- 3
- NEPC 1999 Amendment 2013 'HSL A&B' - Soil Health Screening Levels for low to high density residential. Including bonded and AF/FA asbestos.
- 4
- NEPC 1999 Amendment 2013 'HSL D' - Soil Health Screening Levels for commercial / industrial. Including bonded and AF/FA asbestos.
- 5
- NEPC 1999 Amendment 2013 'EIL' - Ecological Investigation Limit for urban residential and public open space areas
- 6
- NEPC 1999 Amendment 2013 'ESL' - Ecological Screening Level for urban residential and public open space areas
- 7
- NSW EPA 2014 General Solid Waste Thresholds, in Waste Classification Guidelines, Table 1 (CT1) and Table 2 (TCLP1 / SCC1)
- 8
- NSW EPA 2014 Restricted Solid Waste Thresholds, in Waste Classification Guidelines, Table 1 (CT2) and Table 2 (TCLP2 / SCC2)
- 9
- NSW EPA Scheduled Chemical Wastes Chemical Control Order 2004, Section 4.14
- 10
- NSW EPA Polychlorinated Biphenyl (PCB) Chemical Control Order 1997. Where PCBs are reported at concentrations >2 mg/kg and <50 mg/kg, material is *non-scheduled PCB waste* . Where PCBs are reported at concentrations >50 mg/kg, material is *scheduled PCB waste* .
- 11
- US EPA (November 2018) Regional Screening Levels - Resident Soil with target hazard quotient of 1.0 and target cancer risk of 1e-06.
- 12
- As a conservative approach, coarse grained soil values were applied.
- 13
- CRC Care Tech Report No. 39 (2017) - Derived ecological guideline for urban, residential and public open space.
- NA
- The sample was 'Not Analysed.'
- ND
- 'Not detected' i.e. all concentrations of the compounds within the analyte group were found to be below the laboratory limits of detection.
- 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, i.e. where the soil vapour is at equilibrium with the pore water, then the soil vapour source cannot exceed a level that would result in the maximum allowable vapour risk for the given scenario, therefore the limit is not limiting.
- NR
- No current published criterion.
- F1
- C6-C10 minus BTEX.
- F2
- >C10-C16 minus Naphthalene.
- F3
- >C16-C34
- F4
- >C34-C40



Table T1 – Summary Analytical Results: Natural Soils

Sample ID	Sampling Depth (m BGL)	Material	Sampling Date	Heavy Metals								PAHs				BTEX				TRHs				TPH	
				As	Cd	Cr	Cu	Pb	Ni	Zn	Hg	Carcinogenic PAHs (as B[a]P TEQ)	Benzo(a)pyrene	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4	C ₆ - C ₉	C ₁₀ - C ₁₆
BH101_0.6-0.7	0.3-0.4	SAND	30.10.2019	3	<0.3	17	6.6	14	2.2	48	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110
BH104_1.0-1.1	0.3-0.4	SAND	30.10.2019	5	<0.3	16	42	88	3.9	88	<0.05	0.4	0.2	2.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	240	<120	<20	220
BH105_0.6-0.7	0.2-0.3	SAND	30.10.2019	3	<0.3	8.6	9.0	15	<0.5	5.0	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110
BH106_0.7-0.8	0.2-0.3	SAND	30.10.2019	5	<0.3	16	11	38	3.6	31	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110
BH107_0.7-0.8	0.2-0.3	SAND	30.10.2019	3	<0.3	15	14	19	1.9	13	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110
BH108_0.8-0.9	0.2-0.3	SAND	30.10.2019	12	<0.3	19	5.1	48	1.2	11	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110
BH110_0.8-0.9	0.3-0.4	Silty CLAY	30.10.2019	4	<0.3	11	15	18	4.6	19	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	110	<120	<20	120
BH111_0.8-0.9	0.0-0.1	Silty CLAY	30.10.2019	4	0.3	16	19	30	4.2	32	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110
BH114_0.8-0.9	0.1-0.2	SAND	30.10.2019	6	<0.3	15	6.0	13	1.5	5.1	<0.05	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110
Statistical Analysis																									
Maximum Concentration				12	0	19	42	88	5	88	0	0.4	0.2	2	0	<0.1	<0.1	<0.1	<0.3	0	0	240	0	0	220
95% UCL				NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Soil Assessment Criteria																									
	HIL B - Residential with minimal soil access ²			500	150	500	30,000	1,200	1,200	60,000	120	4		400											
	HSL A & B - Low-high density residential ³			Source depths (0 m to <1 m BGL)										3	0.5	160	55	40	45	110					
				Source depths (1 m to <2 m BGL)										NL	0.5	220	NL	60	70	240					
	HSL D - Commercial / Industrial ⁴			Source depths (0 m to <1 m BGL)										NL	3	NL	NL	230	260	NL					
				Source depths (1 m to <2 m BGL)										NL	3	NL	NL	NL	370	NL					
	EIL / ESL ^{5, 6}			100		205	90	1,260	35	190		33 ¹³		170	50	85	70	105	180	120	300	2,800			
Management Limits for TPH																			700	1,000	2,500	10,000			
NSW EPA (2014)	General Solid Waste ⁷	CT1 (mg/kg)	100	20	100		100	40		4		0.8	200		10	288	600	1,000					650	10,000	
		TCLP1 (mg/L) / SCC1 (mg/kg)	5.0 / 500	1.0 / 100	5 / 1,900		5 / 1,500	2 / 1,050		0.2 / 50		0.04 / 10	NR / 200		0.5 / 18	14.4 / 518	30 / 1,080	50 / 1,800					NR / 650	NR / 10,000	
	Restricted Solid Waste ⁸	CT2 (mg/kg)	400	80	400		400	160		16		3.2	800		40	1,152	2,400	4,000					2,600	40,000	
		TCLP2 (mg/L) / SCC2 (mg/kg)	20 / 2,000	4 / 400	20 / 7,600		20 / 6,000	8 / 4,200		0.8 / 200		0.16 / 23	NR / 800		2 / 72	57.6 / 2,073	120 / 4,320	200 / 7,200					NR / 2,600	NR / 40,000	
	Special Waste / Scheduled Waste																								
US EPA (2018) RSLs ¹¹	Resident Soil																								

Notes: All results are recorded in mg/kg, unless otherwise specified.

	Highlighted value indicates concentration exceeds human health criteria
	Highlighted value indicates concentration exceeds the waste assessment criteria
	Highlighted value indicates concentration exceeds ecological health criteria
	Highlighted value indicates concentration exceeded

1 NEPC 1999 Amendment 2013 'HIL A' - Health Investigation Limit for Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry)), also includes childcare centres, preschools and primary schools.

2 NEPC 1999 Amendment 2013 'HIL B' - Health Investigation Limit for Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments.

3 NEPC 1999 Amendment 2013 'HSL A&B' - Soil Health Screening Levels for low to high density residential. Including bonded and AF/FA asbestos.

4 NEPC 1999 Amendment 2013 'HSL D' - Soil Health Screening Levels for commercial / industrial. Including bonded and AF/FA asbestos.

5 NEPC 1999 Amendment 2013 'EIL' - Ecological Investigation Limit for urban residential and public open space areas

6 NEPC 1999 Amendment 2013 'ESL' - Ecological Screening Level for urban residential and public open space areas

7 NSW EPA 2014 General Solid Waste Thresholds, in Waste Classification Guidelines, Table 1 (CT1) and Table 2 (TCLP1 / SCC1)

8 NSW EPA 2014 Restricted Solid Waste Thresholds, in Waste Classification Guidelines, Table 1 (CT2) and Table 2 (TCLP2 / SCC2)

9 NSW EPA Scheduled Chemical Wastes Chemical Control Order 2004. Section 4.14

10 NSW EPA Polychlorinated Biphenyl (PCB) Chemical Control Order 1997. Where PCBs are reported at concentrations >2 mg/kg and <50 mg/kg, material is *non-scheduled PCB waste*. Where PCBs are reported at concentrations >50 mg/kg, material is *scheduled PCB waste*.

11 US EPA (November 2018) Regional Screening Levels - Resident Soil with target hazard quotient of 1.0 and target cancer risk of 1e-06.

12 As a conservative approach, coarse grained soil values were applied.

13 CRC Care Tech Report No. 39 (2017) - Derived ecological guideline for urban, residential and public open space.

NA The sample was 'Not Analysed.'

ND 'Not detected' i.e. all concentrations of the compounds within the analyte group were found to be below the laboratory limits of detection.

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, i.e. where the soil vapour is at equilibrium with the pore water, then the soil vapour source cannot exceed a level that would result in the maximum allowable vapour risk for the given scenario, therefore the limit is not limiting.

NR No current published criterion.

F1 C6-C10 minus BTEX.

F2 >C10-C16 minus Naphthalene.

F3 >C16-C34

F4 >C34-C40

Table T3 – Summary of Analytical Results: Groundwater

Sample Identification	Date	Heavy Metals								PAHs			BTEX						TRHs				TPH					
		As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Total PAHs	Benzo(a)pyrene	Naphthalene	Benzene	Toluene	Ethylbenzene	o-xylene	m/p-xylene	F1	F2	F3	F4	C ₆ -C ₉	C ₁₀ -C ₁₄	C ₁₀ -C ₁₄ (Silica Gel)	C ₁₅ -C ₂₈	C ₁₅ -C ₂₈ (Silica Gel)	C ₂₉ -C ₃₆	
BH107.M-1	4/11/2019	<10	<10	<10	<10	<10	<0.1	26	92	<1	0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	74	<500	<500	<40	53	<50	260	<200	<200	
BH109.M-1		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH110.M-1		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Statistical Analysis																												
Maximum Concentration		0	0	0	0	0	0	26	92	0	0	0	0	0	0	0	0	0	74	0	0	0	53	0	260	0	0	
GILs																												
NEPM (2013)	HSL A & B - Low-high density residential ¹	Source Depths (2 m to < 4m)										NL	800	NL	NL	NL		1,000	1,000									
		Source Depths (4 m to <8 m)										NL	800	NL	NL	NL		1,000	1,000									
		Source Depths (8 m +)										NL	900	NL	NL	NL		1,000	1,000									
	HSL D - Commercial / Industrial ²	Source Depths (2 m to < 4m)										NL	5,000	NL	NL	NL		6,000	NL									
		Source Depths (4 m to <8 m)										NL	5,000	NL	NL	NL		6,000	NL									
		Source Depths (8 m +)										NL	5,000	NL	NL	NL		7,000	NL									
ANZG (2018) ³	Fresh Water	24 (AsIII) 13 (AsV)	0.2	3.3 (CrIII) 0.4 (Cr VI)	1.4	3.4	0.6	11	8		0.1	16	950	180	80	350	275	50 ⁶	60 ⁶	500 ⁶	500 ⁶	10 ⁶	50 ⁶	50 6	100 ⁶	100 6	100 ⁶	
	Marine Water		5.5	27.4 (CrIII) ⁴ 4.4 (Cr VI)	1.3	4.4	0.4	70	15			70	700		5													
NHMRC (2017) ⁴	Recreational Water	100	20	500	1,000 *	100	10	200	3 *				10	25 *	3 *	20 *												
US EPA (2018) RSLs	Resident Tap Water											0.17																

Notes: All values are µg/L unless stated otherwise

	Highlighted indicates analyte concentration value exceeding the adopted human health criteria
	Highlighted indicates ecological criteria exceeded
	Highlighted indicates criteria exceeded

- 1
- NEPC 1999 Amendment 2013 'HSL A&B' - Groundwater Health Screening Levels for vapour intrusion at the contaminant source depths for low to high density residential.
- 2
- NEPC 1999 Amendment 2013 'HSL D' - Groundwater Health Screening Levels for vapour intrusion at the contaminant source depths for for commercial / industrial.
- 3
- ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian and New Zealand and Australian State and Territory Governments, August 2018. ANZG (2018) Marine Water Quality is applicable for assessment purposes, where not available the ANZG (2018) Fresh Water Quality Criteria can be applied.
- 4
- NHMRC (2008) Recreational Water Guidelines are based on current Australian Drinking Water Guidelines multiplied by a factor of 10. Current Drinking Water Guidelines are the NHMRC & NRMMC (2017) Australian Drinking Water Guidelines, Version 3.4 Updated
- 5
- US EPA (November 2018) Regional Screening Levels - Tap Water with target hazard quotient of 1.0 and target cancer risk of 1e-06.
- 6
- In lack of a criteria the laboratory PQL has been used (DEC, 2007).
- 7
- BH109.M and BH110.M had insufficient water to complete sampling
- F1
- C6-C10 minus BTEX.
- F2
- >C10-C16 minus Naphthalene.
- F3
- >C16-C34
- F4
- >C34-C40



Table H2 - Summary of Soil RPD Data

Sample identification	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 - Soil Investigation																	
BH101_0.6-0.7	Natural: SAND	< 25	< 25	<90	< 120	<0.1	<0.1	<0.1	<0.3	3	<0.3	17	6.6	14	<0.05	2.2	48
QD-1	BFD	< 25	< 25	<90	< 120	<0.1	<0.1	<0.1	<0.3	4	<0.3	13	27	28	<0.05	4.3	100
RPD		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00	26.67	121.43	66.67	0.00	64.62	70.27
Inter-Laboratory Duplicate - Soil Investigation																	
BH101_0.6-0.7	Natural: SAND	< 25	< 25	<90	< 120	<0.1	<0.1	<0.1	<0.3	3	<0.3	17	6.6	14	<0.05	2.2	48
QT-1	BFT	<50	<50	<100	< 100	<0.1	<0.1	<0.1	<0.3	18	<0.4	39	50	29	<0.1	12	66
RPD		NA	NA	NA	NA	0.00	0.00	0.00	0.00	142.86	NA	78.57	153.36	69.77	NA	138.03	31.58
Trip Blank																	
TB	Soil					<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-
Trip Spikes																	
TS	Soil	-	-	-	-	112%	100%	91%	91%	-	-	-	-	-	-	-	-
Rinsate Blanks																	
QR1	De-ionised water	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.3	<0.5	<1	<1	<0.05	<0.5	<5

NOTE: All results are reported in mg/kg (soil) or µg/L (water)

66.67	RPD calculated by halving detection limit exceeds 30-50% range referenced from AS4482.1 (2005)
52.87	RPD exceeds 30-50% range referenced from AS4482.1 (2005)

Table H3 - Summary of Groundwater RPD Data

Sample identification	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 - Groundwater Investigation																	
BH107.M	Groundwater	<50	74	<500	<500	<0.5	<0.5	<0.5	<1.5	<10	<10	<10	<10	<10	<0.0001	26	92
GWQD-1	BFD	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<10	<10	<10	<10	<10	<0.0001	35	90
RPD		0.00	20.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.51	2.20
Inter-laboratory Duplicate - Groundwater Investigation																	
BH107.M	Groundwater	<50	74	<500	<500	<0.5	<0.5	<0.5	<1.5	<10	<10	<10	<10	<10	<0.0001	26	92
GWQT1	ILD	<10	<60	<500	<500	<1	<1	<1	<3	5	<0.2	<1	10.0	<1	<0.0001	18	74
RPD		NA	20.90	0.00	0.00	NA	NA	NA	NA	66.67	NA	NA	0.00	NA	0.00	36.36	21.69
Trip Blank																	
TB	Soil	-	-	-	-	<0.5	<0.5	<1	<1.5	-	-	-	-	-	-	-	-
Trip Spikes																	
TS	Soil	-	-	-	-	99%	100%	99%	100%	-	-	-	-	-	-	-	-
Rinsate Blanks																	
OR1	De-ionised water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: All results are reported in mg/kg (soil) or µg/L (water)

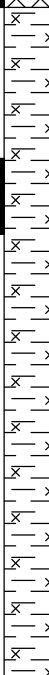
66.67	RPD calculated by halving detection limit exceeds 30-50% range referenced from AS4482.1 (2005)
66.67	RPD exceeds 30-50% range referenced from AS4482.1 (2005)

Appendix C – Borehole Logs

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

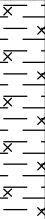
Drilling				Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY	DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Concrete Slab.	-			CONCRETE HARDSTAND
			0.15				-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.			FILL		
			0.40		BH101_0.3-0.4 ES PID=0.0ppm								
			0.5		BH101_0.6-0.7 ES PID=0.0ppm		CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.	D		NATURAL		
			1.30										
			1.5						Hole Terminated at 1.30 mBGL; Target depth reached.				
			2.0										

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

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

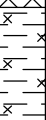
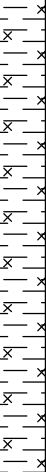
Drilling					Sampling		Field Material Description						
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY	DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T		GWNE	0.0					-	Concrete Slab.	-			CONCRETE HARDSTAND
			0.15					-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.			FILL	
			0.40	BH102_0.3-0.4 ES PID=0.0ppm				-	FILL: Silty CLAY; low to medium plasticity, dark brown, with some rounded gravels, no odour.	D			
			0.80	BH102_0.6-0.7 ES PID=0.0ppm								NATURAL	
			1.10	BH102_0.9-1.0 ES PID=0.0ppm									
									Hole Terminated at 1.10 mBGL; Target depth reached.				
			1.5										

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

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

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					-	Concrete Slab.	-			CONCRETE HARDSTAND
			0.15		BH103_0.2-0.3 ES PID=0.0ppm			-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.			FILL	
			0.40					CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.			NATURAL	
			0.5		BH103_0.6-0.7 ES PID=0.0ppm					D			
			1.0										
			1.20										
									Hole Terminated at 1.20 mBGL; Target depth reached.				
			1.5										

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

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
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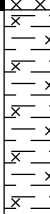
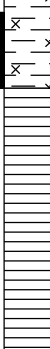
Drilling				Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY	DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T		GWNE	0.0					-	Concrete Slab.	-			CONCRETE HARDSTAND
			0.15		BH104_0.2-0.3 ES PID=0.0ppm			-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.			FILL	
			0.50				CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.			NATURAL		
			1.0		BH104_1.0-1.1 ES PID=0.0ppm				D				
			1.60						Hole Terminated at 1.60 mBGL; Target depth reached.				
			2.0										

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

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
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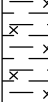
Drilling				Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY	DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T		GWNE	0.0		BH105_0.2-0.3 ES PID=0.0ppm BH105_0.6-0.7 ES PID=0.0ppm			-	Concrete Slab.	-			CONCRETE HARDSTAND
			0.15				-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.		FILL			
			0.30				CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.		NATURAL			
			0.70				-	SHALE; Extremely weathered, light brown to grey, no odour.	D	BEDROCK			
			1.10					Hole Terminated at 1.10 mBGL; Target depth reached.					
			1.5										
			2.0										

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

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

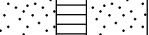
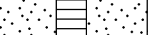
Drilling				Sampling		Field Material Description						
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Concrete Slab.	-		CONCRETE HARDSTAND
			0.15		BH106_0.2-0.3 ES PID=0.0ppm		-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.		FILL		
			0.40				CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.	D	NATURAL		
			0.90		BH106_0.7-0.8 ES PID=0.0ppm			Hole Terminated at 0.90 mBGL; Refusal on ectremely weahtered SHALE.				
			1.0									
			1.5									
			2.0									

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

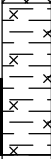
Drilling				Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY	PIEZOMETER DETAILS	
												ID BH107M	Static Water Level
												BH107M	
ADIT		GWNE	0	0.20				-	Concrete Slab.	-			Gatic Cover
			0.50	BH107_0.3-0.4 ES PID=0.0ppm			-	FILL: Silty CLAY; low to medium plasticity, dark brown, with some rounded gravels, no odour.			Concrete		
			0.80	BH107_0.5 ASS BH107_0.7-0.8 ES PID=0.0ppm			CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.			Cuttings		
			1										
			2	BH107_1.5 ASS									
			3										
			4	BH107_2.5 ASS									
			5										
			6	BH107_3.5 ASS									
			7	BH107_4.5 ASS									
			7	7.00					From 7.0m, dark grey.				Bentonite
													50mm uPVC Casing
													50mm uPVC Screen
			8										Sand
			9	9.00					Hole Terminated at 9.00 mBGL; Target depth reached.				

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor -
 Drill Rig Hand Auger
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

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		BH108_0.0-0.1 ES PID=0.0ppm			-	FILL: Silty CLAY; low to medium plasticity, dark brown, with fine to coarse and sub-angular to angular gravels, with trace glass fragments, no odour.	D	-	FILL
			0.5		BH108_0.5-0.6 ES PID=0.0ppm							
			0.70				CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.	NATURAL			
			0.90		BH108_0.8-0.9 ES PID=0.0ppm							
			1.0						Hole Terminated at 0.90 mBGL; Target depth reached.			
			1.5									
			2.0									

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

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
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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 BH109M	Static Water Level
AD/T	GWNE		0		BH109_0.1-0.2 ES PID=0.0ppm			-	ROADBASE.	-				
			0.50					-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.					
			0.70		BH109_0.6-0.7 ES PID=0.0ppm			-	FILL: Silty CLAY; low to medium plasticity, dark brown, with some rounded gravels, no odour.					
			1		BH109_1.0 ASS				SHALE; extremely weathered, pale brown, no odour.					
			2		BH109_2.0 ASS									
			3		BH109_3.0 ASS									
			4		BH109_4.0 ASS									
			5		BH109_5.0 ASS									
			5.50											
			6											
			7											
			8											
			9											
			10											

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

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
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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					-	ASPHALT.	-			ROAD SURFACE	
			0.10						-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.			FILL	
			0.60		BH111_0.2-0.3 ES PID=0.0ppm						D			
			1.00		BH111_0.8-0.9 ES PID=0.0ppm		CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.				NATURAL		
			1.0						Hole Terminated at 1.00 mBGL; Target depth reached.					
			1.5											
			2.0											

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

Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

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		BH112_0.2-0.3 ES PID=0.0ppm			-	ASPHALT.	-		ROAD SURFACE
			0.10					-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.		FILL	
			0.60		BH112_0.8-0.9 ES PID=0.0ppm			CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.	D		NATURAL
			1.10									Hole Terminated at 1.10 mBGL; Target depth reached.
			1.5									

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
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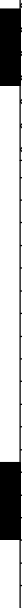
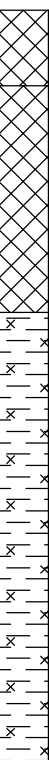
Drilling				Sampling		Field Material Description						
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION		MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0				-	ASPHALT.	-			ROAD SURFACE
			0.10				-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.			FILL	
					BH113_0.2-0.3 ES							
			0.5						D			
					BH113_0.8-0.9 ES PID=0.0ppm							
			1.0									
			1.10									
								Hole Terminated at 1.10 mBGL; Auger refusal				
			1.5									
			2.0									

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
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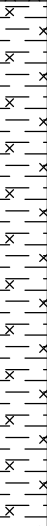
Drilling					Sampling	Field Material Description									
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION		MOISTURE CONDITION	CONSISTENCY	DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
AD/T		GWNE	0.0		BH114_0.2-0.3 ES PID=0.0ppm			-	ASPHALT.	D	-			ROAD SURFACE	
								-	FILL: Silty CLAY; low to medium plasticity, dark brown, with some rounded gravels, no odour.		FILL				
											NATURAL				
			0.5												
			1.0	1.00	BH114_0.8-0.9 ES PID=0.0ppm				Hole Terminated at 1.00 mBGL; Target depth reached.						
			1.5												
			2.0												

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
 Logged JT/LC Date:
 Checked Date:

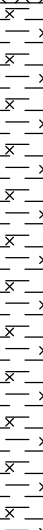
Drilling				Sampling		Field Material Description						
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0		BH115_0.2-0.3 ES PID=0.0ppm			-	Concrete Slab.	-		CONCRETE HARDSTAND
			0.15				-	FILL: SAND; fine to medium grained, poorly graded, sub-angular to angular, yellow to brown, with trace angular gravels, no odour.		FILL		
			0.30				CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.		NATURAL		
			0.5		BH115_0.5-0.6 ES PID=0.0ppm			D				
			1.00						Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
 Job No. E24421.E02
 Client North Strathfield One Pty Ltd

Contractor Hartgeo Drilling Pty Ltd
 Drill Rig Ute-mounted drilling rig
 Inclination -90°

Sheet 1 OF 1
 Date Started 25/10/19
 Date Completed 25/10/19
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 Checked Date:

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		BH116_0.2-0.3 ES PID=0.0ppm		-	ASPHALT.	-		ROAD SURFACE
			0.10			-	FILL: Silty CLAY; low to medium plasticity, dark brown, with some rounded gravels, no odour.		FILL		
			0.30								
						CL-CI	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.	D	NATURAL		
			1.00		BH116_0.8-0.9 ES PID=0.0ppm			Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5								
			2.0								

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Project Detailed Site Investigation
 Location 25 George Street, North Strathfield NSW
 Position Refer to Figure 2
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Sheet 1 OF 1
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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		BH117_0.2-0.3 ES PID=0.0ppm			-	ASPHALT.	-			ROAD SURFACE
			0.10				-	FILL: Silty CLAY; low to medium plasticity, dark brown, with some rounded gravels, no odour.			FILL		
			0.30				CL-Cl	Silty CLAY; low to medium plasticity, dark brown, with trace rounded gravels, no odour.			NATURAL		
			0.5		BH117_0.6-0.7 ES PID=0.0ppm				D				
			1.00						Hole Terminated at 1.00 mBGL; Target depth reached.				
			1.5										
			2.0										

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

Appendix D– GW Field Data Sheets and Calibration Certificates

WATER SAMPLING FIELD SHEET



Site Address: <u>25 George St, North Strathfield</u>					Job Number: <u>E24421</u>				
Client:					Date: <u>4.11.19</u>				
Field Staff: <u>JT</u>					Sampling Location ID <u>BH109.11</u>				
Well Location:					Round No: <u>1</u>				
MEDIUM ☒ Groundwater ☐ Surface Water ☐ Stormwater ☐ Other:									
SAMPLING POINT INFO									
Well Installation Date:					Stick up / down (m): <u>- 0.1</u> (+ above ground - below ground)				
Initial Well Depth (mBTC):					Screen Interval (mBTC):				
Previous Sampling Date:					Previous SWL (mBTC):				
PID READINGS									
PID Headspace (ppm):					PID Background (ppm):				
PID Breathing Space (ppm):									
PRE PURGE									
Total Well Depth (mBTC): <u>~~5.30~~ 5.48</u>					Well Head Condition: <u>Cover</u>				
SWL (mBTC): <u>5.30</u>					Water Column (m): <u>0.17</u>				
PHASE SEPARATED HYDROCARBONS (PSH)									
Depth to PSH (mBTC):					PSH Visually Confirmed (Bailer):				
PSH Thickness (mm):									
PURGE AND SAMPLE									
Sampling Method ☒ Bladder ☐ Peristaltic ☐ Submersible ☒ Other: <u>Bailer</u>									
Depth of Pump Inlet (mBTC):					Fill Timer:				
Pump Pressure Regulator (psi):					Discharge Timer:				
Weather Conditions:					Cycle:				
Pump on time:					Pump off time:				
WATER QUALITY PARAMETERS									
Probe Make and Model:					Bump Test Date and Time:				
Time	Volume (L)	SWL (mbtoc)	Temp (°C)	EC (µS/cm)	Redox (mV)	DO (mg/L)	pH (units)	Comments (colour, turbidity, odour, sheen etc.)	
								Dark grey to black, high, none, none.	
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2		
OTHER COMMENTS/OBSERVATIONS: <u>only 0.13 m of water in well, bailed not enough water to sample.</u>									
SIGNATURE:									

Rev 1 20150604SH
Form OP 017

Rev 1 20150604SH
Form OP 017



EI Australia
Suite 6.01, 55 Miller Street
PYRMONT, NSW, 2009

ABN 33 102 449 507
E service@eiaustralia.com.au
W www.eiaustralia.com.au
T 02 9516 0722

CALIBRATION CERTIFICATE FOR PHOTO IONISATION DETECTOR

Instrument: Mini RAE 3000

Serial Number: 592-906667 - EI PID02 ☒ OR 592-901345 - EI PID03 ☐

Instrument Conditions: Good

Calibration gas species: Isobutylene.

Calibration gas concentration: 100 ppm

Gas bottle number: lot = 676450 Syt : 173

This PID has been calibrated to Isobutylene gas with the span concentration displayed as

(06.6 ppm at 100.0 ppm span setting (allowable range +/-10ppm from span setting).

The PID is initially zero calibrated in fresh air.

Remaining gas in bottle: 270 psi (if reading is <250 psi, notify Equipment Manager to arrange new gas bottle order)

The above detector was calibrated in accordance with manufacturer's specifications.

Signed: [Signature]

Date: 25.10.19

Time: 07:00

Appendix E – Chain of Custody and Sample Receipt Forms



STATEMENT OF QA/QC PERFORMANCE

SE199312 R0

CLIENT DETAILS

Contact Emmanuel Woelders
Client EIA AUSTRALIA
Address SUITE 6.01
55 MILLER STREET
PYRMONT NSW 2009

Telephone 61 2 95160722
Facsimile (Not specified)
Email emmanuel.woelders@eiaustralia.com.au

Project **E24421.E02 25 George St Nth Strathfield**
Order Number **E24421.E02**
Samples 21

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 **SE199312 R0**
Date Received 28 Oct 2019
Date Reported 04 Nov 2019

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	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

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.

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019

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
QR-1	SE199312.001	LB186404	25 Oct 2019	28 Oct 2019	22 Nov 2019	29 Oct 2019	22 Nov 2019	29 Oct 2019

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
QD1	SE199312.021	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Soil trip blank	SE199312.002	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH101_0.3-0.4	SE199312.004	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019

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)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH115_0.2-0.3	SE199312.018	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
QD1	SE199312.021	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019

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
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

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
BH101_0.3-0.4	SE199312.004	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
QD1	SE199312.021	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019

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
QR-1	SE199312.001	LB186456	25 Oct 2019	28 Oct 2019	22 Apr 2020	29 Oct 2019	22 Apr 2020	30 Oct 2019

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
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019

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
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019

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
QR-1	SE199312.001	LB186416	25 Oct 2019	28 Oct 2019	01 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Soil trip blank	SE199312.002	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
Soil trip Spike	SE199312.003	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH101_0.3-0.4	SE199312.004	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR-1	SE199312.001	LB186554	25 Oct 2019	28 Oct 2019	01 Nov 2019	30 Oct 2019	09 Dec 2019	31 Oct 2019

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Soil trip blank	SE199312.002	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
Soil trip Spike	SE199312.003	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH101_0.3-0.4	SE199312.004	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

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)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH113_0.2-0.3	SE199312.016	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR-1	SE199312.001	LB186554	25 Oct 2019	28 Oct 2019	01 Nov 2019	30 Oct 2019	09 Dec 2019	31 Oct 2019

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	93
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	95
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	87
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	83
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	89
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	89
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	83
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	85
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	81
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	87
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	81
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	90
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	91
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	99

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	89
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	90
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	92
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	90
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	100
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	92
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	94
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	89
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	96
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	98
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	88
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	97
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	94
d14-p-terphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	88
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	92
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	92
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	98
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	94
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	97
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	95
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	99
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	95
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	106
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	94
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	103
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	101
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	93
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	93
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	103
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	70 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	70 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	70 - 130%	89
	BH104_0.2-0.3	SE199312.007	%	70 - 130%	90
	BH105_0.2-0.3	SE199312.008	%	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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH106_0.2-0.3	SE199312.009	%	70 - 130%	90
	BH107_0.3-0.4	SE199312.010	%	70 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	70 - 130%	100
	BH109_0.1-0.2	SE199312.012	%	70 - 130%	92
	BH110_0.3-0.4	SE199312.013	%	70 - 130%	94
	BH111_0.2-0.3	SE199312.014	%	70 - 130%	89
	BH112_0.2-0.3	SE199312.015	%	70 - 130%	96
	BH113_0.2-0.3	SE199312.016	%	70 - 130%	98
	BH114_0.2-0.3	SE199312.017	%	70 - 130%	88
	BH115_0.2-0.3	SE199312.018	%	70 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	70 - 130%	97
	BH117_0.2-0.3	SE199312.020	%	70 - 130%	94
d14-p-terphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	70 - 130%	88
	BH102_0.3-0.4	SE199312.005	%	70 - 130%	92
	BH103_0.2-0.3	SE199312.006	%	70 - 130%	92
	BH104_0.2-0.3	SE199312.007	%	70 - 130%	98
	BH105_0.2-0.3	SE199312.008	%	70 - 130%	94
	BH106_0.2-0.3	SE199312.009	%	70 - 130%	97
	BH107_0.3-0.4	SE199312.010	%	70 - 130%	95
	BH108_0.0-0.1	SE199312.011	%	70 - 130%	99
	BH109_0.1-0.2	SE199312.012	%	70 - 130%	95
	BH110_0.3-0.4	SE199312.013	%	70 - 130%	106
	BH111_0.2-0.3	SE199312.014	%	70 - 130%	94
	BH112_0.2-0.3	SE199312.015	%	70 - 130%	103
	BH113_0.2-0.3	SE199312.016	%	70 - 130%	101
	BH114_0.2-0.3	SE199312.017	%	70 - 130%	93
	BH115_0.2-0.3	SE199312.018	%	70 - 130%	93
	BH116_0.2-0.3	SE199312.019	%	70 - 130%	103
d5-nitrobenzene (Surrogate)	BH101_0.3-0.4	SE199312.004	%	70 - 130%	97
	BH102_0.3-0.4	SE199312.005	%	70 - 130%	96
	BH103_0.2-0.3	SE199312.006	%	70 - 130%	99
	BH104_0.2-0.3	SE199312.007	%	70 - 130%	96
	BH105_0.2-0.3	SE199312.008	%	70 - 130%	98
	BH106_0.2-0.3	SE199312.009	%	70 - 130%	95
	BH107_0.3-0.4	SE199312.010	%	70 - 130%	98
	BH108_0.0-0.1	SE199312.011	%	70 - 130%	106
	BH109_0.1-0.2	SE199312.012	%	70 - 130%	94
	BH110_0.3-0.4	SE199312.013	%	70 - 130%	99
	BH111_0.2-0.3	SE199312.014	%	70 - 130%	97
	BH112_0.2-0.3	SE199312.015	%	70 - 130%	97
	BH113_0.2-0.3	SE199312.016	%	70 - 130%	94
	BH114_0.2-0.3	SE199312.017	%	70 - 130%	98
	BH115_0.2-0.3	SE199312.018	%	70 - 130%	97
	BH116_0.2-0.3	SE199312.019	%	70 - 130%	98
	BH117_0.2-0.3	SE199312.020	%	70 - 130%	95

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	93
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	95
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	87
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	83
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	89
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	89
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	83
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	85
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	81
	BH112_0.2-0.3	SE199312.015	%	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.

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

PCBs in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH113_0.2-0.3	SE199312.016	%	60 - 130%	81
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	90
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	91
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	99

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	Soil trip blank	SE199312.002	%	60 - 130%	90
	Soil trip Spike	SE199312.003	%	60 - 130%	97
	BH101_0.3-0.4	SE199312.004	%	60 - 130%	82
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	80
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	76
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	85
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	85
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	82
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	78
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	77
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	80
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	84
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	76
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	80
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	77
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	78
	QD1	SE199312.021	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	Soil trip blank	SE199312.002	%	60 - 130%	92
	Soil trip Spike	SE199312.003	%	60 - 130%	85
	BH101_0.3-0.4	SE199312.004	%	60 - 130%	125
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	83
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	79
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	82
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	88
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	92
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	79
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	86
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	83
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	76
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	83
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	74
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	78
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	86
	QD1	SE199312.021	%	60 - 130%	80
d8-toluene (Surrogate)	Soil trip blank	SE199312.002	%	60 - 130%	85
	Soil trip Spike	SE199312.003	%	60 - 130%	84
	BH101_0.3-0.4	SE199312.004	%	60 - 130%	76
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	74
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	86
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	86
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	76
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	84
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	77
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	75

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

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

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	84
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	76
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	71
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	76
	QD1	SE199312.021	%	60 - 130%	75

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	94
d4-1,2-dichloroethane (Surrogate)	QR-1	SE199312.001	%	40 - 130%	117
d8-toluene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	105

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	82
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	80
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	76
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	85
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	85
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	82
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	78
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	77
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	80
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	84
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	76
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	80
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	77
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	78
	QD1	SE199312.021	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	125
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	83
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	79
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	82
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	88
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	92
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	79
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	86
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	83
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	76
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	83
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	74
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	78
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	86
	QD1	SE199312.021	%	60 - 130%	80
d8-toluene (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	76
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	74
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	86
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	86
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	76
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	84
	BH110_0.3-0.4	SE199312.013	%	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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)**Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH111_0.2-0.3	SE199312.014	%	60 - 130%	75
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	84
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	76
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	71
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	76
	QD1	SE199312.021	%	60 - 130%	75

Volatile Petroleum Hydrocarbons in Water**Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	94
d4-1,2-dichloroethane (Surrogate)	QR-1	SE199312.001	%	60 - 130%	117
d8-toluene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	105

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

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB186404.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186562.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
Surrogates	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	83

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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)	%	-	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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

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PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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)	%	-	95
	2-fluorobiphenyl (Surrogate)	%	-	93
	d14-p-terphenyl (Surrogate)	%	-	96

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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)	%	-	83

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

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

Sample Number	Parameter	Units	LOR	Result
LB186558.001	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

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB186456.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB186416.001	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

VOC's in Soil

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

Sample Number	Parameter	Units	LOR
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VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Number		Parameter	Units	LOR	Result
LB186434.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10

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VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB186434.001	Oxygenated Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86
		d8-toluene (Surrogate)	%	-	81
		Bromofluorobenzene (Surrogate)	%	-	81
	Totals	Total BTEX	mg/kg	0.6	<0.6
		Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB186554.001	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)	%	-	106
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	93

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB186434.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB186554.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	106
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	93

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

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

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

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199323.003	LB186404.013	Mercury	µg/L	0.0001	<0.0001	0.0000	200	29

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186562.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE199312.021	LB186562.023	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 %
SE199312.012	LB186436.011	% Moisture	%w/w	1	3.2	3.6	59	12
SE199312.021	LB186436.021	% Moisture	%w/w	1	16.3	16.0	36	2

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.025	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
SE199312.019	LB186435.024	Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.137	30	7
		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

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

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

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

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

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.019	LB186435.024	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	0.131	30	4	

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.014	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	-	0.5	0.5	30
	d14-p-terphenyl (Surrogate)		mg/kg	-	0.5	0.5	30	1
SE199312.019	LB186435.024	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	0.0130225630	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	-	0.5	0.4775105968	30
	d14-p-terphenyl (Surrogate)		mg/kg	-	0.5	0.4981031428	30	3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.014	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

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.014	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						
SE199312.019	LB186435.024	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		Naphthalene	mg/kg	0.1	<0.1	0.0008768168	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0.0005474979	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0.0010587016	200	0
		Fluorene	mg/kg	0.1	<0.1	0.0005211506	200	0
		Phenanthrene	mg/kg	0.1	<0.1	0.0031501635	200	0
		Anthracene	mg/kg	0.1	<0.1	0.0029365231	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Pyrene	mg/kg	0.1	<0.1	0.0007267306	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0061718718	200	0
		Chrysene	mg/kg	0.1	<0.1	0.0067932554	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	0.0063974227	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	-	0.5	0.4858275667	30	1
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4775105968	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4981031428	30	3

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.025	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
SE199312.019	LB186435.024	Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.137	30	7
		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

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

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

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

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

PCBs in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.019	LB186435.024	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.131	30	4

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186558.014	Arsenic, As	mg/kg	1	3	4	57	24
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	17	19	33	13
		Copper, Cu	mg/kg	0.5	12	12	34	2
		Nickel, Ni	mg/kg	0.5	3.6	3.6	44	2
		Lead, Pb	mg/kg	1	16	17	36	8
SE199312.021	LB186558.023	Zinc, Zn	mg/kg	2	64	68	33	7
		Arsenic, As	mg/kg	1	4	4	54	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	13	16	33	17
		Copper, Cu	mg/kg	0.5	27	18	32	40 @
		Nickel, Ni	mg/kg	0.5	4.3	3.6	43	19
		Lead, Pb	mg/kg	1	28	24	34	18
		Zinc, Zn	mg/kg	2	100	90	32	14

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]JAN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199322.009	LB186456.011	Arsenic, As	µg/L	1	-0.007	-0.013	200	0
		Cadmium, Cd	µg/L	0.1	0	0.001	200	0
		Chromium, Cr	µg/L	1	0.033	0.012	200	0
		Copper, Cu	µg/L	1	-0.001	-0.002	200	0
		Lead, Pb	µg/L	1	0.02	0.024	200	0
		Nickel, Ni	µg/L	1	0.091	0.063	200	0
		Zinc, Zn	µg/L	5	3.182	3.361	168	0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE199312.013	LB186435.014	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	340	340	43	1	
		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	340	340	62	1	
		TRH >C10-C40 Total (F bands)	mg/kg	210	330	340	93	2	
		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	330	340	57	2	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0	
SE199312.019	LB186435.024	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	

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.011	LB186434.014	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
			Aliphatics	Chloromethane	mg/kg	1	<1	<1	200
		Vinyl chloride (Chloroethene)		mg/kg	0.1	<0.1	<0.1	200	0
		Bromomethane		mg/ka	1	<1	<1	200	0

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

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

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

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

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE199312.011	LB186434.014	Halogenated	Chloroethane	mg/kg	1	<1	<1	200	0	
			Aliphatics	Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0	
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0	
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0	
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0	
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0	
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0	
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0	
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0	
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0	
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0	
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0	
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0	
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0	
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0	
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0	
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0	
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0	
			Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
				Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
				2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
				4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
				1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
				1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
				1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
				1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
				Toluene	mg/kg	0.1	<0.1	<0.1	200	0
				Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
				m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
				o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
				Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
				Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
				n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
				1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
				tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
				1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
				sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			Nitrogenous Compounds	p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
				n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
				Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
				2-nitropropane	mg/kg	10	<10	<10	200	0
			Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
				MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
				Vinyl acetate	mg/kg	10	<10	<10	200	0
				MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			Polycyclic	MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
				2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
				Napthalene	mg/kg	0.1	<0.1	<0.1	200	0
				Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200
			Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	8.2	50	4
				d8-toluene (Surrogate)	mg/kg	-	7.6	7.7	50	2

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

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

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

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

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.011	LB186434.014	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	7.7	50
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200
			Total VOC*	mg/kg	24	<24	<24	200
			Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	200
			Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200
			Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200
			Bromoform	mg/kg	0.1	<0.1	<0.1	200
SE199312.021	LB186434.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200
			Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200
			o-xylene	mg/kg	0.1	<0.1	<0.1	200
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	8.4	50
			d8-toluene (Surrogate)	mg/kg	-	7.5	7.9	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	8.5	50
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200

VOCs in Water

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199291.004	LB186554.028	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200
			Toluene	µg/L	0.5	<0.5	<0.5	200
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200
			m/p-xylene	µg/L	1	<1	<1	200
			o-xylene	µg/L	0.5	<0.5	<0.5	200
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.7	12.8	30
			d8-toluene (Surrogate)	µg/L	-	11.7	9.5	30
			Bromofluorobenzene (Surrogate)	µg/L	-	9.2	9.2	30
SE199344.007	LB186554.029	Monocyclic Aromatic	Benzene	µg/L	0.5	0	0	200
			Toluene	µg/L	0.5	0	0	200
			Ethylbenzene	µg/L	0.5	0	0	200
			m/p-xylene	µg/L	1	0	0	200
			o-xylene	µg/L	0.5	0	0	200
		Polycyclic	Naphthalene	µg/L	0.5	0	0	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.2774709262	1.5422584815	30
			d8-toluene (Surrogate)	µg/L	-	10.0766628628	0.0485145978	30
			Bromofluorobenzene (Surrogate)	µg/L	-	9.5001918535	9.0520447467	30

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.011	LB186434.014	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	8.2	30
			d8-toluene (Surrogate)	mg/kg	-	7.6	7.7	30
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	7.7	30
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200
			TRH C6-C9	mg/kg	20	<20	<20	200
SE199312.021	LB186434.025	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	8.4	30
			d8-toluene (Surrogate)	mg/kg	-	7.5	7.9	30
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	8.5	30
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200

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

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

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

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

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199344.007	LB186554.024	TRH C6-C10	µg/L	50	13.654124431	0	200	0
		TRH C6-C9	µg/L	40	12.812747233	0	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.277470926	1.542258481	30	12
		d8-toluene (Surrogate)	µg/L	-	10.076662862	8.0485145978	30	22
		Bromofluorobenzene (Surrogate)	µg/L	-	9.50019185359	0.0520447467	30	5
		VPH F Bands						
		Benzene (F0)	µg/L	0.5	0	0	200	0
		TRH C6-C10 minus BTEX (F1)	µg/L	50	13.654124431	0	200	0

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

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

Mercury in Soil

Method: ME-(AU)-[ENV]JAN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186562.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	104

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	124
	Aldrin	mg/kg	0.1	0.3	0.2	60 - 140	125
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	125
	Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	124
	Endrin	mg/kg	0.2	0.2	0.2	60 - 140	124
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	114
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	87

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Dichlorvos	mg/kg	0.5	1.2	2	60 - 140	62
	Diazinon (Dimpylate)	mg/kg	0.5	1.4	2	60 - 140	71
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	83
	Ethion	mg/kg	0.2	1.4	2	60 - 140	70
Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Naphthalene	mg/kg	0.1	4.0	4	60 - 140	100
	Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98
	Acenaphthene	mg/kg	0.1	3.8	4	60 - 140	94
	Phenanthrene	mg/kg	0.1	4.2	4	60 - 140	104
	Anthracene	mg/kg	0.1	3.9	4	60 - 140	98
	Fluoranthene	mg/kg	0.1	3.7	4	60 - 140	93
	Pyrene	mg/kg	0.1	4.1	4	60 - 140	103
	Benzo(a)pyrene	mg/kg	0.1	4.6	4	60 - 140	116
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	110

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186558.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	4.3	4.62	80 - 120	94
	Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	98
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	96	89.9	80 - 120	107
	Zinc, Zn	mg/kg	2	290	273	80 - 120	104

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]JAN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186456.002	Arsenic, As	µg/L	1	19	20	80 - 120	95
	Cadmium, Cd	µg/L	0.1	21	20	80 - 120	105
	Chromium, Cr	µg/L	1	22	20	80 - 120	109
	Copper, Cu	µg/L	1	22	20	80 - 120	110
	Lead, Pb	µg/L	1	21	20	80 - 120	107
	Nickel, Ni	µg/L	1	21	20	80 - 120	106
	Zinc, Zn	µg/L	5	22	20	80 - 120	109

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB186435.002	TRH C10-C14	mg/kg	20	46	40	60 - 140	115	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	108	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	93	
	TRH F Bands	TRH >C10-C16	mg/kg	25	45	40	60 - 140	113
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	103	
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	95	

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB186416.002	TRH C10-C14	µg/L	50	860	1200	60 - 140	72	
	TRH C15-C28	µg/L	200	1100	1200	60 - 140	90	
	TRH C29-C36	µg/L	200	1200	1200	60 - 140	100	
	TRH F Bands	TRH >C10-C16	µg/L	60	980	1200	60 - 140	82
	TRH >C16-C34 (F3)	µg/L	500	1300	1200	60 - 140	105	
	TRH >C34-C40 (F4)	µg/L	500	530	600	60 - 140	89	

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186434.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	4.6	5	60 - 140	91
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	5.2	5	60 - 140	104
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	3.6	5	60 - 140	72
	Halogenated	Chlorobenzene	mg/kg	0.1	5.1	5	60 - 140	103
	Monocyclic	Benzene	mg/kg	0.1	4.3	5	60 - 140	85
	Aromatic	Toluene	mg/kg	0.1	4.0	5	60 - 140	81
		Ethylbenzene	mg/kg	0.1	4.3	5	60 - 140	86
		m/p-xylene	mg/kg	0.2	8.6	10	60 - 140	86
		o-xylene	mg/kg	0.1	4.3	5	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
		d8-toluene (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	70 - 130	96
	Trihalomethan	Chloroform	mg/kg	0.1	4.7	5	60 - 140	95

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186554.002	Monocyclic	Benzene	µg/L	0.5	45	45.45	60 - 140	99
	Aromatic	Toluene	µg/L	0.5	50	45.45	60 - 140	110
		Ethylbenzene	µg/L	0.5	52	45.45	60 - 140	115
		m/p-xylene	µg/L	1	100	90.9	60 - 140	115
		o-xylene	µg/L	0.5	50	45.45	60 - 140	111
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	11.2	10	60 - 140	112
		d8-toluene (Surrogate)	µg/L	-	9.8	10	70 - 130	98
		Bromofluorobenzene (Surrogate)	µg/L	-	10.4	10	70 - 130	104

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186434.002	TRH C6-C10	mg/kg	25	75	92.5	60 - 140	81
	TRH C6-C9	mg/kg	20	68	80	60 - 140	85
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
	Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	70 - 130	96
VPH F Bands	TRH C6-C10 minus BTEX (F1)	ma/ka	25	49	62.5	60 - 140	79

Volatile Petroleum Hydrocarbons in Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186554.002	TRH C6-C10	µg/L	50	700	946.63	60 - 140	74
	TRH C6-C9	µg/L	40	600	818.71	60 - 140	73
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	µg/L	-	11.2	10	60 - 140	112
	d8-toluene (Surrogate)	µg/L	-	9.8	10	70 - 130	98
	Bromofluorobenzene (Surrogate)	µg/L	-	10.4	10	70 - 130	104
VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	400	639.67	60 - 140	63

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

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199288.001	LB186404.004	Mercury	mg/L	0.0001	0.0074	<0.0001	0.008	93

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186562.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	99

OC Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	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	103
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	102
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	100
		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	99
		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	91
		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	-	0.13	0.13	-	86

OP Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	Dichlorvos	mg/kg	0.5	1.4	<0.5	2	69
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Diazinon (Dimpylate)	mg/kg	0.5	1.4	<0.5	2	69
		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	1.6	<0.2	2	80
		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	1.3	<0.2	2	66
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		Total OP Pesticides*	mg/kg	1.7	5.7	<1.7	-	-
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	93
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	91

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	Naphthalene	mg/kg	0.1	4.1	<0.1	4	103
		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	102
		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	4.2	<0.1	4	105
		Anthracene	mg/kg	0.1	4.0	<0.1	4	100
		Fluoranthene	mg/kg	0.1	3.8	<0.1	4	94
		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	4.7	<0.1	4	117
		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	4.7	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.8	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.8	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	33	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	99
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	93
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	91

PCBs in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.5	<0.2	0.4	116
		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	-	81

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

Method: ME-(AU)-[ENV]JAN40/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186558.004	Arsenic, As	mg/kg	1	60	10	50	101
		Cadmium, Cd	mg/kg	0.3	47	0.3	50	94
		Chromium, Cr	mg/kg	0.5	56	7.4	50	98
		Copper, Cu	mg/kg	0.5	55	3.6	50	103
		Nickel, Ni	mg/kg	0.5	49	2.1	50	94
		Lead, Pb	mg/kg	1	72	16	50	111
		Zinc, Zn	mg/kg	2	85	20	50	130

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]JAN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199288.001	LB186456.004	Arsenic, As	µg/L	1	26	4	20	111
		Cadmium, Cd	µg/L	0.1	22	0.2	20	111
		Chromium, Cr	µg/L	1	22	<1	20	107
		Copper, Cu	µg/L	1	40	19	20	107
		Lead, Pb	µg/L	1	31	8	20	115
		Nickel, Ni	µg/L	1	23	3	20	100
		Zinc, Zn	µg/L	5	83	61	20	111

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR
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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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TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE199312.004	LB186435.025	TRH C10-C14	mg/kg	20	<20	40	85
		TRH C15-C28	mg/kg	45	<45	40	90
		TRH C29-C36	mg/kg	45	<45	40	78
		TRH C37-C40	mg/kg	100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands					
		TRH >C10-C16	mg/kg	25	<25	40	83
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE199312.004	LB186434.029	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	-	-
			1,2-dichloropropane	mg/kg	0.1	<0.1	-	-
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	-
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	-
			Chloromethane	mg/kg	1	<1	-	-
		Aliphatics	Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	-
			Bromomethane	mg/kg	1	<1	-	-
			Chloroethane	mg/kg	1	<1	-	-
			Trichlorofluoromethane	mg/kg	1	<1	-	-
			Iodomethane	mg/kg	5	<5	-	-
			1,1-dichloroethene	mg/kg	0.1	<0.1	5	86
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	-
			Allyl chloride	mg/kg	0.1	<0.1	-	-
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-
			1,1-dichloroethane	mg/kg	0.1	<0.1	-	-
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-
			Bromochloromethane	mg/kg	0.1	<0.1	-	-
			1,2-dichloroethane	mg/kg	0.1	<0.1	5	94
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	-
			1,1-dichloropropene	mg/kg	0.1	<0.1	-	-
			Carbon tetrachloride	mg/kg	0.1	<0.1	-	-
			Dibromomethane	mg/kg	0.1	<0.1	-	-
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	5	66
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	-
			1,3-dichloropropane	mg/kg	0.1	<0.1	-	-
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	-
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	-	-
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	-
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	-
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	-
			Hexachlorobutadiene	mg/kg	0.1	<0.1	-	-
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	5	95
			Bromobenzene	mg/kg	0.1	<0.1	-	-
		Aromatics	2-chlorotoluene	mg/kg	0.1	<0.1	-	-
			4-chlorotoluene	mg/kg	0.1	<0.1	-	-
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	-
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	-
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	-
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	-
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	-
		Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	5	93
			Toluene	mg/kg	0.1	<0.1	5	97
			Ethylbenzene	mg/kg	0.1	<0.1	5	94
			m/p-xylene	mg/kg	0.2	<0.2	10	93

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

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

VOC's in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE199312.004	LB186434.029	Monocyclic	o-xylene	mg/kg	0.1	<0.1	5	92
			Aromatic	Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	-	
		n-propylbenzene	mg/kg	0.1	<0.1	-	-	
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	-	
		tert-butylbenzene	mg/kg	0.1	<0.1	-	-	
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	-	
		sec-butylbenzene	mg/kg	0.1	<0.1	-	-	
		p-isopropyltoluene	mg/kg	0.1	<0.1	-	-	
		n-butylbenzene	mg/kg	0.1	<0.1	-	-	
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	-	-
		Compounds	2-nitropropane	mg/kg	10	<10	-	-
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	-	-
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	-
			Vinyl acetate	mg/kg	10	<10	-	-
			MEK (2-butanone)	mg/kg	10	<10	-	-
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	-
			2-hexanone (MBK)	mg/kg	5	<5	-	-
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	-	-
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10	79
			d8-toluene (Surrogate)	mg/kg	-	7.6	10	84
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	10	92
		Totals	Total Xylenes	mg/kg	0.3	<0.3	-	-
			Total BTEX	mg/kg	0.6	<0.6	-	-
			Total VOC*	mg/kg	24	<24	-	-
			Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	-	-
			Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-
			Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	5	86
			Bromodichloromethane	mg/kg	0.1	<0.1	-	-
			Chlorodibromomethane	mg/kg	0.1	<0.1	-	-
			Bromoform	mg/kg	0.1	<0.1	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE199312.004	LB186434.028	TRH C6-C10	mg/kg	25	<25	92.5	77	
		TRH C6-C9	mg/kg	20	<20	80	84	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10	84
			d8-toluene (Surrogate)	mg/kg	-	7.6	10	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	-	98
		VPH F	Benzene (F0)	mg/kg	0.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	62.5	75

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE199344.002	LB186554.030	TRH C6-C10	µg/L	50	<50	13.50103507103	946.63	78	
		TRH C6-C9	µg/L	40	<40	13.01904548610	818.71	75	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	11.34389814172	-	114
			d8-toluene (Surrogate)	µg/L	-	0.0	10.35874084458	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	9.98811181960	-	105
			VPH F	Benzene (F0)	µg/L	0.5	<0.50	0	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	13.50103507103	639.67	67

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

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

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

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

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

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This test report shall not be reproduced, except in full.

Sheet <u>1</u> of <u>3</u>	Site: <u>25 George Street, North Strathfield NSW</u>	Project No: <u>E2441</u>	E02	Sample Matrix	Analysis	Comments
Laboratory: <u>SGS Australia</u> <u>Unit 16, 33 Maddox Street,</u> <u>ALEXANDRIA NSW 2015</u> <u>P: 02 8594 0400 F: 02 8594 0499</u>	Sample ID	Laboratory ID	Container Type	Sampling Date	Time	
	<u>Q0-1</u>	<u>1</u>	<u>S.P.U.</u>	<u>25.10.19</u>	<u>AM</u>	
	<u>Q0B</u>		<u>1</u>	<u>"</u>	<u>"</u>	
	<u>Soil top blank</u>	<u>2</u>	<u>lab prep</u>			
	<u>Soil tip Spike</u>	<u>3</u>	<u>lab prep</u>			
	<u>BH01-03-04</u>	<u>4</u>	<u>J, 2LB</u>			
	<u>BH02-03-04</u>	<u>5</u>	<u>1</u>	<u>25/10/19</u>	<u>AM</u>	
	<u>BH02-06-07</u>		<u>1</u>			
	<u>BH03-02-03</u>	<u>6</u>	<u>1</u>			
	<u>BH04-02-03</u>	<u>7</u>	<u>1</u>			
	<u>BH05-02-03</u>	<u>8</u>	<u>1</u>			
	<u>BH06-02-03</u>	<u>9</u>	<u>1</u>			
	<u>BH07-03-04</u>	<u>10</u>	<u>1</u>	<u>1</u>	<u>1</u>	
Container Type: <u>J= solvent washed, acid rinsed, Teflon sealed glass jar</u> <u>S= solvent washed, acid rinsed glass bottle</u> <u>P= natural HDPE plastic bottle</u> <u>VC= glass vial, Teflon Septum</u> <u>2LB = Zip-Lock Bag</u>	Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.	Sampler's Name (EI): <u>Print</u> <u>large chm</u>	Received by (SGS): <u>Print</u> <u>J.L</u>	Date <u>28/10/2019</u>	Date <u>28/10/19 12:30</u>	IMPORTANT: Please e-mail laboratory results to: <u>lab@eiaustralia.com.au</u>
Report with EI Waste Classification Table ☐	Sampler's Comments: <u>Send the report to Emmanuelle welders.</u>	SE199312				
Laboratory: <u>SGS Australia</u> <u>Unit 16, 33 Maddox Street,</u> <u>ALEXANDRIA NSW 2015</u> <u>P: 02 8594 0400 F: 02 8594 0499</u>	Sample ID	Laboratory ID	Container Type	Sampling Date	Time	
	<u>Q0-1</u>	<u>1</u>	<u>S.P.U.</u>	<u>25.10.19</u>	<u>AM</u>	
	<u>Q0B</u>		<u>1</u>	<u>"</u>	<u>"</u>	
	<u>Soil top blank</u>	<u>2</u>	<u>lab prep</u>			
	<u>Soil tip Spike</u>	<u>3</u>	<u>lab prep</u>			
	<u>BH01-03-04</u>	<u>4</u>	<u>J, 2LB</u>			
	<u>BH02-03-04</u>	<u>5</u>	<u>1</u>	<u>25/10/19</u>	<u>AM</u>	
	<u>BH02-06-07</u>		<u>1</u>			
	<u>BH03-02-03</u>	<u>6</u>	<u>1</u>			
	<u>BH04-02-03</u>	<u>7</u>	<u>1</u>			
	<u>BH05-02-03</u>	<u>8</u>	<u>1</u>			
	<u>BH06-02-03</u>	<u>9</u>	<u>1</u>			
	<u>BH07-03-04</u>	<u>10</u>	<u>1</u>	<u>1</u>	<u>1</u>	
Container Type: <u>J= solvent washed, acid rinsed, Teflon sealed glass jar</u> <u>S= solvent washed, acid rinsed glass bottle</u> <u>P= natural HDPE plastic bottle</u> <u>VC= glass vial, Teflon Septum</u> <u>2LB = Zip-Lock Bag</u>	Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.	Sampler's Name (EI): <u>Print</u> <u>large chm</u>	Received by (SGS): <u>Print</u> <u>J.L</u>	Date <u>28/10/2019</u>	Date <u>28/10/19 12:30</u>	IMPORTANT: Please e-mail laboratory results to: <u>lab@eiaustralia.com.au</u>
Report with EI Waste Classification Table ☐	Sampler's Comments: <u>Send the report to Emmanuelle welders.</u>	SE199312				
Laboratory: <u>SGS Australia</u> <u>Unit 16, 33 Maddox Street,</u> <u>ALEXANDRIA NSW 2015</u> <u>P: 02 8594 0400 F: 02 8594 0499</u>	Sample ID	Laboratory ID	Container Type	Sampling Date	Time	
	<u>Q0-1</u>	<u>1</u>	<u>S.P.U.</u>	<u>25.10.19</u>	<u>AM</u>	
	<u>Q0B</u>		<u>1</u>	<u>"</u>	<u>"</u>	
	<u>Soil top blank</u>	<u>2</u>	<u>lab prep</u>			
	<u>Soil tip Spike</u>	<u>3</u>	<u>lab prep</u>			
	<u>BH01-03-04</u>	<u>4</u>	<u>J, 2LB</u>			
	<u>BH02-03-04</u>	<u>5</u>	<u>1</u>			

Sheet 2 of 7					
Site:		Project No:		Sample Matrix	
Laboratory:				Analysis	
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 Time		
BH108-00-0-1	11	J,ZLB	25/10/24	AM	
BH108-00-0-6					
BH109-0-1-12	12				
BH109-0-6-0-1					
BH110-0-3-0-4	13				
BH111-0-2-0-3	14				
BH112-0-2-0-3	15				
BH113-0-2-0-3	16				
BH113-0-8-0-9					
BH114-0-2-0-3	17				
BH115-0-2-0-3	18				
BH116-0-2-0-3	19				
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)		Report with EI Waste Classification Table	
Date		Date		Sampler's Comments:	
Signature		Signature		Send the report to	
Date		Date		Emmanuel Woollens	
IMPORTANT:		Date			
Please e-mail laboratory results to: lab@eiaustralia.com.au		Date			

[illegible]



SAMPLE RECEIPT ADVICE

SE199312

CLIENT DETAILS

Contact Emmanuel Woelders
Client EIAUSTRALIA
Address SUITE 6.01
55 MILLER STREET
PYRMONT NSW 2009

Telephone 61 2 95160722
Facsimile (Not specified)
Email emmanuel.woelders@eiaustralia.com.au

Project **E24421.E02 25 George St Nth Strathfield**
Order Number **E24421.E02**
Samples 21

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 28/10/2019
Report Due Mon 4/11/2019
SGS Reference **SE199312**

SUBMISSION DETAILS

This is to confirm that 21 samples were received on Monday 28/10/2019. Results are expected to be ready by COB Monday 4/ 11/2019. Please quote SGS reference SE199312 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	20 Soil, 1 Water
Date documentation received	28/10/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
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

4 Soil and 1 water 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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CLIENT DETAILS

Client **EI AUSTRALIA**

Project **E24421.E02 25 George St Nth Strathfield**

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
002	Soil trip blank	-	-	-	-	-	-	11	-
003	Soil trip Spike	-	-	-	-	-	-	11	-
004	BH101_0.3-0.4	29	14	26	11	7	10	81	7
005	BH102_0.3-0.4	29	14	26	11	7	10	81	7
006	BH103_0.2-0.3	29	14	26	11	7	10	81	7
007	BH104_0.2-0.3	29	14	26	11	7	10	81	7
008	BH105_0.2-0.3	29	14	26	11	7	10	81	7
009	BH106_0.2-0.3	29	14	26	11	7	10	81	7
010	BH107_0.3-0.4	29	14	26	11	7	10	81	7
011	BH108_0.0-0.1	29	14	26	11	7	10	81	7
012	BH109_0.1-0.2	29	14	26	11	7	10	81	7
013	BH110_0.3-0.4	29	14	26	11	7	10	81	7
014	BH111_0.2-0.3	29	14	26	11	7	10	81	7
015	BH112_0.2-0.3	29	14	26	11	7	10	81	7
016	BH113_0.2-0.3	29	14	26	11	7	10	81	7
017	BH114_0.2-0.3	29	14	26	11	7	10	81	7
018	BH115_0.2-0.3	29	14	26	11	7	10	81	7
019	BH116_0.2-0.3	29	14	26	11	7	10	81	7
020	BH117_0.2-0.3	29	14	26	11	7	10	81	7
021	QD1	-	-	-	-	7	10	11	7

CONTINUED OVERLEAF

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

CLIENT DETAILS

Client **EI AUSTRALIA**

Project **E24421.E02 25 George St Nth Strathfield**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
002	Soil trip blank	-	-	1
004	BH101_0.3-0.4	2	1	1
005	BH102_0.3-0.4	2	1	1
006	BH103_0.2-0.3	2	1	1
007	BH104_0.2-0.3	2	1	1
008	BH105_0.2-0.3	2	1	1
009	BH106_0.2-0.3	2	1	1
010	BH107_0.3-0.4	2	1	1
011	BH108_0.0-0.1	2	1	1
012	BH109_0.1-0.2	2	1	1
013	BH110_0.3-0.4	2	1	1
014	BH111_0.2-0.3	2	1	1
015	BH112_0.2-0.3	2	1	1
016	BH113_0.2-0.3	2	1	1
017	BH114_0.2-0.3	2	1	1
018	BH115_0.2-0.3	2	1	1
019	BH116_0.2-0.3	2	1	1
020	BH117_0.2-0.3	2	1	1
021	QD1	-	1	1

CONTINUED OVERLEAF

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

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

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

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



SAMPLE RECEIPT ADVICE

SE199312

CLIENT DETAILS

Client **EI AUSTRALIA**

Project **E24421.E02 25 George St Nth Strathfield**

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
001	QR-1	1	7	10	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 .

[illegible]



SAMPLE RECEIPT ADVICE

SE199313

CLIENT DETAILS

Contact Emmanuel Woelders
Client EIAUSTRALIA
Address SUITE 6.01
55 MILLER STREET
PYRMONT NSW 2009

Telephone 61 2 95160722
Facsimile (Not specified)
Email emmanuel.woelders@eiaustralia.com.au

Project **E24421.E02 25 George St, Nth Strathfield**
Order Number **E24421.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 Mon 28/10/2019
Report Due Mon 4/11/2019
SGS Reference **SE199313**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Monday 28/10/2019. Results are expected to be ready by COB Monday 4/ 11/2019. Please quote SGS reference SE199313 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	9 Soil
Date documentation received	28/10/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
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

7 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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CLIENT DETAILS

Client **EI AUSTRALIA**

Project **E24421.E02 25 George St, Nth Strathfield**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	Moisture Content	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH101_0.6-0.7	1	1	26	7	11	7
002	BH104_1.0-1.1	1	1	26	7	11	7
003	BH105_0.6-0.7	1	1	26	7	11	7
004	BH106_0.7-0.8	1	1	26	7	11	7
005	BH107_0.7-0.8	1	1	26	7	11	7
006	BH108_0.8-0.9	1	1	26	7	11	7
007	BH110_0.8-0.9	1	1	26	7	11	7
008	BH111_0.8-0.9	1	1	26	7	11	7
009	BH114_0.8-0.9	1	1	26	7	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 .

Yin, Emily (Sydney)

From: Jordan Thomas - EIAustralia <jordan.thomas@eiaustralia.com.au>
Sent: Monday, 4 November 2019 5:54 PM
To: Yin, Emily (Sydney)
Subject: [EXTERNAL] Re: SE199579 - E24421

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

Please hold this sample. Thank you

Sent on the go with Vodafone

----- Original message -----
From: "Yin, Emily (Sydney)" <Emily.Yin@sgs.com>
Date: 4/11/19 5:52 pm (GMT+10:00)
To: Jordan Thomas - EIAustralia <jordan.thomas@eiaustralia.com.au>
Subject: SE199579 - E24421

Dear Jordan,

Extra sample BH109.M-1 received.
Do you want it analysed?
Please advise as soon as possible.
Thank You.

Regards,

Emily Yin
Environment, Health & Safety
Sample Receipt

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

Phone: +61 (0)2 8594 0400
Fax: +61 (0)2 8594 0499
E-mail: au.samplereceipt.sydnev@sgs.com

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SAMPLE RECEIPT ADVICE

SE199579

CLIENT DETAILS

Contact Jordan Thomas
Client EIA AUSTRALIA
Address SUITE 6.01
55 MILLER STREET
PYRMONT NSW 2009

Telephone 61 2 95160722
Facsimile (Not specified)
Email Jordan.Thomas@eiaustralia.com.au

Project **E24421 25 George St. North Strathfield**
Order Number **E24421**
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 Mon 4/11/2019
Report Due Mon 11/11/2019
SGS Reference **SE199579**

SUBMISSION DETAILS

This is to confirm that 5 samples were received on Monday 4/11/2019. Results are expected to be ready by COB Monday 11/11/2019. Please quote SGS reference SE199579 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 Water
Date documentation received	4/11/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.0°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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

COMMENTS

1 water sample has been placed on hold as no tests have been assigned for it. This sample will not be processed.
Sample QT-1 has been forwarded to Eurofins,

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SAMPLE RECEIPT ADVICE

SE199579

CLIENT DETAILS

Client **EI AUSTRALIA**

Project **E24421 25 George St. North Strathfield**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH107.M-1	1	22	7	10	78	7
002	QD-1	1	-	7	10	11	7
003	GW-Trip Blank	-	-	-	-	11	-
004	GW-Trip Spike	-	-	-	-	11	-
005	QR-1	1	-	7	10	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 .

Yin, Emily (Sydney)

From: Jordan Thomas - EIAustralia <jordan.thomas@eiaustralia.com.au>
Sent: Monday, 4 November 2019 5:54 PM
To: Yin, Emily (Sydney)
Subject: [EXTERNAL] Re: SE199579 - E24421

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

Please hold this sample. Thank you

Sent on the go with Vodafone

----- Original message -----
From: "Yin, Emily (Sydney)" <Emily.Yin@sgs.com>
Date: 4/11/19 5:52 pm (GMT+10:00)
To: Jordan Thomas - EIAustralia <jordan.thomas@eiaustralia.com.au>
Subject: SE199579 - E24421

Dear Jordan,

Extra sample BH109.M-1 received.
Do you want it analysed?
Please advise as soon as possible.
Thank You.

Regards,

Emily Yin
Environment, Health & Safety
Sample Receipt

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

Phone: +61 (0)2 8594 0400
Fax: +61 (0)2 8594 0499
E-mail: au.samplereceipt.sydnev@sgs.com

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SAMPLE RECEIPT ADVICE

SE199579

CLIENT DETAILS

Contact Jordan Thomas
Client EIA AUSTRALIA
Address SUITE 6.01
55 MILLER STREET
PYRMONT NSW 2009

Telephone 61 2 95160722
Facsimile (Not specified)
Email Jordan.Thomas@eiaustralia.com.au

Project **E24421 25 George St. North Strathfield**
Order Number **E24421**
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 Mon 4/11/2019
Report Due Mon 11/11/2019
SGS Reference **SE199579**

SUBMISSION DETAILS

This is to confirm that 5 samples were received on Monday 4/11/2019. Results are expected to be ready by COB Monday 11/11/2019. Please quote SGS reference SE199579 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 Water
Date documentation received	4/11/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.0°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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

COMMENTS

1 water sample has been placed on hold as no tests have been assigned for it. This sample will not be processed.
Sample QT-1 has been forwarded to Eurofins,

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SAMPLE RECEIPT ADVICE

SE199579

CLIENT DETAILS

Client **EI AUSTRALIA**

Project **E24421 25 George St. North Strathfield**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH107.M-1	1	22	7	10	78	7
002	QD-1	1	-	7	10	11	7
003	GW-Trip Blank	-	-	-	-	11	-
004	GW-Trip Spike	-	-	-	-	11	-
005	QR-1	1	-	7	10	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 .



SAMPLE RECEIPT ADVICE

SE199579A

CLIENT DETAILS

Contact Jordan Thomas
Client EIAUSTRALIA
Address SUITE 6.01
55 MILLER STREET
PYRMONT NSW 2009

Telephone 61 2 95160722
Facsimile (Not specified)
Email Jordan.Thomas@eiaustralia.com.au

Project **E24421 25 George St. North Strathfield-A**
Order Number **E24421**
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 12/11/2019
Report Due Wed 13/11/2019
SGS Reference **SE199579A**

SUBMISSION DETAILS

This is to confirm that 5 samples were received on Tuesday 12/11/2019. Results are expected to be ready by COB Wednesday 13/11/2019. Please quote SGS reference SE199579A 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	12/11/2019@10:41am	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.0°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

SE199579A

CLIENT DETAILS

Client **EI AUSTRALIA**

Project **E24421 25 George St. North Strathfield-A**

SUMMARY OF ANALYSIS

No.	Sample ID	TRH Silica Gel (Total Recoverable)
001	BH107.M-1	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 <u>1</u> of <u>1</u>			Sample Matrix		Analysis															Comments				
Site: <u>25, George Street, North Sydney</u> <u>NSW</u>			Project No: <u>E24421.E02</u>		WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCBI/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	TCPLP HM B / PAH	HM A Arsenic Cadmium Chromium Copper Lead Mercury Nickel Zinc			
Laboratory: Eurofins Environment Testing Aust. P/L 6 / 16 Mars Road, Lane Cove NSW 2066 P: 02 9900 8400			Sample ID	Laboratory ID																	Container Type	Sampling		HM B Arsenic Cadmium Chromium Lead Mercury Nickel
Date	Time	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 ☒ 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 ☐									
 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					Sampler's Name (EI):					Received by (Eurofins):					Sampler's Comments: <u>Please send the report to Emmanuel woelckers.</u> <u>#685152</u>									
					Print <u>Lance Chen</u>					Print <u>[Signature]</u>														
					Signature <u>[Signature]</u>					Signature <u>[Signature]</u>														
Date <u>29/10/2019</u>					Date <u>29/10/19 6:00 PM</u>																			
IMPORTANT: Please e-mail laboratory results to: lab@eiaustralia.com.au																								

Melbourne

6 Monterey Road
Dandenong South Vic 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney

Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane

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

Perth

2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521

e.mail : EnviroSales@eurofins.com

web : www.eurofins.com.au

Sample Receipt Advice

Company name: **EI Australia**
Contact name: Emmanuel Woelders
Project name: 25 GEORGE STREET NORTH STRATHFIELD NSW
Project ID: E24421.E02
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Oct 29, 2019 4:00 PM
Eurofins reference: **685152**

Sample information

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

Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Emmanuel Woelders -
emmanuel.woelders@eiaustralia.com.au.

#AU04_Enviro_Sample_NSW

686402

From: Jordan Thomas - ELAustralia <jordan.thomas@eiaustralia.com.au>
Sent: Tuesday, 5 November 2019 12:57 PM
To: #AU04_Enviro_Sample_NSW; Alena Bounkeua
Cc: Emmanuel Woelders - ELAustralia
Subject: E24421 - Triplicate analysis
Attachments: SE199579_COC.PDF

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Eurofins,

I have requested SGS forward you water sample 'QT-1', EI job code: E24421. Could I please have this sample analysed for HM, BTEX, TRH on standard TAT.

Thank you

If you have any questions or queries, please feel free to contact me on the undersigned,

Kind Regards,
Jordan Thomas
B. Sc
Environmental Scientist
T (02) 9516 0722 M +61 450 552 907
E Jordan.Thomas@ELAustralia.com.au
Suite 6.01, 55 Miller Street
Pyrmont, NSW 2009

www.eiaustralia.com.au

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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521

e.mail : EnviroSales@eurofins.com

web : www.eurofins.com.au

Sample Receipt Advice

Company name: **EI Australia**
Contact name: Jordan Thomas
Project name: 25 GEORGE ST NORTH STRATHFIELD
Project ID: E24421
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Nov 5, 2019 2:10 PM
Eurofins reference: **686402**

Sample information

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

Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Jordan Thomas - jordan.thomas@eiaustralia.com.au.

Appendix F – Laboratory Analytical Reports

CLIENT DETAILS

Contact Emmanuel Woelders
Client EI AUSTRALIA
Address SUITE 6.01
 55 MILLER STREET
 PYRMONT NSW 2009

Telephone 61 2 95160722
Facsimile (Not specified)
Email emmanuel.woelders@eiaustralia.com.au

Project **E24421.E02 25 George St Nth Strathfield**
Order Number **E24421.E02**
Samples 21

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 **SE199312 R0**
Date Received 28/10/2019
Date Reported 4/11/2019

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 Ravee Sivasubramaniam.

SIGNATORIES



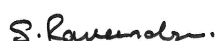
Dong LIANG
Metals/Inorganics Team Leader



Huong CRAWFORD
Production Manager



Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 29/10/2019

PARAMETER	UOM	LOR	Soil trip blank	Soil trip Spike	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3
			SOIL - 25/10/2019 SE199312.002	SOIL - 25/10/2019 SE199312.003	SOIL - 25/10/2019 SE199312.004	SOIL - 25/10/2019 SE199312.005	SOIL - 25/10/2019 SE199312.006
Benzene	mg/kg	0.1	<0.1	[112%]	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	[100%]	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	[91%]	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	[91%]	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	[90%]	<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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	<1	<1	<1
Chloromethane	mg/kg	1	-	-	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	-	-	<1	<1	<1
Chloroethane	mg/kg	1	-	-	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	-	-	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	-	-	<10	<10	<10
Iodomethane	mg/kg	5	-	-	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	-	-	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	-	-	<10	<10	<10
MEK (2-butanone)	mg/kg	10	-	-	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	-	-	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	-	-	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	<1	<1

VOC's in Soil [AN433] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	Soil trip blank	Soil trip Spike	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3
			SOIL - 25/10/2019 SE199312.002	SOIL - 25/10/2019 SE199312.003	SOIL - 25/10/2019 SE199312.004	SOIL - 25/10/2019 SE199312.005	SOIL - 25/10/2019 SE199312.006
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	<24	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	<3.0	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	<1.8	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	<1.8	<1.8	<1.8

VOC's in Soil [AN433] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH104_0.2-0.3	BH105_0.2-0.3	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1
			SOIL - 25/10/2019 SE199312.007	SOIL - 25/10/2019 SE199312.008	SOIL - 25/10/2019 SE199312.009	SOIL - 25/10/2019 SE199312.010	SOIL - 25/10/2019 SE199312.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH104_0.2-0.3	BH105_0.2-0.3	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1
			SOIL - 25/10/2019 SE199312.007	SOIL - 25/10/2019 SE199312.008	SOIL - 25/10/2019 SE199312.009	SOIL - 25/10/2019 SE199312.010	SOIL - 25/10/2019 SE199312.011
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	<24	<24	<24	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	<3.0	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	<1.8

VOC's in Soil [AN433] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH109_0.1-0.2	BH110_0.3-0.4	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3
			SOIL - 25/10/2019 SE199312.012	SOIL - 25/10/2019 SE199312.013	SOIL - 25/10/2019 SE199312.014	SOIL - 25/10/2019 SE199312.015	SOIL - 25/10/2019 SE199312.016
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	<1
Chloromethane	mg/kg	1	<1	<1	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	<1	<1	<1
Chloroethane	mg/kg	1	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	<10
Iodomethane	mg/kg	5	<5	<5	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	<1

VOC's in Soil [AN433] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH109_0.1-0.2	BH110_0.3-0.4	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3
			SOIL - 25/10/2019 SE199312.012	SOIL - 25/10/2019 SE199312.013	SOIL - 25/10/2019 SE199312.014	SOIL - 25/10/2019 SE199312.015	SOIL - 25/10/2019 SE199312.016
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	<24	<24	<24	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	<3.0	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	<1.8

VOC's in Soil [AN433] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH114_0.2-0.3	BH115_0.2-0.3	BH116_0.2-0.3	BH117_0.2-0.3	QD1
			SOIL - 25/10/2019 SE199312.017	SOIL - 25/10/2019 SE199312.018	SOIL - 25/10/2019 SE199312.019	SOIL - 25/10/2019 SE199312.020	SOIL - 25/10/2019 SE199312.021
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	<1	<1	-
Chloromethane	mg/kg	1	<1	<1	<1	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromomethane	mg/kg	1	<1	<1	<1	<1	-
Chloroethane	mg/kg	1	<1	<1	<1	<1	-
Trichlorofluoromethane	mg/kg	1	<1	<1	<1	<1	-
Acetone (2-propanone)	mg/kg	10	<10	<10	<10	<10	-
Iodomethane	mg/kg	5	<5	<5	<5	<5	-
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	-
Allyl chloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Vinyl acetate	mg/kg	10	<10	<10	<10	<10	-
MEK (2-butanone)	mg/kg	10	<10	<10	<10	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Chloroform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Dibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2-nitropropane	mg/kg	10	<10	<10	<10	<10	-
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	<1	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2-hexanone (MBK)	mg/kg	5	<5	<5	<5	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromoform	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	<1	<1	-

VOC's in Soil [AN433] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH114_0.2-0.3	BH115_0.2-0.3	BH116_0.2-0.3	BH117_0.2-0.3	QD1
			SOIL - 25/10/2019 SE199312.017	SOIL - 25/10/2019 SE199312.018	SOIL - 25/10/2019 SE199312.019	SOIL - 25/10/2019 SE199312.020	SOIL - 25/10/2019 SE199312.021
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Bromobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Total VOC*	mg/kg	24	<24	<24	<24	<24	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	<3.0	<3.0	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	<1.8	<1.8	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.004	25/10/2019 SE199312.005	25/10/2019 SE199312.006	25/10/2019 SE199312.007	25/10/2019 SE199312.008
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	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.009	25/10/2019 SE199312.010	25/10/2019 SE199312.011	25/10/2019 SE199312.012	25/10/2019 SE199312.013
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	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.014	25/10/2019 SE199312.015	25/10/2019 SE199312.016	25/10/2019 SE199312.017	25/10/2019 SE199312.018
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	BH116_0.2-0.3	BH117_0.2-0.3	QD1
			SOIL	SOIL	SOIL
			25/10/2019 SE199312.019	25/10/2019 SE199312.020	25/10/2019 SE199312.021
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: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.004	25/10/2019 SE199312.005	25/10/2019 SE199312.006	25/10/2019 SE199312.007	25/10/2019 SE199312.008
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	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.009	25/10/2019 SE199312.010	25/10/2019 SE199312.011	25/10/2019 SE199312.012	25/10/2019 SE199312.013
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	340
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	330
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	340
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	330

PARAMETER	UOM	LOR	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.014	25/10/2019 SE199312.015	25/10/2019 SE199312.016	25/10/2019 SE199312.017	25/10/2019 SE199312.018
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: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH116_0.2-0.3	BH117_0.2-0.3	QD1
			SOIL - 25/10/2019 SE199312.019	SOIL - 25/10/2019 SE199312.020	SOIL - 25/10/2019 SE199312.021
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: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.004	25/10/2019 SE199312.005	25/10/2019 SE199312.006	25/10/2019 SE199312.007	25/10/2019 SE199312.008
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	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.009	25/10/2019 SE199312.010	25/10/2019 SE199312.011	25/10/2019 SE199312.012	25/10/2019 SE199312.013
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	0.3	<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	0.3	<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	0.1	<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	0.2	<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	0.2	<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	1.9	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	1.9	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL - 25/10/2019 SE199312.014	SOIL - 25/10/2019 SE199312.015	SOIL - 25/10/2019 SE199312.016	SOIL - 25/10/2019 SE199312.017	SOIL - 25/10/2019 SE199312.018
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	0.2	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.2	0.2	<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	0.2	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	0.2	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.1	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.2	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	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	0.2	0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	0.3	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.4	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.3	0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	1.7	1.2	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.7	1.2	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH116_0.2-0.3	BH117_0.2-0.3
			SOIL - 25/10/2019 SE199312.019	SOIL - 25/10/2019 SE199312.020
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: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL - 25/10/2019 SE199312.004	SOIL - 25/10/2019 SE199312.005	SOIL - 25/10/2019 SE199312.006	SOIL - 25/10/2019 SE199312.007	SOIL - 25/10/2019 SE199312.008
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: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL - 25/10/2019 SE199312.009	SOIL - 25/10/2019 SE199312.010	SOIL - 25/10/2019 SE199312.011	SOIL - 25/10/2019 SE199312.012	SOIL - 25/10/2019 SE199312.013
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: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL - 25/10/2019 SE199312.014	SOIL - 25/10/2019 SE199312.015	SOIL - 25/10/2019 SE199312.016	SOIL - 25/10/2019 SE199312.017	SOIL - 25/10/2019 SE199312.018
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: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH116_0.2-0.3	BH117_0.2-0.3
			SOIL - 25/10/2019 SE199312.019	SOIL - 25/10/2019 SE199312.020
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: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.004	25/10/2019 SE199312.005	25/10/2019 SE199312.006	25/10/2019 SE199312.007	25/10/2019 SE199312.008
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	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.009	25/10/2019 SE199312.010	25/10/2019 SE199312.011	25/10/2019 SE199312.012	25/10/2019 SE199312.013
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	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.014	25/10/2019 SE199312.015	25/10/2019 SE199312.016	25/10/2019 SE199312.017	25/10/2019 SE199312.018
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: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH116_0.2-0.3	BH117_0.2-0.3
			SOIL	SOIL
			- 25/10/2019 SE199312.019	- 25/10/2019 SE199312.020
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: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.004	25/10/2019 SE199312.005	25/10/2019 SE199312.006	25/10/2019 SE199312.007	25/10/2019 SE199312.008
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	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.009	25/10/2019 SE199312.010	25/10/2019 SE199312.011	25/10/2019 SE199312.012	25/10/2019 SE199312.013
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	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.014	25/10/2019 SE199312.015	25/10/2019 SE199312.016	25/10/2019 SE199312.017	25/10/2019 SE199312.018
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: 29/10/2019 (continued)

PARAMETER	UOM	LOR	BH116_0.2-0.3	BH117_0.2-0.3
			SOIL - 25/10/2019 SE199312.019	SOIL - 25/10/2019 SE199312.020
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

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 30/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.004	25/10/2019 SE199312.005	25/10/2019 SE199312.006	25/10/2019 SE199312.007	25/10/2019 SE199312.008
Arsenic, As	mg/kg	1	10	9	10	10	9
Cadmium, Cd	mg/kg	0.3	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	7.4	7.3	9.5	8.1	7.1
Copper, Cu	mg/kg	0.5	3.6	2.8	7.6	7.9	3.0
Lead, Pb	mg/kg	1	16	6	37	18	6
Nickel, Ni	mg/kg	0.5	2.1	3.3	9.9	5.2	22
Zinc, Zn	mg/kg	2	20	10	35	16	7.4

PARAMETER	UOM	LOR	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.009	25/10/2019 SE199312.010	25/10/2019 SE199312.011	25/10/2019 SE199312.012	25/10/2019 SE199312.013
Arsenic, As	mg/kg	1	10	<1	7	2	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.1	8.8	15	6.4	17
Copper, Cu	mg/kg	0.5	3.2	52	100	7.7	12
Lead, Pb	mg/kg	1	14	2	59	18	16
Nickel, Ni	mg/kg	0.5	4.7	160	8.3	6.0	3.6
Zinc, Zn	mg/kg	2	11	52	250	27	64

PARAMETER	UOM	LOR	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199312.014	25/10/2019 SE199312.015	25/10/2019 SE199312.016	25/10/2019 SE199312.017	25/10/2019 SE199312.018
Arsenic, As	mg/kg	1	10	3	1	5	7
Cadmium, Cd	mg/kg	0.3	1.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	20	12	5.7	17	15
Copper, Cu	mg/kg	0.5	86	47	3.6	61	20
Lead, Pb	mg/kg	1	320	26	12	100	20
Nickel, Ni	mg/kg	0.5	45	69	4.9	33	3.5
Zinc, Zn	mg/kg	2	260	52	14	64	21

PARAMETER	UOM	LOR	BH116_0.2-0.3	BH117_0.2-0.3	QD1
			SOIL	SOIL	SOIL
			25/10/2019 SE199312.019	25/10/2019 SE199312.020	25/10/2019 SE199312.021
Arsenic, As	mg/kg	1	5	2	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	11	13
Copper, Cu	mg/kg	0.5	10	44	27
Lead, Pb	mg/kg	1	15	6	28
Nickel, Ni	mg/kg	0.5	4.8	110	4.3
Zinc, Zn	mg/kg	2	9.8	49	100

Mercury in Soil [AN312] Tested: 30/10/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
			SE199312.004	SE199312.005	SE199312.006	SE199312.007	SE199312.008
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
			SE199312.009	SE199312.010	SE199312.011	SE199312.012	SE199312.013
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
			SE199312.014	SE199312.015	SE199312.016	SE199312.017	SE199312.018
Mercury	mg/kg	0.05	0.08	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH116_0.2-0.3	BH117_0.2-0.3	QD1
			SOIL	SOIL	SOIL
			-	-	-
			25/10/2019	25/10/2019	25/10/2019
			SE199312.019	SE199312.020	SE199312.021
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 29/10/2019

			Soil trip blank	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
PARAMETER	UOM	LOR	SE199312.002	SE199312.004	SE199312.005	SE199312.006	SE199312.007
% Moisture	%w/w	1	<1.0	6.3	6.9	11.7	9.1

			BH105_0.2-0.3	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
PARAMETER	UOM	LOR	SE199312.008	SE199312.009	SE199312.010	SE199312.011	SE199312.012
% Moisture	%w/w	1	10.4	7.1	6.8	17.5	3.2

			BH110_0.3-0.4	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
PARAMETER	UOM	LOR	SE199312.013	SE199312.014	SE199312.015	SE199312.016	SE199312.017
% Moisture	%w/w	1	19.3	15.4	11.8	2.5	17.1

			BH115_0.2-0.3	BH116_0.2-0.3	BH117_0.2-0.3	QD1
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019
PARAMETER	UOM	LOR	SE199312.018	SE199312.019	SE199312.020	SE199312.021
% Moisture	%w/w	1	19.0	16.4	7.5	16.3

Fibre Identification in soil [AN602] Tested: 1/11/2019

PARAMETER	UOM	LOR	BH101_0.3-0.4	BH102_0.3-0.4	BH103_0.2-0.3	BH104_0.2-0.3	BH105_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019 SE199312.004	25/10/2019 SE199312.005	25/10/2019 SE199312.006	25/10/2019 SE199312.007	25/10/2019 SE199312.008
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	BH106_0.2-0.3	BH107_0.3-0.4	BH108_0.0-0.1	BH109_0.1-0.2	BH110_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019 SE199312.009	25/10/2019 SE199312.010	25/10/2019 SE199312.011	25/10/2019 SE199312.012	25/10/2019 SE199312.013
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	BH111_0.2-0.3	BH112_0.2-0.3	BH113_0.2-0.3	BH114_0.2-0.3	BH115_0.2-0.3
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019 SE199312.014	25/10/2019 SE199312.015	25/10/2019 SE199312.016	25/10/2019 SE199312.017	25/10/2019 SE199312.018
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	BH116_0.2-0.3	BH117_0.2-0.3
			SOIL	SOIL
			-	-
			25/10/2019 SE199312.019	25/10/2019 SE199312.020
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

VOCs in Water [AN433] Tested: 30/10/2019

			QR-1
			WATER
			-
			25/10/2019
			SE199312.001
PARAMETER	UOM	LOR	
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: 30/10/2019

			QR-1
			WATER
			-
			25/10/2019
			SE199312.001
PARAMETER	UOM	LOR	
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: 29/10/2019

			QR-1
			WATER
			-
			25/10/2019
			SE199312.001
PARAMETER	UOM	LOR	
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 >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C36	µg/L	450	<450
TRH C10-C40	µg/L	650	<650
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 29/10/2019

			QR-1
			WATER
			-
			25/10/2019
			SE199312.001
PARAMETER	UOM	LOR	
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

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 29/10/2019

			QR-1
			WATER
			-
			25/10/2019
			SE199312.001
PARAMETER	UOM	LOR	
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, in accordance with USEPA 6020A.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection 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/pv.sgsvr/en-gb/environment.

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Project **E24421.E02 25 George St Nth Strathfield**
 Order Number **E24421.E02**
 Samples 17

LABORATORY DETAILS

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SGS Reference **SE199312 R0**
 Date Received 28 Oct 2019
 Date Reported 04 Nov 2019

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 Ravee Sivasubramaniam.

SIGNATORIES



Dong LIANG
 Metals/Inorganics Team Leader



Huong CRAWFORD
 Production Manager



Ly Kim HA
 Organic Section Head



Ravee SIVASUBRAMANIAM
 Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE199312.004	BH101_0.3-0.4	Soil	331g Clay, Sand	25 Oct 2019	No Asbestos Found	<0.01
SE199312.005	BH102_0.3-0.4	Soil	204g Clay, Soil, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.006	BH103_0.2-0.3	Soil	172g Clay, Sand, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.007	BH104_0.2-0.3	Soil	295g Clay, Sand, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.008	BH105_0.2-0.3	Soil	156g Clay, Sand, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.009	BH106_0.2-0.3	Soil	195g Clay, Sand, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.010	BH107_0.3-0.4	Soil	221g Clay, Sand, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.011	BH108_0.0-0.1	Soil	181g Sand, Soil, Rocks, Plant matter	25 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE199312.012	BH109_0.1-0.2	Soil	323g Sand, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.013	BH110_0.3-0.4	Soil	143g Clay, Soil	25 Oct 2019	No Asbestos Found	<0.01
SE199312.014	BH111_0.2-0.3	Soil	189g Clay, Soil, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.015	BH112_0.2-0.3	Soil	424g Clay, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.016	BH113_0.2-0.3	Soil	330g Clay, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.017	BH114_0.2-0.3	Soil	251g Clay	25 Oct 2019	No Asbestos Found	<0.01
SE199312.018	BH115_0.2-0.3	Soil	232g Clay, Sand	25 Oct 2019	No Asbestos Found	<0.01
SE199312.019	BH116_0.2-0.3	Soil	361g Clay, Rocks	25 Oct 2019	No Asbestos Found	<0.01
SE199312.020	BH117_0.2-0.3	Soil	215g Clay, Sand, Rocks	25 Oct 2019	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 unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states: "Depending upon sample condition and fibre type, the detection 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/pv.sgsvr/en-qb/environment.

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.

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SGS Reference **SE199313 R0**
Date Received 28/10/2019
Date Reported 4/11/2019

COMMENTS

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

SIGNATORIES



Dong LIANG
 Metals/Inorganics Team Leader



Huong CRAWFORD
 Production Manager



Ly Kim HA
 Organic Section Head

VOC's in Soil [AN433] Tested: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.6-0.7	BH104_1.0-1.1	BH105_0.6-0.7	BH106_0.7-0.8	BH107_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199313.001	25/10/2019 SE199313.002	25/10/2019 SE199313.003	25/10/2019 SE199313.004	25/10/2019 SE199313.005
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	BH108_0.8-0.9	BH110_0.8-0.9	BH111_0.8-0.9	BH114_0.8-0.9
			SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199313.006	25/10/2019 SE199313.007	25/10/2019 SE199313.008	25/10/2019 SE199313.009
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: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.6-0.7	BH104_1.0-1.1	BH105_0.6-0.7	BH106_0.7-0.8	BH107_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019 SE199313.001	25/10/2019 SE199313.002	25/10/2019 SE199313.003	25/10/2019 SE199313.004	25/10/2019 SE199313.005
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	BH108_0.8-0.9	BH110_0.8-0.9	BH111_0.8-0.9	BH114_0.8-0.9
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			25/10/2019 SE199313.006	25/10/2019 SE199313.007	25/10/2019 SE199313.008	25/10/2019 SE199313.009
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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 29/10/2019

PARAMETER	UOM	LOR	BH101_0.6-0.7	BH104_1.0-1.1	BH105_0.6-0.7	BH106_0.7-0.8	BH107_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199313.001	25/10/2019 SE199313.002	25/10/2019 SE199313.003	25/10/2019 SE199313.004	25/10/2019 SE199313.005
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	0.3	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	0.3	<0.1	<0.1	<0.1
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	0.4	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	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	<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	2.1	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	2.1	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH108_0.8-0.9	BH110_0.8-0.9	BH111_0.8-0.9	BH114_0.8-0.9
			SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199313.006	25/10/2019 SE199313.007	25/10/2019 SE199313.008	25/10/2019 SE199313.009
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

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 30/10/2019

PARAMETER	UOM	LOR	BH101_0.6-0.7	BH104_1.0-1.1	BH105_0.6-0.7	BH106_0.7-0.8	BH107_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199313.001	25/10/2019 SE199313.002	25/10/2019 SE199313.003	25/10/2019 SE199313.004	25/10/2019 SE199313.005
Arsenic, As	mg/kg	1	3	5	3	5	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	17	16	8.6	16	15
Copper, Cu	mg/kg	0.5	6.6	42	9.0	11	14
Lead, Pb	mg/kg	1	14	88	15	38	19
Nickel, Ni	mg/kg	0.5	2.2	3.9	<0.5	3.6	1.9
Zinc, Zn	mg/kg	2	48	88	5.0	31	13

PARAMETER	UOM	LOR	BH108_0.8-0.9	BH110_0.8-0.9	BH111_0.8-0.9	BH114_0.8-0.9
			SOIL	SOIL	SOIL	SOIL
			25/10/2019 SE199313.006	25/10/2019 SE199313.007	25/10/2019 SE199313.008	25/10/2019 SE199313.009
Arsenic, As	mg/kg	1	12	4	4	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.3	<0.3
Chromium, Cr	mg/kg	0.5	19	11	16	15
Copper, Cu	mg/kg	0.5	5.1	15	19	6.0
Lead, Pb	mg/kg	1	48	18	30	13
Nickel, Ni	mg/kg	0.5	1.2	4.6	4.2	1.5
Zinc, Zn	mg/kg	2	11	19	32	5.1

Mercury in Soil [AN312] Tested: 30/10/2019

			BH101_0.6-0.7	BH104_1.0-1.1	BH105_0.6-0.7	BH106_0.7-0.8	BH107_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
PARAMETER	UOM	LOR	SE199313.001	SE199313.002	SE199313.003	SE199313.004	SE199313.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			BH108_0.8-0.9	BH110_0.8-0.9	BH111_0.8-0.9	BH114_0.8-0.9
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019
PARAMETER	UOM	LOR	SE199313.006	SE199313.007	SE199313.008	SE199313.009
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 30/10/2019

PARAMETER	UOM	LOR	BH101_0.6-0.7	BH104_1.0-1.1	BH105_0.6-0.7	BH106_0.7-0.8	BH107_0.7-0.8
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019	25/10/2019
			SE199313.001	SE199313.002	SE199313.003	SE199313.004	SE199313.005
% Moisture	%w/w	1	17.9	14.3	16.1	12.2	18.4

PARAMETER	UOM	LOR	BH108_0.8-0.9	BH110_0.8-0.9	BH111_0.8-0.9	BH114_0.8-0.9
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			25/10/2019	25/10/2019	25/10/2019	25/10/2019
			SE199313.006	SE199313.007	SE199313.008	SE199313.009
% Moisture	%w/w	1	22.5	17.5	22.0	18.4

METHOD

METHODOLOGY SUMMARY

AN002

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

AN040/AN320

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

AN040

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

AN312

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

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

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

AN433

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

FOOTNOTES

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

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

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

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

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

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

Note that in terms of units of radioactivity:

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

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

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

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Order Number **E24421**
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SGS Reference **SE199579 R0**
Date Received 4/11/2019
Date Reported 11/11/2019

COMMENTS

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

SIGNATORIES



Dong LIANG
 Metals/Inorganics Team Leader



Huong CRAWFORD
 Production Manager



Ly Kim HA
 Organic Section Head

VOCs in Water [AN433] Tested: 6/11/2019

PARAMETER	UOM	LOR	BH107.M-1	QD-1	GW-Trip Blank	GW-Trip Spike	QR-1
			WATER - 4/11/2019 SE199579.001	WATER - 4/11/2019 SE199579.002	WATER - 4/11/2019 SE199579.003	WATER - 4/11/2019 SE199579.004	WATER - 4/11/2019 SE199579.005
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	[99%]	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	[100%]	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	[99%]	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	[99%]	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	[101%]	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	-	<1.5
Total BTEX	µg/L	3	<3	<3	<3	-	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	-	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	-	-	-	-
Chloromethane	µg/L	5	<5	-	-	-	-
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	-	-	-	-
Bromomethane	µg/L	10	<10	-	-	-	-
Chloroethane	µg/L	5	<5	-	-	-	-
Trichlorofluoromethane	µg/L	1	<1	-	-	-	-
Acetone (2-propanone)	µg/L	10	<10	-	-	-	-
Iodomethane	µg/L	5	<5	-	-	-	-
1,1-dichloroethene	µg/L	0.5	<0.5	-	-	-	-
Acrylonitrile	µg/L	0.5	<0.5	-	-	-	-
Dichloromethane (Methylene chloride)	µg/L	5	<5	-	-	-	-
Allyl chloride	µg/L	2	<2	-	-	-	-
Carbon disulfide	µg/L	2	<2	-	-	-	-
trans-1,2-dichloroethene	µg/L	0.5	<0.5	-	-	-	-
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	-	-	-	-
1,1-dichloroethane	µg/L	0.5	<0.5	-	-	-	-
Vinyl acetate	µg/L	10	<10	-	-	-	-
MEK (2-butanone)	µg/L	10	<10	-	-	-	-
cis-1,2-dichloroethene	µg/L	0.5	<0.5	-	-	-	-
Bromochloromethane	µg/L	0.5	<0.5	-	-	-	-
Chloroform (THM)	µg/L	0.5	<0.5	-	-	-	-
2,2-dichloropropane	µg/L	0.5	<0.5	-	-	-	-
1,2-dichloroethane	µg/L	0.5	<0.5	-	-	-	-
1,1,1-trichloroethane	µg/L	0.5	<0.5	-	-	-	-
1,1-dichloropropene	µg/L	0.5	<0.5	-	-	-	-
Carbon tetrachloride	µg/L	0.5	<0.5	-	-	-	-
Dibromomethane	µg/L	0.5	<0.5	-	-	-	-
1,2-dichloropropane	µg/L	0.5	<0.5	-	-	-	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	-	-	-	-
2-nitropropane	µg/L	100	<100	-	-	-	-
Bromodichloromethane (THM)	µg/L	0.5	<0.5	-	-	-	-
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	-	-	-	-
cis-1,3-dichloropropene	µg/L	0.5	<0.5	-	-	-	-
trans-1,3-dichloropropene	µg/L	0.5	<0.5	-	-	-	-
1,1,2-trichloroethane	µg/L	0.5	<0.5	-	-	-	-
1,3-dichloropropane	µg/L	0.5	<0.5	-	-	-	-
Dibromochloromethane (THM)	µg/L	0.5	<0.5	-	-	-	-
2-hexanone (MBK)	µg/L	5	<5	-	-	-	-
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	-	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	-	-	-	-
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	-	-	-	-
Chlorobenzene	µg/L	0.5	<0.5	-	-	-	-
Bromoform (THM)	µg/L	0.5	<0.5	-	-	-	-
cis-1,4-dichloro-2-butene	µg/L	1	<1	-	-	-	-
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	-	-	-	-
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	-	-	-	-
1,2,3-trichloropropane	µg/L	0.5	<0.5	-	-	-	-
trans-1,4-dichloro-2-butene	µg/L	1	<1	-	-	-	-

VOCs in Water [AN433] Tested: 6/11/2019 (continued)

PARAMETER	UOM	LOR	BH107.M-1	QD-1	GW-Trip Blank	GW-Trip Spike	QR-1
			WATER	WATER	WATER	WATER	WATER
			4/11/2019 SE199579.001	4/11/2019 SE199579.002	4/11/2019 SE199579.003	4/11/2019 SE199579.004	4/11/2019 SE199579.005
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	-	-	-	-
Bromobenzene	µg/L	0.5	<0.5	-	-	-	-
n-propylbenzene	µg/L	0.5	<0.5	-	-	-	-
2-chlorotoluene	µg/L	0.5	<0.5	-	-	-	-
4-chlorotoluene	µg/L	0.5	<0.5	-	-	-	-
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	-	-	-	-
tert-butylbenzene	µg/L	0.5	<0.5	-	-	-	-
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	-	-	-	-
sec-butylbenzene	µg/L	0.5	<0.5	-	-	-	-
1,3-dichlorobenzene	µg/L	0.5	<0.5	-	-	-	-
1,4-dichlorobenzene	µg/L	0.3	<0.3	-	-	-	-
p-isopropyltoluene	µg/L	0.5	<0.5	-	-	-	-
1,2-dichlorobenzene	µg/L	0.5	<0.5	-	-	-	-
n-butylbenzene	µg/L	0.5	<0.5	-	-	-	-
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	-	-	-	-
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	-	-	-	-
Hexachlorobutadiene	µg/L	0.5	<0.5	-	-	-	-
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	-	-	-	-
Total VOC	µg/L	10	<10	-	-	-	-

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 6/11/2019

PARAMETER	UOM	LOR	BH107.M-1	QD-1	QR-1
			WATER - 4/11/2019 SE199579.001	WATER - 4/11/2019 SE199579.002	WATER - 4/11/2019 SE199579.005
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: 5/11/2019

PARAMETER	UOM	LOR	BH107.M-1	QD-1	QR-1
			WATER - 4/11/2019 SE199579.001	WATER - 4/11/2019 SE199579.002	WATER - 4/11/2019 SE199579.005
TRH C10-C14	µg/L	50	53	<50	<50
TRH C15-C28	µg/L	200	260	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200
TRH >C10-C16	µg/L	60	74	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	74	<60	<60

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 5/11/2019

			BH107.M-1
			WATER
			-
			4/11/2019
			SE199579.001
PARAMETER	UOM	LOR	
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	0.2
Chrysene	µg/L	0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1
Benzo(k)fluoranthene	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
Total PAH (18)	µg/L	1	<1

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 5/11/2019

PARAMETER	UOM	LOR	BH107.M-1	QD-1	QR-1
			WATER - 4/11/2019 SE199579.001	WATER - 4/11/2019 SE199579.002	WATER - 4/11/2019 SE199579.005
Arsenic, As	µg/L	1	<10 †	<10 †	<1
Cadmium, Cd	µg/L	0.1	<10 †	<10 †	<0.1
Chromium, Cr	µg/L	1	<10 †	<10 †	<1
Copper, Cu	µg/L	1	<10 †	<10 †	<1
Lead, Pb	µg/L	1	<10 †	<10 †	<1
Nickel, Ni	µg/L	1	26	35	<1
Zinc, Zn	µg/L	5	92	90	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 5/11/2019

			BH107.M-1	QD-1	QR-1
			WATER	WATER	WATER
			-	-	-
			4/11/2019	4/11/2019	4/11/2019
			SE199579.001	SE199579.002	SE199579.005
PARAMETER	UOM	LOR			
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.
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, in accordance with USEPA 6020A.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

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.		

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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.

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Note that in terms of units of radioactivity:

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

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

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SGS Reference **SE199579A R0**
Date Received 12/11/2019
Date Reported 13/11/2019

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: 12/11/2019

			BH107.M-1
			WATER
			-
			4/11/2019
			SE199579A.001
PARAMETER	UOM	LOR	
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
TRH >C10-C16-Silica	µg/L	60	<60
TRH >C16-C34-Silica	µg/L	500	<500
TRH >C34-C40-Silica	µg/L	500	<500
TRH Sum C10-C36-Silica	µg/L	450	<450
TRH Sum C10-C40-Silica	µg/L	650	<650

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

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		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

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- 1 Bq is equivalent to 27 pCi
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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.

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Site Number 18217

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 The results of the tests, calibrations and/or
 measurements included in this document are traceable
 to Australian/national standards.

Attention: **Emmanuel Woelders**

Report **685152-S**
 Project name **25 GEORGE STREET NORTH STRATHFIELD NSW**
 Project ID **E24421.E02**
 Received Date **Oct 29, 2019**

Client Sample ID			QT1
Sample Matrix			Soil
Eurofins Sample No.			S19-Oc44800
Date Sampled			Oct 25, 2019
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	54
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene ^{N02}	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
Heavy Metals			
Arsenic	2	mg/kg	18
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	39
Copper	5	mg/kg	50
Lead	5	mg/kg	29
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	12
Zinc	5	mg/kg	66
% Moisture	1	%	12

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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

Description	Testing Site	Extracted	Holding Time
Eurofins mgt Suite B6			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Oct 31, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 31, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 31, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 31, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Sydney	Oct 31, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Oct 29, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

Company Name: EI Australia
Address: Suite 6.01, 55 Miller Street
Pyrmont
NSW 2009

Project Name: 25 GEORGE STREET NORTH STRATHFIELD NSW
Project ID: E24421.E02

Order No.:
Report #: 685152
Phone: 02 9516 0722
Fax:

Received: Oct 29, 2019 4:00 PM
Due: Nov 5, 2019
Priority: 5 Day
Contact Name: Emmanuel Woelders

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Moisture Set	Eurofins mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	QT1	Oct 25, 2019		Soil	S19-Oc44800	X	X
Test Counts						1	1

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NC	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	72			70-130	Pass	
TRH C10-C14	%	107			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	79			70-130	Pass	
m&p-Xylenes	%	81			70-130	Pass	
o-Xylene	%	75			70-130	Pass	
Xylenes - Total	%	79			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	117			70-130	Pass	
TRH C6-C10	%	75			70-130	Pass	
TRH >C10-C16	%	106			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	93			70-130	Pass	
Cadmium	%	94			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium			%	96			70-130	Pass	
Copper			%	97			70-130	Pass	
Lead			%	95			70-130	Pass	
Mercury			%	89			70-130	Pass	
Nickel			%	98			70-130	Pass	
Zinc			%	93			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S19-No00745	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S19-No00745	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Oc43521	NCP	%	94			70-130	Pass	
Cadmium	S19-Oc43521	NCP	%	95			70-130	Pass	
Chromium	S19-Oc43521	NCP	%	90			70-130	Pass	
Copper	S19-Oc43521	NCP	%	86			70-130	Pass	
Lead	S19-Oc43521	NCP	%	107			70-130	Pass	
Mercury	S19-Oc43521	NCP	%	86			70-130	Pass	
Nickel	S19-Oc43521	NCP	%	96			70-130	Pass	
Zinc	S19-Oc43521	NCP	%	75			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Oc44800	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S19-Oc44800	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Oc44800	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Oc44800	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Oc44800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Oc44800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Oc44800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Oc44800	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Oc44800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Oc44800	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Oc44800	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Oc44800	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S19-Oc44800	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Oc44800	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Oc44800	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Oc44526	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S19-Oc44526	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Oc44526	NCP	mg/kg	9.2	9.1	1.0	30%	Pass	
Copper	S19-Oc44526	NCP	mg/kg	17	15	17	30%	Pass	
Lead	S19-Oc44526	NCP	mg/kg	53	44	19	30%	Pass	
Mercury	S19-Oc44526	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Nickel	S19-Oc44526	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	S19-Oc44526	NCP	mg/kg	80	66	20	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	S19-Oc44526	NCP	%	3.5	3.1	12	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised By

Alena Bounkeua	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)



Glenn Jackson General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

EI Australia
Suite 6.01, 55 Miller Street
Pymont
NSW 2009



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
 The results of the tests, calibrations and/or
 measurements included in this document are traceable
 to Australian/national standards.

Attention: **Jordan Thomas**

Report **686402-W**
 Project name **25 GEORGE ST NORTH STRATHFIELD**
 Project ID **E24421**
 Received Date **Nov 05, 2019**

Client Sample ID			QT-1
Sample Matrix			Water
Eurofins Sample No.			S19-No06225
Date Sampled			Nov 04, 2019
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene ^{N02}	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	0.005
Cadmium (filtered)	0.0002	mg/L	0.0002
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	0.018
Zinc (filtered)	0.005	mg/L	0.074

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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Description	Testing Site	Extracted	Holding Time
Eurofins mgt Suite B6 (filtered metals)			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Nov 05, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Nov 05, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 05, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 05, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8 filtered	Sydney	Nov 05, 2019	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

Company Name: EI Australia
Address: Suite 6.01, 55 Miller Street
Pyrmont
NSW 2009

Project Name: 25 GEORGE ST NORTH STRATHFIELD
Project ID: E24421

Order No.:
Report #: 686402
Phone: 02 9516 0722
Fax:

Received: Nov 5, 2019 2:10 PM
Due: Nov 12, 2019
Priority: 5 Day
Contact Name: Jordan Thomas

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Eurofins mgt Suite B6 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	QT-1	Nov 04, 2019		Water	S19-No06225	X
Test Counts						1

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- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
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Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
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CP	Client Parent - QC was performed on samples pertaining to this report
NC	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	99			70-130	Pass	
TRH C10-C14	%	127			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	79			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	82			70-130	Pass	
m&p-Xylenes	%	82			70-130	Pass	
o-Xylene	%	80			70-130	Pass	
Xylenes - Total	%	81			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
TRH >C10-C16	%	127			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	98			70-130	Pass	
Cadmium (filtered)	%	97			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium (filtered)			%	101			70-130	Pass	
Copper (filtered)			%	103			70-130	Pass	
Lead (filtered)			%	104			70-130	Pass	
Mercury (filtered)			%	96			70-130	Pass	
Nickel (filtered)			%	103			70-130	Pass	
Zinc (filtered)			%	96			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-No06946	NCP	%	79			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-No06946	NCP	%	95			70-130	Pass	
Toluene	S19-No06946	NCP	%	101			70-130	Pass	
Ethylbenzene	S19-No06946	NCP	%	101			70-130	Pass	
m&p-Xylenes	S19-No06946	NCP	%	102			70-130	Pass	
o-Xylene	S19-No06946	NCP	%	97			70-130	Pass	
Xylenes - Total	S19-No06946	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-No06946	NCP	%	119			70-130	Pass	
TRH C6-C10	S19-No06946	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S19-No06243	NCP	%	100			70-130	Pass	
Cadmium (filtered)	S19-No06243	NCP	%	97			70-130	Pass	
Chromium (filtered)	S19-No06243	NCP	%	99			70-130	Pass	
Copper (filtered)	S19-No06243	NCP	%	95			70-130	Pass	
Lead (filtered)	S19-No06243	NCP	%	101			70-130	Pass	
Mercury (filtered)	S19-No06243	NCP	%	100			70-130	Pass	
Nickel (filtered)	S19-No06243	NCP	%	99			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-No06945	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-No06945	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S19-No06945	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S19-No06945	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S19-No06945	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S19-No06945	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S19-No06945	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-No06945	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S19-No06945	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S19-No07471	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	S19-No07471	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S19-No07471	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S19-No07471	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Lead (filtered)	S19-No07471	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury (filtered)	S19-No07471	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	S19-No07471	NCP	mg/L	0.001	0.001	5.0	30%	Pass
Zinc (filtered)	S19-No07471	NCP	mg/L	0.020	0.019	8.0	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised By

Alena Bounkeua	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)



Glenn Jackson General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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Appendix G – Laboratory QA/QC Policies and DQOs



STATEMENT OF QA/QC PERFORMANCE

SE199312 R0

CLIENT DETAILS

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Project **E24421.E02 25 George St Nth Strathfield**
Order Number **E24421.E02**
Samples 21

LABORATORY DETAILS

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SGS Reference **SE199312 R0**
Date Received 28 Oct 2019
Date Reported 04 Nov 2019

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	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

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.

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186763	25 Oct 2019	28 Oct 2019	24 Oct 2020	01 Nov 2019	24 Oct 2020	04 Nov 2019

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
QR-1	SE199312.001	LB186404	25 Oct 2019	28 Oct 2019	22 Nov 2019	29 Oct 2019	22 Nov 2019	29 Oct 2019

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019
QD1	SE199312.021	LB186562	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	01 Nov 2019

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Soil trip blank	SE199312.002	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH101_0.3-0.4	SE199312.004	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019

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)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH115_0.2-0.3	SE199312.018	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019
QD1	SE199312.021	LB186436	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	03 Nov 2019	01 Nov 2019

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019

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
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	03 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

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
BH101_0.3-0.4	SE199312.004	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019
QD1	SE199312.021	LB186558	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	01 Nov 2019

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
QR-1	SE199312.001	LB186456	25 Oct 2019	28 Oct 2019	22 Apr 2020	29 Oct 2019	22 Apr 2020	30 Oct 2019

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
BH101_0.3-0.4	SE199312.004	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019

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)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH107_0.3-0.4	SE199312.010	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
QD1	SE199312.021	LB186435	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-ENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR-1	SE199312.001	LB186416	25 Oct 2019	28 Oct 2019	01 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019

VOC's in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Soil trip blank	SE199312.002	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
Soil trip Spike	SE199312.003	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH101_0.3-0.4	SE199312.004	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH113_0.2-0.3	SE199312.016	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

VOCs in Water

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR-1	SE199312.001	LB186554	25 Oct 2019	28 Oct 2019	01 Nov 2019	30 Oct 2019	09 Dec 2019	31 Oct 2019

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Soil trip blank	SE199312.002	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
Soil trip Spike	SE199312.003	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH101_0.3-0.4	SE199312.004	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH102_0.3-0.4	SE199312.005	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH103_0.2-0.3	SE199312.006	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH104_0.2-0.3	SE199312.007	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH105_0.2-0.3	SE199312.008	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH106_0.2-0.3	SE199312.009	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH107_0.3-0.4	SE199312.010	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH108_0.0-0.1	SE199312.011	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH109_0.1-0.2	SE199312.012	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH110_0.3-0.4	SE199312.013	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH111_0.2-0.3	SE199312.014	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH112_0.2-0.3	SE199312.015	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

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)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH113_0.2-0.3	SE199312.016	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH114_0.2-0.3	SE199312.017	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH115_0.2-0.3	SE199312.018	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH116_0.2-0.3	SE199312.019	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
BH117_0.2-0.3	SE199312.020	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019
QD1	SE199312.021	LB186434	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	04 Nov 2019

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR-1	SE199312.001	LB186554	25 Oct 2019	28 Oct 2019	01 Nov 2019	30 Oct 2019	09 Dec 2019	31 Oct 2019

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	93
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	95
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	87
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	83
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	89
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	89
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	83
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	85
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	81
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	87
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	81
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	90
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	91
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	99

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	89
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	90
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	92
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	90
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	100
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	92
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	94
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	89
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	96
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	98
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	88
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	97
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	94
d14-p-terphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	88
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	92
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	92
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	98
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	94
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	97
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	95
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	99
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	95
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	106
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	94
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	103
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	101
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	93
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	93
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	103
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	70 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	70 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	70 - 130%	89
	BH104_0.2-0.3	SE199312.007	%	70 - 130%	90
	BH105_0.2-0.3	SE199312.008	%	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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH106_0.2-0.3	SE199312.009	%	70 - 130%	90
	BH107_0.3-0.4	SE199312.010	%	70 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	70 - 130%	100
	BH109_0.1-0.2	SE199312.012	%	70 - 130%	92
	BH110_0.3-0.4	SE199312.013	%	70 - 130%	94
	BH111_0.2-0.3	SE199312.014	%	70 - 130%	89
	BH112_0.2-0.3	SE199312.015	%	70 - 130%	96
	BH113_0.2-0.3	SE199312.016	%	70 - 130%	98
	BH114_0.2-0.3	SE199312.017	%	70 - 130%	88
	BH115_0.2-0.3	SE199312.018	%	70 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	70 - 130%	97
	BH117_0.2-0.3	SE199312.020	%	70 - 130%	94
d14-p-terphenyl (Surrogate)	BH101_0.3-0.4	SE199312.004	%	70 - 130%	88
	BH102_0.3-0.4	SE199312.005	%	70 - 130%	92
	BH103_0.2-0.3	SE199312.006	%	70 - 130%	92
	BH104_0.2-0.3	SE199312.007	%	70 - 130%	98
	BH105_0.2-0.3	SE199312.008	%	70 - 130%	94
	BH106_0.2-0.3	SE199312.009	%	70 - 130%	97
	BH107_0.3-0.4	SE199312.010	%	70 - 130%	95
	BH108_0.0-0.1	SE199312.011	%	70 - 130%	99
	BH109_0.1-0.2	SE199312.012	%	70 - 130%	95
	BH110_0.3-0.4	SE199312.013	%	70 - 130%	106
	BH111_0.2-0.3	SE199312.014	%	70 - 130%	94
	BH112_0.2-0.3	SE199312.015	%	70 - 130%	103
	BH113_0.2-0.3	SE199312.016	%	70 - 130%	101
	BH114_0.2-0.3	SE199312.017	%	70 - 130%	93
	BH115_0.2-0.3	SE199312.018	%	70 - 130%	93
	BH116_0.2-0.3	SE199312.019	%	70 - 130%	103
d5-nitrobenzene (Surrogate)	BH101_0.3-0.4	SE199312.004	%	70 - 130%	97
	BH102_0.3-0.4	SE199312.005	%	70 - 130%	96
	BH103_0.2-0.3	SE199312.006	%	70 - 130%	99
	BH104_0.2-0.3	SE199312.007	%	70 - 130%	96
	BH105_0.2-0.3	SE199312.008	%	70 - 130%	98
	BH106_0.2-0.3	SE199312.009	%	70 - 130%	95
	BH107_0.3-0.4	SE199312.010	%	70 - 130%	98
	BH108_0.0-0.1	SE199312.011	%	70 - 130%	106
	BH109_0.1-0.2	SE199312.012	%	70 - 130%	94
	BH110_0.3-0.4	SE199312.013	%	70 - 130%	99
	BH111_0.2-0.3	SE199312.014	%	70 - 130%	97
	BH112_0.2-0.3	SE199312.015	%	70 - 130%	97
	BH113_0.2-0.3	SE199312.016	%	70 - 130%	94
	BH114_0.2-0.3	SE199312.017	%	70 - 130%	98
	BH115_0.2-0.3	SE199312.018	%	70 - 130%	97
	BH116_0.2-0.3	SE199312.019	%	70 - 130%	98
	BH117_0.2-0.3	SE199312.020	%	70 - 130%	95

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	86
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	93
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	95
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	87
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	83
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	89
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	89
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	83
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	85
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	81
	BH112_0.2-0.3	SE199312.015	%	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.

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

PCBs in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH113_0.2-0.3	SE199312.016	%	60 - 130%	81
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	90
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	91
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	99

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	Soil trip blank	SE199312.002	%	60 - 130%	90
	Soil trip Spike	SE199312.003	%	60 - 130%	97
	BH101_0.3-0.4	SE199312.004	%	60 - 130%	82
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	80
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	76
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	85
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	85
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	82
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	78
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	77
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	80
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	84
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	76
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	80
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	77
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	78
	QD1	SE199312.021	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	Soil trip blank	SE199312.002	%	60 - 130%	92
	Soil trip Spike	SE199312.003	%	60 - 130%	85
	BH101_0.3-0.4	SE199312.004	%	60 - 130%	125
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	83
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	79
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	82
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	88
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	92
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	79
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	86
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	83
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	76
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	83
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	74
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	78
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	86
	QD1	SE199312.021	%	60 - 130%	80
d8-toluene (Surrogate)	Soil trip blank	SE199312.002	%	60 - 130%	85
	Soil trip Spike	SE199312.003	%	60 - 130%	84
	BH101_0.3-0.4	SE199312.004	%	60 - 130%	76
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	74
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	86
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	86
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	76
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	84
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	77
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	75

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

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

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	84
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	76
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	71
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	76
	QD1	SE199312.021	%	60 - 130%	75

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	94
d4-1,2-dichloroethane (Surrogate)	QR-1	SE199312.001	%	40 - 130%	117
d8-toluene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	105

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	82
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	80
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	76
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	85
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	85
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	82
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	78
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	77
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	80
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	84
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	76
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	80
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	83
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	77
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	78
	QD1	SE199312.021	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	125
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	83
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	79
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	82
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	88
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	92
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	90
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	79
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	86
	BH110_0.3-0.4	SE199312.013	%	60 - 130%	83
	BH111_0.2-0.3	SE199312.014	%	60 - 130%	76
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	83
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	85
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	74
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	78
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	86
	QD1	SE199312.021	%	60 - 130%	80
d8-toluene (Surrogate)	BH101_0.3-0.4	SE199312.004	%	60 - 130%	76
	BH102_0.3-0.4	SE199312.005	%	60 - 130%	82
	BH103_0.2-0.3	SE199312.006	%	60 - 130%	74
	BH104_0.2-0.3	SE199312.007	%	60 - 130%	76
	BH105_0.2-0.3	SE199312.008	%	60 - 130%	82
	BH106_0.2-0.3	SE199312.009	%	60 - 130%	86
	BH107_0.3-0.4	SE199312.010	%	60 - 130%	86
	BH108_0.0-0.1	SE199312.011	%	60 - 130%	76
	BH109_0.1-0.2	SE199312.012	%	60 - 130%	84
	BH110_0.3-0.4	SE199312.013	%	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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)**Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH111_0.2-0.3	SE199312.014	%	60 - 130%	75
	BH112_0.2-0.3	SE199312.015	%	60 - 130%	82
	BH113_0.2-0.3	SE199312.016	%	60 - 130%	84
	BH114_0.2-0.3	SE199312.017	%	60 - 130%	78
	BH115_0.2-0.3	SE199312.018	%	60 - 130%	76
	BH116_0.2-0.3	SE199312.019	%	60 - 130%	71
	BH117_0.2-0.3	SE199312.020	%	60 - 130%	76
	QD1	SE199312.021	%	60 - 130%	75

Volatile Petroleum Hydrocarbons in Water**Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	94
d4-1,2-dichloroethane (Surrogate)	QR-1	SE199312.001	%	60 - 130%	117
d8-toluene (Surrogate)	QR-1	SE199312.001	%	40 - 130%	105

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB186404.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186562.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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)	%	-	83

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	93
	d14-p-terphenyl (Surrogate)	%	-	96
Surrogates				

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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)	%	-	95
	2-fluorobiphenyl (Surrogate)	%	-	93
	d14-p-terphenyl (Surrogate)	%	-	96

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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)	%	-	83

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

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

Sample Number	Parameter	Units	LOR	Result
LB186558.001	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

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB186456.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186435.001	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

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB186416.001	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

VOC's in Soil

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

Sample Number	Parameter	Units	LOR
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VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Number		Parameter	Units	LOR	Result
LB186434.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
	Halogenated Aliphatics	1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
		Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
		Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10

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VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB186434.001	Oxygenated Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86
		d8-toluene (Surrogate)	%	-	81
		Bromofluorobenzene (Surrogate)	%	-	81
	Totals	Total BTEX	mg/kg	0.6	<0.6
		Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB186554.001	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)	%	-	106
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	93

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB186434.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB186554.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	106
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	93

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

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

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

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199323.003	LB186404.013	Mercury	µg/L	0.0001	<0.0001	0.0000	200	29

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186562.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE199312.021	LB186562.023	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 %
SE199312.012	LB186436.011	% Moisture	%w/w	1	3.2	3.6	59	12
SE199312.021	LB186436.021	% Moisture	%w/w	1	16.3	16.0	36	2

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.025	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	mg/kg	-	0.13	0.137	30	7
SE199312.019	LB186435.024	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
		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

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

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

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

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

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.019	LB186435.024	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	0.131	30	4	

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.014	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
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
SE199312.019	LB186435.024	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	0.0130225630	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
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4775105968	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4981031428	30	3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.014	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

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.014	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						
SE199312.019	LB186435.024	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		Naphthalene	mg/kg	0.1	<0.1	0.0008768168	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0.0005474979	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0.0010587016	200	0
		Fluorene	mg/kg	0.1	<0.1	0.0005211506	200	0
		Phenanthrene	mg/kg	0.1	<0.1	0.0031501635	200	0
		Anthracene	mg/kg	0.1	<0.1	0.0029365231	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Pyrene	mg/kg	0.1	<0.1	0.0007267306	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0061718718	200	0
		Chrysene	mg/kg	0.1	<0.1	0.0067932554	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	0.0063974227	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	-	0.5	0.4858275667	30	1
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4775105968	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4981031428	30	3

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.025	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
SE199312.019	LB186435.024	Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.137	30	7
		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
SE199312.019	LB186435.024	Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0

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

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

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

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

PCBs in Soil (continued)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.019	LB186435.024	Surrogates Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.131	30	4

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186558.014	Arsenic, As	mg/kg	1	3	4	57	24
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	17	19	33	13
		Copper, Cu	mg/kg	0.5	12	12	34	2
		Nickel, Ni	mg/kg	0.5	3.6	3.6	44	2
		Lead, Pb	mg/kg	1	16	17	36	8
SE199312.021	LB186558.023	Zinc, Zn	mg/kg	2	64	68	33	7
		Arsenic, As	mg/kg	1	4	4	54	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	13	16	33	17
		Copper, Cu	mg/kg	0.5	27	18	32	40 @
		Nickel, Ni	mg/kg	0.5	4.3	3.6	43	19
		Lead, Pb	mg/kg	1	28	24	34	18
		Zinc, Zn	mg/kg	2	100	90	32	14

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]JAN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199322.009	LB186456.011	Arsenic, As	µg/L	1	-0.007	-0.013	200	0
		Cadmium, Cd	µg/L	0.1	0	0.001	200	0
		Chromium, Cr	µg/L	1	0.033	0.012	200	0
		Copper, Cu	µg/L	1	-0.001	-0.002	200	0
		Lead, Pb	µg/L	1	0.02	0.024	200	0
		Nickel, Ni	µg/L	1	0.091	0.063	200	0
		Zinc, Zn	µg/L	5	3.182	3.361	168	0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.013	LB186435.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	340	340	43	1
		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	340	340	62	1
		TRH >C10-C40 Total (F bands)	mg/kg	210	330	340	93	2
		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	330	340	57	2
SE199312.019	LB186435.024	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
		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

VOC's in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.011	LB186434.014	Fumigants						
		2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
		1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated						
		Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics						
		Chloromethane	mg/kg	1	<1	<1	200	0
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
		Bromomethane	mg/kg	1	<1	<1	200	0

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

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

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

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

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.011	LB186434.014	Halogenated	Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
		Aliphatics	Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	8.2	50	4
			d8-toluene (Surrogate)	mg/kg	-	7.6	7.7	50	2

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

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

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VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.011	LB186434.014	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	7.7	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
			Total VOC*	mg/kg	24	<24	<24	200	0
			Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	200	0
			Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0
			Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0
		SE199312.021	LB186434.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1
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	-	8.0	8.4	50	5
	d8-toluene (Surrogate)			mg/kg	-	7.5	7.9	50	6
	Bromofluorobenzene (Surrogate)			mg/kg	-	8.0	8.5	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

VOCs in Water

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199291.004	LB186554.028	Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Aromatic	Toluene	µg/L	0.5	<0.5	<0.5	200
			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	-	12.7	12.8	30	1
			d8-toluene (Surrogate)	µg/L	-	11.7	9.5	30	21
			Bromofluorobenzene (Surrogate)	µg/L	-	9.2	9.2	30	1
		SE199344.007	LB186554.029	Monocyclic	Benzene	µg/L	0.5	0	0
Aromatic	Toluene				µg/L	0.5	0	0	200
	Ethylbenzene			µg/L	0.5	0	0	200	0
	m/p-xylene			µg/L	1	0	0	200	0
	o-xylene			µg/L	0.5	0	0	200	0
Polycyclic	Naphthalene			µg/L	0.5	0	0	200	0
Surrogates	d4-1,2-dichloroethane (Surrogate)			µg/L	-	10.2774709262	1.5422584815	30	12
	d8-toluene (Surrogate)			µg/L	-	10.0766628628	0.0485145978	30	22
	Bromofluorobenzene (Surrogate)			µg/L	-	9.5001918535	9.0520447467	30	5

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199312.011	LB186434.014	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	8.2	30	4
		d8-toluene (Surrogate)	mg/kg	-	7.6	7.7	30	2
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	7.7	30	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
	TRH C6-C10 minus BTEX (F1)		mg/kg	25	<25	<25	200	0
	SE199312.021	LB186434.025	TRH C6-C10	mg/kg	25	<25	<25	200
TRH C6-C9			mg/kg	20	<20	<20	200	0
Surrogates		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	8.4	30	5
		d8-toluene (Surrogate)	mg/kg	-	7.5	7.9	30	6
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	8.5	30	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
TRH C6-C10 minus BTEX (F1)			mg/kg	25	<25	<25	200	0

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

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

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

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

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199344.007	LB186554.024	TRH C6-C10	µg/L	50	13.654124431	0	200	0
		TRH C6-C9	µg/L	40	12.812747233	0	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.277470926	1.542258481	30	12
		d8-toluene (Surrogate)	µg/L	-	10.076662862	0.0485145978	30	22
		Bromofluorobenzene (Surrogate)	µg/L	-	9.50019185359	0.0520447467	30	5
		VPH F Bands						
		Benzene (F0)	µg/L	0.5	0	0	200	0
		TRH C6-C10 minus BTEX (F1)	µg/L	50	13.654124431	0	200	0

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

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

Mercury in Soil

Method: ME-(AU)-[ENV]JAN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186562.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	104

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	124
	Aldrin	mg/kg	0.1	0.3	0.2	60 - 140	125
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	125
	Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	124
	Endrin	mg/kg	0.2	0.2	0.2	60 - 140	124
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	114
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	87

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Dichlorvos	mg/kg	0.5	1.2	2	60 - 140	62
	Diazinon (Dimpylate)	mg/kg	0.5	1.4	2	60 - 140	71
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	83
	Ethion	mg/kg	0.2	1.4	2	60 - 140	70
Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Naphthalene	mg/kg	0.1	4.0	4	60 - 140	100
	Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98
	Acenaphthene	mg/kg	0.1	3.8	4	60 - 140	94
	Phenanthrene	mg/kg	0.1	4.2	4	60 - 140	104
	Anthracene	mg/kg	0.1	3.9	4	60 - 140	98
	Fluoranthene	mg/kg	0.1	3.7	4	60 - 140	93
	Pyrene	mg/kg	0.1	4.1	4	60 - 140	103
	Benzo(a)pyrene	mg/kg	0.1	4.6	4	60 - 140	116
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186435.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	110

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186558.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	4.3	4.62	80 - 120	94
	Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	98
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	96	89.9	80 - 120	107
	Zinc, Zn	mg/kg	2	290	273	80 - 120	104

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]JAN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186456.002	Arsenic, As	µg/L	1	19	20	80 - 120	95
	Cadmium, Cd	µg/L	0.1	21	20	80 - 120	105
	Chromium, Cr	µg/L	1	22	20	80 - 120	109
	Copper, Cu	µg/L	1	22	20	80 - 120	110
	Lead, Pb	µg/L	1	21	20	80 - 120	107
	Nickel, Ni	µg/L	1	21	20	80 - 120	106
	Zinc, Zn	µg/L	5	22	20	80 - 120	109

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB186435.002	TRH C10-C14	mg/kg	20	46	40	60 - 140	115	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	108	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	93	
	TRH F Bands	TRH >C10-C16	mg/kg	25	45	40	60 - 140	113
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	103
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	95

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB186416.002	TRH C10-C14	µg/L	50	860	1200	60 - 140	72	
	TRH C15-C28	µg/L	200	1100	1200	60 - 140	90	
	TRH C29-C36	µg/L	200	1200	1200	60 - 140	100	
	TRH F Bands	TRH >C10-C16	µg/L	60	980	1200	60 - 140	82
		TRH >C16-C34 (F3)	µg/L	500	1300	1200	60 - 140	105
		TRH >C34-C40 (F4)	µg/L	500	530	600	60 - 140	89

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186434.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	4.6	5	60 - 140	91
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	5.2	5	60 - 140	104
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	3.6	5	60 - 140	72
	Halogenated	Chlorobenzene	mg/kg	0.1	5.1	5	60 - 140	103
	Monocyclic	Benzene	mg/kg	0.1	4.3	5	60 - 140	85
	Aromatic	Toluene	mg/kg	0.1	4.0	5	60 - 140	81
		Ethylbenzene	mg/kg	0.1	4.3	5	60 - 140	86
		m/p-xylene	mg/kg	0.2	8.6	10	60 - 140	86
		o-xylene	mg/kg	0.1	4.3	5	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
		d8-toluene (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	70 - 130	96
	Trihalomethan	Chloroform	mg/kg	0.1	4.7	5	60 - 140	95

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186554.002	Monocyclic	Benzene	µg/L	0.5	45	45.45	60 - 140	99
	Aromatic	Toluene	µg/L	0.5	50	45.45	60 - 140	110
		Ethylbenzene	µg/L	0.5	52	45.45	60 - 140	115
		m/p-xylene	µg/L	1	100	90.9	60 - 140	115
		o-xylene	µg/L	0.5	50	45.45	60 - 140	111
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	11.2	10	60 - 140	112
		d8-toluene (Surrogate)	µg/L	-	9.8	10	70 - 130	98
		Bromofluorobenzene (Surrogate)	µg/L	-	10.4	10	70 - 130	104

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186434.002	TRH C6-C10	mg/kg	25	75	92.5	60 - 140	81
	TRH C6-C9	mg/kg	20	68	80	60 - 140	85
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
	Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	70 - 130	96
VPH F Bands	TRH C6-C10 minus BTEX (F1)	ma/ka	25	49	62.5	60 - 140	79

Volatile Petroleum Hydrocarbons in Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186554.002	TRH C6-C10	µg/L	50	700	946.63	60 - 140	74
	TRH C6-C9	µg/L	40	600	818.71	60 - 140	73
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	µg/L	-	11.2	10	60 - 140	112
	d8-toluene (Surrogate)	µg/L	-	9.8	10	70 - 130	98
	Bromofluorobenzene (Surrogate)	µg/L	-	10.4	10	70 - 130	104
VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	400	639.67	60 - 140	63

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

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Porth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199288.001	LB186404.004	Mercury	mg/L	0.0001	0.0074	<0.0001	0.008	93

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186562.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	99

OC Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	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	103
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	102
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	100
		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	99
		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	91
		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	-	0.13	0.13	-	86

OP Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	Dichlorvos	mg/kg	0.5	1.4	<0.5	2	69
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Diazinon (Dimpylate)	mg/kg	0.5	1.4	<0.5	2	69
		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	1.6	<0.2	2	80
		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	1.3	<0.2	2	66
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		Total OP Pesticides*	mg/kg	1.7	5.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	93
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	91

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	Naphthalene	mg/kg	0.1	4.1	<0.1	4	103
		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	102
		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	4.2	<0.1	4	105
		Anthracene	mg/kg	0.1	4.0	<0.1	4	100
		Fluoranthene	mg/kg	0.1	3.8	<0.1	4	94
		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	4.7	<0.1	4	117
		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	4.7	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.8	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.8	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	33	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	99
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	93
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	91

PCBs in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186435.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.5	<0.2	0.4	116
		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	-	81

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

Method: ME-(AU)-[ENV]JAN40/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199312.004	LB186558.004	Arsenic, As	mg/kg	1	60	10	50	101
		Cadmium, Cd	mg/kg	0.3	47	0.3	50	94
		Chromium, Cr	mg/kg	0.5	56	7.4	50	98
		Copper, Cu	mg/kg	0.5	55	3.6	50	103
		Nickel, Ni	mg/kg	0.5	49	2.1	50	94
		Lead, Pb	mg/kg	1	72	16	50	111
		Zinc, Zn	mg/kg	2	85	20	50	130

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]JAN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199288.001	LB186456.004	Arsenic, As	µg/L	1	26	4	20	111
		Cadmium, Cd	µg/L	0.1	22	0.2	20	111
		Chromium, Cr	µg/L	1	22	<1	20	107
		Copper, Cu	µg/L	1	40	19	20	107
		Lead, Pb	µg/L	1	31	8	20	115
		Nickel, Ni	µg/L	1	23	3	20	100
		Zinc, Zn	µg/L	5	83	61	20	111

TRH (Total Recoverable Hydrocarbons) in Soil

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

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE199312.004	LB186435.025	TRH C10-C14	mg/kg	20	<20	40	85
		TRH C15-C28	mg/kg	45	<45	40	90
		TRH C29-C36	mg/kg	45	<45	40	78
		TRH C37-C40	mg/kg	100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands					
		TRH >C10-C16	mg/kg	25	<25	40	83
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%	
SE199312.004	LB186434.029	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	-	-	
			1,2-dichloropropane	mg/kg	0.1	<0.1	-	-	
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	-	
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	-	
			Aliphatics	Chloromethane	mg/kg	1	<1	-	-
		Vinyl chloride (Chloroethene)		mg/kg	0.1	<0.1	-	-	
		Bromomethane		mg/kg	1	<1	-	-	
		Chloroethane		mg/kg	1	<1	-	-	
		Trichlorofluoromethane		mg/kg	1	<1	-	-	
		Iodomethane		mg/kg	5	<5	-	-	
		1,1-dichloroethene		mg/kg	0.1	<0.1	5	86	
		Dichloromethane (Methylene chloride)		mg/kg	0.5	<0.5	-	-	
		Allyl chloride		mg/kg	0.1	<0.1	-	-	
		trans-1,2-dichloroethene		mg/kg	0.1	<0.1	-	-	
		1,1-dichloroethane		mg/kg	0.1	<0.1	-	-	
		cis-1,2-dichloroethene		mg/kg	0.1	<0.1	-	-	
		Bromochloromethane		mg/kg	0.1	<0.1	-	-	
		1,2-dichloroethane		mg/kg	0.1	<0.1	5	94	
		1,1,1-trichloroethane		mg/kg	0.1	<0.1	-	-	
		1,1-dichloropropene		mg/kg	0.1	<0.1	-	-	
		Carbon tetrachloride		mg/kg	0.1	<0.1	-	-	
		Dibromomethane		mg/kg	0.1	<0.1	-	-	
		Trichloroethene (Trichloroethylene -TCE)		mg/kg	0.1	<0.1	5	66	
		1,1,2-trichloroethane		mg/kg	0.1	<0.1	-	-	
		1,3-dichloropropane		mg/kg	0.1	<0.1	-	-	
		Tetrachloroethene (Perchloroethylene,PCE)		mg/kg	0.1	<0.1	-	-	
		1,1,1,2-tetrachloroethane		mg/kg	0.1	<0.1	-	-	
		cis-1,4-dichloro-2-butene		mg/kg	1	<1	-	-	
		1,1,2,2-tetrachloroethane		mg/kg	0.1	<0.1	-	-	
		1,2,3-trichloropropane		mg/kg	0.1	<0.1	-	-	
		trans-1,4-dichloro-2-butene		mg/kg	1	<1	-	-	
		1,2-dibromo-3-chloropropane		mg/kg	0.1	<0.1	-	-	
		Hexachlorobutadiene	mg/kg	0.1	<0.1	-	-		
		Halogenated	Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	5	95
				Bromobenzene	mg/kg	0.1	<0.1	-	-
		2-chlorotoluene		mg/kg	0.1	<0.1	-	-	
		4-chlorotoluene		mg/kg	0.1	<0.1	-	-	
		1,3-dichlorobenzene		mg/kg	0.1	<0.1	-	-	
		1,4-dichlorobenzene		mg/kg	0.1	<0.1	-	-	
		1,2-dichlorobenzene		mg/kg	0.1	<0.1	-	-	
		1,2,4-trichlorobenzene		mg/kg	0.1	<0.1	-	-	
		1,2,3-trichlorobenzene		mg/kg	0.1	<0.1	-	-	
		Monocyclic Aromatic		Benzene	mg/kg	0.1	<0.1	5	93
			Toluene	mg/kg	0.1	<0.1	5	97	
			Ethylbenzene	mg/kg	0.1	<0.1	5	94	
			m/p-xylene	mg/kg	0.2	<0.2	10	93	

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

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

VOC's in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE199312.004	LB186434.029	Monocyclic	o-xylene	mg/kg	0.1	<0.1	5	92
			Aromatic	Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	-	
		n-propylbenzene	mg/kg	0.1	<0.1	-	-	
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	-	
		tert-butylbenzene	mg/kg	0.1	<0.1	-	-	
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	-	
		sec-butylbenzene	mg/kg	0.1	<0.1	-	-	
		p-isopropyltoluene	mg/kg	0.1	<0.1	-	-	
		n-butylbenzene	mg/kg	0.1	<0.1	-	-	
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	-	-
		Compounds	2-nitropropane	mg/kg	10	<10	-	-
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	-	-
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	-
			Vinyl acetate	mg/kg	10	<10	-	-
			MEK (2-butanone)	mg/kg	10	<10	-	-
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	-
			2-hexanone (MBK)	mg/kg	5	<5	-	-
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	-	-
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10	79
			d8-toluene (Surrogate)	mg/kg	-	7.6	10	84
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	10	92
		Totals	Total Xylenes	mg/kg	0.3	<0.3	-	-
			Total BTEX	mg/kg	0.6	<0.6	-	-
			Total VOC*	mg/kg	24	<24	-	-
			Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	-	-
			Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-
			Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	5	86
			Bromodichloromethane	mg/kg	0.1	<0.1	-	-
			Chlorodibromomethane	mg/kg	0.1	<0.1	-	-
			Bromoform	mg/kg	0.1	<0.1	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE199312.004	LB186434.028	TRH C6-C10	mg/kg	25	<25	92.5	77	
		TRH C6-C9	mg/kg	20	<20	80	84	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.5	10	84
			d8-toluene (Surrogate)	mg/kg	-	7.6	10	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	-	98
		VPH F	Benzene (F0)	mg/kg	0.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	62.5	75

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE199344.002	LB186554.030	TRH C6-C10	µg/L	50	<50	13.50103507103	946.63	78	
		TRH C6-C9	µg/L	40	<40	13.01904548610	818.71	75	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	11.34389814172	-	114
			d8-toluene (Surrogate)	µg/L	-	0.0	10.35874084458	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	9.98811181960	-	105
		VPH F	Benzene (F0)	µg/L	0.5	<0.50	0	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	13.50103507103	639.67	67

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

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

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

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

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

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STATEMENT OF QA/QC PERFORMANCE

SE199313 R0

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Order Number **E24421.E02**
Samples 9

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SGS Reference **SE199313 R0**
Date Received 28 Oct 2019
Date Reported 04 Nov 2019

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	2 items
Matrix Spike	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	3 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	2 items

SAMPLE SUMMARY

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.6-0.7	SE199313.001	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH104_1.0-1.1	SE199313.002	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH105_0.6-0.7	SE199313.003	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH106_0.7-0.8	SE199313.004	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH107_0.7-0.8	SE199313.005	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH108_0.8-0.9	SE199313.006	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH110_0.8-0.9	SE199313.007	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH111_0.8-0.9	SE199313.008	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019
BH114_0.8-0.9	SE199313.009	LB186563	25 Oct 2019	28 Oct 2019	22 Nov 2019	30 Oct 2019	22 Nov 2019	04 Nov 2019

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.6-0.7	SE199313.001	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH104_1.0-1.1	SE199313.002	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH105_0.6-0.7	SE199313.003	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH106_0.7-0.8	SE199313.004	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH107_0.7-0.8	SE199313.005	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH108_0.8-0.9	SE199313.006	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH110_0.8-0.9	SE199313.007	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH111_0.8-0.9	SE199313.008	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019
BH114_0.8-0.9	SE199313.009	LB186540	25 Oct 2019	28 Oct 2019	08 Nov 2019	30 Oct 2019	04 Nov 2019	31 Oct 2019

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
BH101_0.6-0.7	SE199313.001	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH104_1.0-1.1	SE199313.002	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH105_0.6-0.7	SE199313.003	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH106_0.7-0.8	SE199313.004	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH107_0.7-0.8	SE199313.005	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH108_0.8-0.9	SE199313.006	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH110_0.8-0.9	SE199313.007	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH111_0.8-0.9	SE199313.008	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019
BH114_0.8-0.9	SE199313.009	LB186486	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	01 Nov 2019

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
BH101_0.6-0.7	SE199313.001	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH104_1.0-1.1	SE199313.002	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH105_0.6-0.7	SE199313.003	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH106_0.7-0.8	SE199313.004	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH107_0.7-0.8	SE199313.005	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH108_0.8-0.9	SE199313.006	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH110_0.8-0.9	SE199313.007	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH111_0.8-0.9	SE199313.008	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019
BH114_0.8-0.9	SE199313.009	LB186559	25 Oct 2019	28 Oct 2019	22 Apr 2020	30 Oct 2019	22 Apr 2020	04 Nov 2019

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.6-0.7	SE199313.001	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH104_1.0-1.1	SE199313.002	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH105_0.6-0.7	SE199313.003	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH106_0.7-0.8	SE199313.004	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH107_0.7-0.8	SE199313.005	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH108_0.8-0.9	SE199313.006	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH110_0.8-0.9	SE199313.007	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH111_0.8-0.9	SE199313.008	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH114_0.8-0.9	SE199313.009	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.6-0.7	SE199313.001	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH104_1.0-1.1	SE199313.002	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019

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)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH105_0.6-0.7	SE199313.003	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH106_0.7-0.8	SE199313.004	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH107_0.7-0.8	SE199313.005	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH108_0.8-0.9	SE199313.006	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH110_0.8-0.9	SE199313.007	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH111_0.8-0.9	SE199313.008	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019
BH114_0.8-0.9	SE199313.009	LB186485	25 Oct 2019	28 Oct 2019	08 Nov 2019	29 Oct 2019	08 Dec 2019	31 Oct 2019

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.6-0.7	SE199313.001	%	70 - 130%	110
	BH104_1.0-1.1	SE199313.002	%	70 - 130%	109
	BH105_0.6-0.7	SE199313.003	%	70 - 130%	106
	BH106_0.7-0.8	SE199313.004	%	70 - 130%	93
	BH107_0.7-0.8	SE199313.005	%	70 - 130%	95
	BH108_0.8-0.9	SE199313.006	%	70 - 130%	95
	BH110_0.8-0.9	SE199313.007	%	70 - 130%	93
	BH111_0.8-0.9	SE199313.008	%	70 - 130%	98
d14-p-terphenyl (Surrogate)	BH114_0.8-0.9	SE199313.009	%	70 - 130%	91
	BH101_0.6-0.7	SE199313.001	%	70 - 130%	110
	BH104_1.0-1.1	SE199313.002	%	70 - 130%	109
	BH105_0.6-0.7	SE199313.003	%	70 - 130%	105
	BH106_0.7-0.8	SE199313.004	%	70 - 130%	95
	BH107_0.7-0.8	SE199313.005	%	70 - 130%	95
	BH108_0.8-0.9	SE199313.006	%	70 - 130%	94
	BH110_0.8-0.9	SE199313.007	%	70 - 130%	99
d5-nitrobenzene (Surrogate)	BH111_0.8-0.9	SE199313.008	%	70 - 130%	94
	BH114_0.8-0.9	SE199313.009	%	70 - 130%	90
	BH101_0.6-0.7	SE199313.001	%	70 - 130%	105
	BH104_1.0-1.1	SE199313.002	%	70 - 130%	105
	BH105_0.6-0.7	SE199313.003	%	70 - 130%	104
	BH106_0.7-0.8	SE199313.004	%	70 - 130%	90
	BH107_0.7-0.8	SE199313.005	%	70 - 130%	91
	BH108_0.8-0.9	SE199313.006	%	70 - 130%	88
	BH110_0.8-0.9	SE199313.007	%	70 - 130%	87
	BH111_0.8-0.9	SE199313.008	%	70 - 130%	89
	BH114_0.8-0.9	SE199313.009	%	70 - 130%	85

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.6-0.7	SE199313.001	%	60 - 130%	83
	BH104_1.0-1.1	SE199313.002	%	60 - 130%	83
	BH105_0.6-0.7	SE199313.003	%	60 - 130%	86
	BH106_0.7-0.8	SE199313.004	%	60 - 130%	87
	BH107_0.7-0.8	SE199313.005	%	60 - 130%	84
	BH108_0.8-0.9	SE199313.006	%	60 - 130%	85
	BH110_0.8-0.9	SE199313.007	%	60 - 130%	84
	BH111_0.8-0.9	SE199313.008	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	BH114_0.8-0.9	SE199313.009	%	60 - 130%	83
	BH101_0.6-0.7	SE199313.001	%	60 - 130%	86
	BH104_1.0-1.1	SE199313.002	%	60 - 130%	86
	BH105_0.6-0.7	SE199313.003	%	60 - 130%	88
	BH106_0.7-0.8	SE199313.004	%	60 - 130%	91
	BH107_0.7-0.8	SE199313.005	%	60 - 130%	88
	BH108_0.8-0.9	SE199313.006	%	60 - 130%	89
	BH110_0.8-0.9	SE199313.007	%	60 - 130%	89
d8-toluene (Surrogate)	BH111_0.8-0.9	SE199313.008	%	60 - 130%	83
	BH114_0.8-0.9	SE199313.009	%	60 - 130%	86
	BH101_0.6-0.7	SE199313.001	%	60 - 130%	88
	BH104_1.0-1.1	SE199313.002	%	60 - 130%	89
	BH105_0.6-0.7	SE199313.003	%	60 - 130%	91
	BH106_0.7-0.8	SE199313.004	%	60 - 130%	94
	BH107_0.7-0.8	SE199313.005	%	60 - 130%	90
	BH108_0.8-0.9	SE199313.006	%	60 - 130%	92
	BH110_0.8-0.9	SE199313.007	%	60 - 130%	92
	BH111_0.8-0.9	SE199313.008	%	60 - 130%	85
	BH114_0.8-0.9	SE199313.009	%	60 - 130%	89

Volatile Petroleum Hydrocarbons in Soil

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

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

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

Volatile Petroleum Hydrocarbons In Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.6-0.7	SE199313.001	%	60 - 130%	83
	BH104_1.0-1.1	SE199313.002	%	60 - 130%	83
	BH105_0.6-0.7	SE199313.003	%	60 - 130%	86
	BH106_0.7-0.8	SE199313.004	%	60 - 130%	87
	BH107_0.7-0.8	SE199313.005	%	60 - 130%	84
	BH108_0.8-0.9	SE199313.006	%	60 - 130%	85
	BH110_0.8-0.9	SE199313.007	%	60 - 130%	84
	BH111_0.8-0.9	SE199313.008	%	60 - 130%	80
	BH114_0.8-0.9	SE199313.009	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	BH101_0.6-0.7	SE199313.001	%	60 - 130%	86
	BH104_1.0-1.1	SE199313.002	%	60 - 130%	86
	BH105_0.6-0.7	SE199313.003	%	60 - 130%	88
	BH106_0.7-0.8	SE199313.004	%	60 - 130%	91
	BH107_0.7-0.8	SE199313.005	%	60 - 130%	88
	BH108_0.8-0.9	SE199313.006	%	60 - 130%	89
	BH110_0.8-0.9	SE199313.007	%	60 - 130%	89
	BH111_0.8-0.9	SE199313.008	%	60 - 130%	83
	BH114_0.8-0.9	SE199313.009	%	60 - 130%	86
d8-toluene (Surrogate)	BH101_0.6-0.7	SE199313.001	%	60 - 130%	88
	BH104_1.0-1.1	SE199313.002	%	60 - 130%	89
	BH105_0.6-0.7	SE199313.003	%	60 - 130%	91
	BH106_0.7-0.8	SE199313.004	%	60 - 130%	94
	BH107_0.7-0.8	SE199313.005	%	60 - 130%	90
	BH108_0.8-0.9	SE199313.006	%	60 - 130%	92
	BH110_0.8-0.9	SE199313.007	%	60 - 130%	92
	BH111_0.8-0.9	SE199313.008	%	60 - 130%	85
	BH114_0.8-0.9	SE199313.009	%	60 - 130%	89

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186563.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB186486.001	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)	%	-	100
	2-fluorobiphenyl (Surrogate)	%	-	94
	d14-p-terphenyl (Surrogate)	%	-	86

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

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

Sample Number	Parameter	Units	LOR	Result
LB186559.001	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

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB186485.001	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)	%	-	77
		d8-toluene (Surrogate)	%	-	87
		Bromofluorobenzene (Surrogate)	%	-	73
	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
LB186485.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

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

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

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

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

Mercury in Soil

Method: ME-(AU)-[ENV]JAN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199313.004	LB186563.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE199326.001	LB186563.022	Mercury	mg/kg	0.05	0.05860933090	0.0644128664	111	9

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199313.007	LB186540.011	% Moisture	%w/w	1	17.5	17.7	36	1
SE199313.009	LB186540.014	% Moisture	%w/w	1	18.4	18.4	35	0

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199313.004	LB186559.014	Arsenic, As	mg/kg	1	5	4	51	14
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	16	14	33	11
		Copper, Cu	mg/kg	0.5	11	12	34	9
		Nickel, Ni	mg/kg	0.5	3.6	3.2	45	11
		Lead, Pb	mg/kg	1	38	40	33	7
SE199326.001	LB186559.022	Zinc, Zn	mg/kg	2	31	33	36	6
		Arsenic, As	mg/kg	1	7.41556794896	9.952614031	44	6
		Cadmium, Cd	mg/kg	0.3	0.08886505550	0.1427206734	200	0
		Chromium, Cr	mg/kg	0.5	11.74884408212	341684992C	34	5
		Copper, Cu	mg/kg	0.5	23.87769674431	1.1741836324	32	53 @
		Nickel, Ni	mg/kg	0.5	13.34203250884	0.0743042254	34	5
		Lead, Pb	mg/kg	1	54.8999475667	1.0242368352	32	26
		Zinc, Zn	mg/kg	2	58.58220124826	8.99624033	32	74 @

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199313.003	LB186485.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	8.9	50	1
			d8-toluene (Surrogate)	mg/kg	-	9.1	9.1	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.6	50	0
		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
SE199313.009	LB186485.021	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.1	50	5
			d8-toluene (Surrogate)	mg/kg	-	8.9	8.6	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	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

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE199313.003	LB186485.014	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	-	8.8	8.9	30	1
			d8-toluene (Surrogate)	mg/kg	-	9.1	9.1	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.6	30	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
		SE199313.009	LB186485.021	TRH C6-C10	mg/kg	25	<25	<25	200

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

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

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

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

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE199313.009	LB186485.021	TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.1	30	5
		d8-toluene (Surrogate)	mg/kg	-	8.9	8.6	30	3
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	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

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186563.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	107

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186486.002	Naphthalene	mg/kg	0.1	4.1	4	60 - 140	102
	Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	100
	Acenaphthene	mg/kg	0.1	3.8	4	60 - 140	94
	Phenanthrene	mg/kg	0.1	4.3	4	60 - 140	106
	Anthracene	mg/kg	0.1	4.1	4	60 - 140	102
	Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	98
	Pyrene	mg/kg	0.1	4.2	4	60 - 140	106
	Benzo(a)pyrene	mg/kg	0.1	4.5	4	60 - 140	114
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	100

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 %
LB186559.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	106
	Cadmium, Cd	mg/kg	0.3	4.1	4.62	80 - 120	89
	Chromium, Cr	mg/kg	0.5	36	38.31	80 - 120	94
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	106
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	95	89.9	80 - 120	105
	Zinc, Zn	mg/kg	2	290	273	80 - 120	106

VOC's in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186485.002	Monocyclic						
	Benzene	mg/kg	0.1	4.2	5	60 - 140	84
	Aromatic						
	Toluene	mg/kg	0.1	4.2	5	60 - 140	85
	Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	88
	m/p-xylene	mg/kg	0.2	8.9	10	60 - 140	89
	o-xylene	mg/kg	0.1	4.4	5	60 - 140	87
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.2	10	70 - 130	82
	d8-toluene (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
	Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB186485.002	TRH C6-C10	mg/kg	25	70	92.5	60 - 140	75
	TRH C6-C9	mg/kg	20	62	80	60 - 140	77
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.2	10	70 - 130	82
	Bromofluorobenzene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	43	62.5	60 - 140

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199292.001	LB186563.004	Mercury	mg/kg	0.05	0.30	0.07471034482	0.2	114

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199292.001	LB186486.023	Naphthalene	mg/kg	0.1		0.04753265950	4	102
		2-methylnaphthalene	mg/kg	0.1		0	-	-
		1-methylnaphthalene	mg/kg	0.1		0	-	-
		Acenaphthylene	mg/kg	0.1		0.25227123581	4	110
		Acenaphthene	mg/kg	0.1		0.03341970800	4	92
		Fluorene	mg/kg	0.1		0.13842976214	-	-
		Phenanthrene	mg/kg	0.1		3.50176574574	4	57 @
		Anthracene	mg/kg	0.1		0.61653317371	4	93
		Fluoranthene	mg/kg	0.1		4.08614796438	4	44 @
		Pyrene	mg/kg	0.1		3.72636481618	4	53 @
		Benzo(a)anthracene	mg/kg	0.1		1.47681582051	-	-
		Chrysene	mg/kg	0.1		1.47687890584	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1		2.10866347253	-	-
		Benzo(k)fluoranthene	mg/kg	0.1		0.55	-	-
		Benzo(a)pyrene	mg/kg	0.1		1.59583485009	4	88
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1		0.82577994542	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1		0.03796774758	-	-
		Benzo(ghi)perylene	mg/kg	0.1		0.90718449994	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2		2.10293506074	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3		2.20293506074	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2		2.15293506074	-	-
		Total PAH (18)	mg/kg	0.8		21.13400671980	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-		0.43323548397	-	91
		2-fluorobiphenyl (Surrogate)	mg/kg	-		0.48521849359	-	95
		d14-p-terphenyl (Surrogate)	mg/kg	-		0.48195021942	-	94
SE199379.001	LB186486.004	Naphthalene	mg/kg	0.1	4.2	<0.1	4	105
		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	4.3	<0.1	4	107
		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	4.4	<0.1	4	111
		Anthracene	mg/kg	0.1	4.2	<0.1	4	105
		Fluoranthene	mg/kg	0.1	4.2	<0.1	4	104
		Pyrene	mg/kg	0.1	4.5	<0.1	4	112
		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	4.7	<0.1	4	117
		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	4.7	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.8	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.8	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	34	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	90
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	94
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	98

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

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

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

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

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE199292.001	LB186559.004	Arsenic, As	mg/kg	1	54	4.37504906083	50	100
		Cadmium, Cd	mg/kg	0.3	48	0.58407345107	50	94
		Chromium, Cr	mg/kg	0.5	56	5.75446593776	50	101
		Copper, Cu	mg/kg	0.5	80	32.5496607793€	50	95
		Nickel, Ni	mg/kg	0.5	51	2.10345668629	50	98
		Lead, Pb	mg/kg	1	230	12.6564339781	50	32 Ⓢ
		Zinc, Zn	mg/kg	2	360	22.1206896551	50	69 Ⓢ

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE199379.001	LB186485.004	Monocyclic	Benzene	mg/kg	0.1	4.4	<0.1	5	88	
			Aromatic	Toluene	mg/kg	0.1	4.5	<0.1	5	90
			Ethylbenzene	mg/kg	0.1	4.7	<0.1	5	95	
			m/p-xylene	mg/kg	0.2	9.5	<0.2	10	95	
			o-xylene	mg/kg	0.1	3.5	<0.1	5	69	
			Polycyclic	Naphthalene	mg/kg	0.1	4.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)		mg/kg	-	10.4	7.6	10	104
			d8-toluene (Surrogate)		mg/kg	-	9.4	8.8	10	94
			Bromofluorobenzene (Surrogate)		mg/kg	-	9.7	7.4	10	97
		Totals	Total Xylenes		mg/kg	0.3	13	<0.3	-	-
			Total BTEX		mg/kg	0.6	27	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE199379.001	LB186485.004	TRH C6-C10	mg/kg	25	67	<25	92.5	72	
		TRH C6-C9	mg/kg	20	59	<20	80	73	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.4	7.6	10	104
			d8-toluene (Surrogate)	mg/kg	-	9.4	8.8	10	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	7.4	-	97
		VPH F	Benzene (F0)	mg/kg	0.1	4.4	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	39	<25	62.5	62

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

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

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

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

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

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Appendix H - QA/QC Assessment

H1 QUALITY CONTROL PROGRAM

H1.1 PROJECT 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-1 QA/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
Rinsate Samples	One rinsate blank would be collected per sampling event and analysed for the primary contaminants. All results should be non-detect.	The results for rinsate samples were reported below laboratory LOR, with the exception of toluene in QR1. Based on previous experience in current and ongoing projects, EI have noted a reoccurrence of some toluene in the laboratory supplied rinsate provided by the primary laboratory SGS. EI have been investigating these levels within rinsate. Based on these investigations, EI consider the level of toluene is a result of the laboratory supplied rinsate water. EI collected a 'clean' rinsate sample QRB1 and tested for toluene. Concentrations of toluene within the 'clean' rinsate sample QRB1 were similar to those reported in QR1. EI consider that the concentration of toluene in QR1 is a result of the laboratory supplied rinsate water and not a result of sampling decontamination.

Task	Description	Project
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
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
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.3) values between most primary and field duplicate samples are within the acceptance criteria (Section H1.2) with the exception of the following: <u>Blind Field Duplicate (BFD):</u> - Copper: 121.43 - Lead: 66.67 - Nickel: 64.62 - Zinc: 70.27 Analytical results for nickel were less than 10 times PQL and therefore are acceptable. The remaining RPD exceedances are likely attributed to sample heterogeneity. All results are below the assessment criteria and therefore do not change the outcome of this report. <u>Blind Field Triplicate (BFT):</u> - Arsenic: 142.86 - Chromium: 78.57 - Copper: 153.36 - Lead: 69.77 - Nickel: 138.03 These RPD exceedances are likely attributed to sample heterogeneity. All results are below the assessment criteria and therefore do not change the outcome of this report.

Task	Description	Project
Laboratory QA/QC		
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.2
	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.	Yes
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 calculated RPDs were within acceptable ranges
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.
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.
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 the data 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	11	BH205_0.6-0.7	QD1	QT1	2	2:11
GME	Water	1	BH201.M-1	GWQD1	GWQT1	2	2:1
Other Field QA Samples							
Soil Investigation	Soil	QTB1 – trip blank					
		QTS1 – trip spike					
	Water	QR1 – rinsate					
GME	Water	GWTB1 – trip blank					
		GWTS1 – trip spike					
		GWQR1 - rinsate					

H2.2 FIELD DATA QUALITY INDICATORS

A discussion of the field data quality indicators is presented below.

Table H-4 Field 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

QA/QC Measures	Field Data Quality Indicators	Conformance / Comments
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 each medium present onsite	Appropriate media sampled according to SAQP	Yes
	Each media identified in SAQP sampled	Yes
	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.

H3 LABORATORY QA/QC

H3.1 LABORATORY 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-5 Lab 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 performed / 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.

H3.2 CONCLUSIONS 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.

H4 SUMMARY 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.

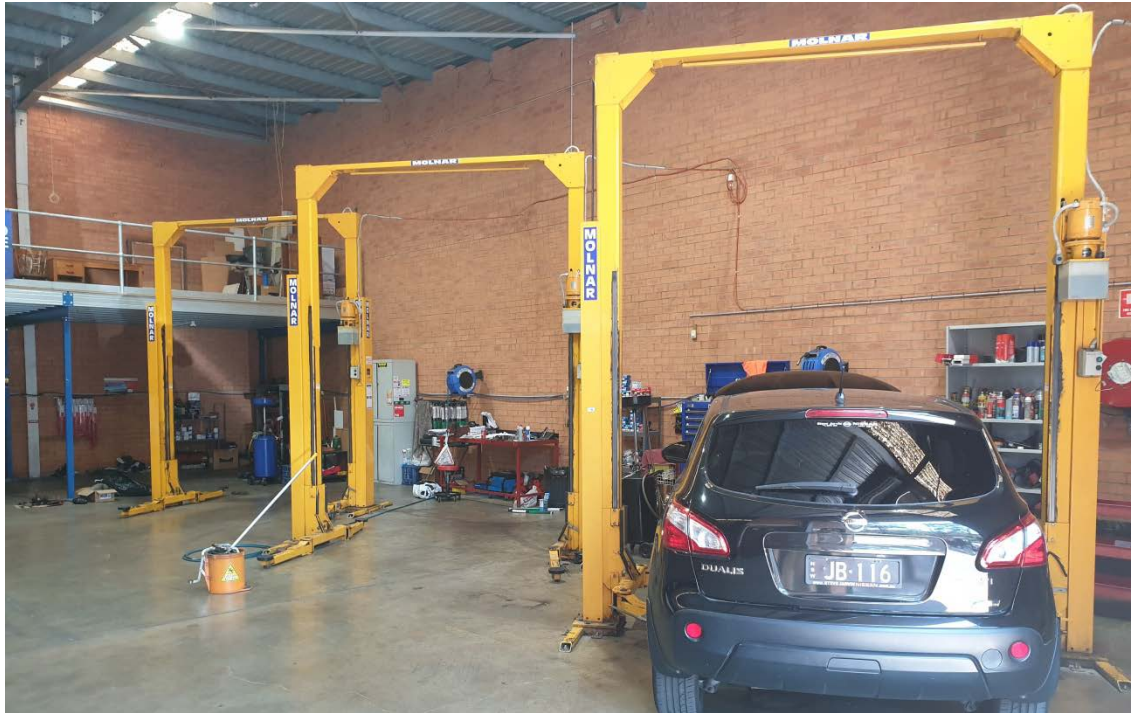
Appendix I – Site Photographs



Photograph 1: Image of general site conditions during intrusive investigations, facing west (25 October 2019).



Photograph 2: Image of stockpiled rubbish / timber, adjacent eastern boundary, facing north-east (25 October 2019).



Photograph 3: Image of multiple hydraulic lifts, facing south-east (25 October 2019).



Photograph 4: Image of multiple hydraulic lifts, facing south (25 October 2019).



Photograph 5: Image of fill materials sampled from auger drill, encountered within BH107 (25 October 2019).



Photograph 6: Image of natural clay materials sampled from auger drill, encountered within BH107 (25 October 2019).



Photograph 7: Image of stockpiled rubbish / timber, adjacent eastern boundary, facing east (25 October 2019)

Appendix J – Proposed Development Plans

GEORGE STREET

GREAT NORTHERN RAILWAY

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UNIT TYPES

- 1 BED
- 1 BED + STUDY
- 1 BED + MEDIA NOOK
- 1 BED + TERRACE
- 2 BED APARTMENT
- 2 BED + STUDY
- 2 BED + MEDIA NOOK
- 2 BED + TERRACE
- 3 BED APARTMENT
- 3 BED DUAL KEYS
- 3 BED DUAL KEYS + MEDIA NOOK
- 3 BED DUAL KEYS + TERRACE
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- 4 BED DUAL KEYS
- BALCONY
- RESIDENTIAL CARSPACE
- VISITORS CARSPACE
- ADAPTABLE CARSPACE
- ACCESSIBLE CARSPACE
- SHARED ZONE

- BOLLARD
- STORAGE CAGES
- STORAGE ROOM
- DEEP SOIL ZONE - DCP 30% = 369m²
- ADAPTABLE APARTMENT
- LIVABLE APARTMENT
- EASEMENT - TO BE EXTINGUISHED
- AIR CONDITIONER CONDENSER UNIT

DCP CAR PARKING RATES

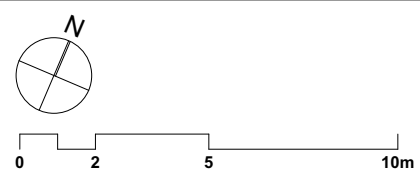
Maximum Car Parking Rates (Extract of Table 3.2 Paramatta Road Corridor Urban Transformation Strategy, Planning and Design Guidelines, Nov 2016, Page 45)

Category	Residential (max. spaces per dwelling)				
	Studio	1 bed	2 bed	3 bed	Visitor
Homebush Precinct	0.3	0.5	0.9	1.2	0.1

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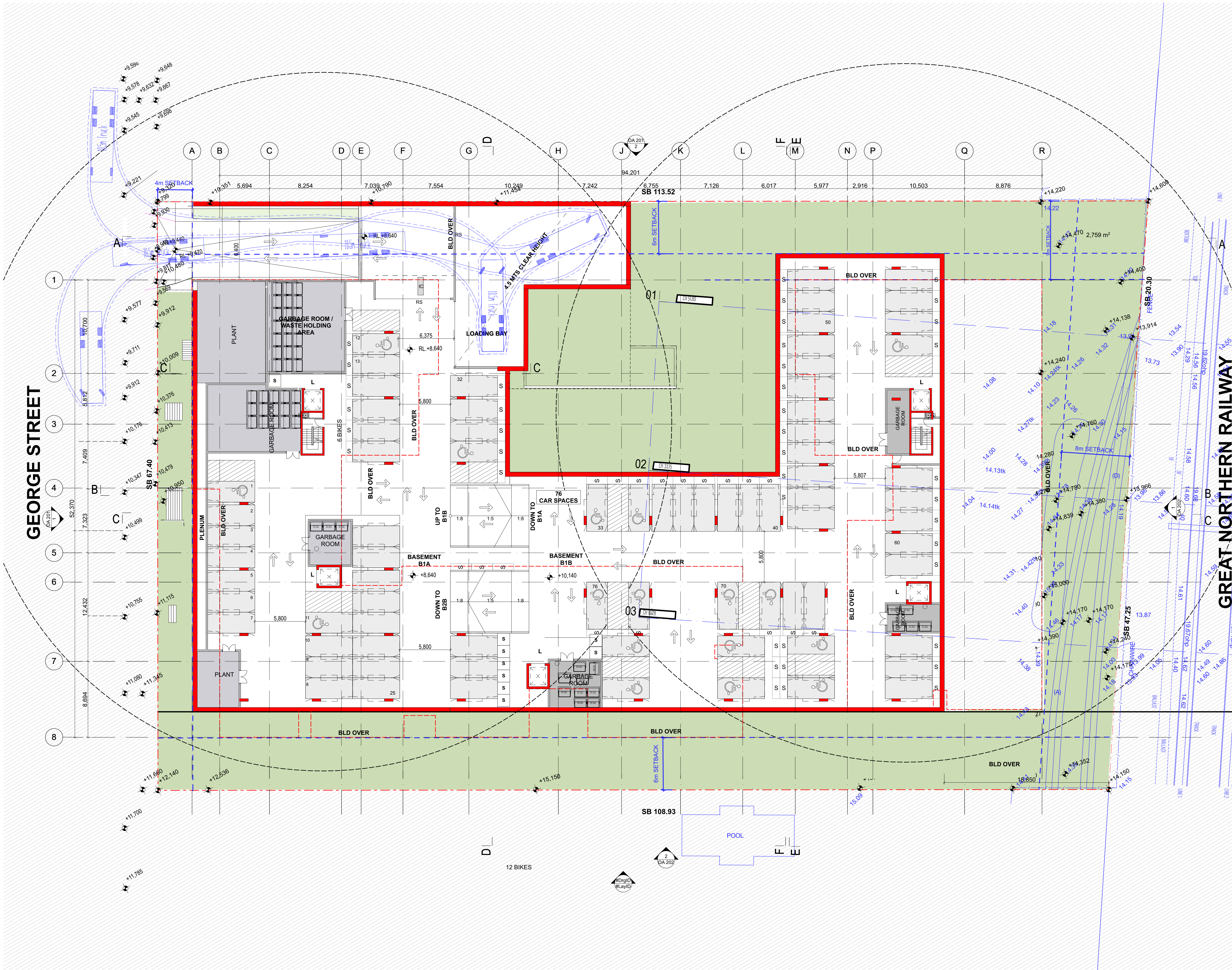
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PROJECT STATUS
DEVELOPMENT APPLICATION
DRAWING TITLE
BASEMENT 2 PLAN

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UNIT TYPES

- 1 BED
- 1 BED + STUDY
- 1 BED + MEDIA NOOK
- 1 BED + TERRACE
- 2 BED APARTMENT
- 2 BED + STUDY
- 2 BED + MEDIA NOOK
- 2 BED + TERRACE
- 3 BED APARTMENT
- 3 BED DUAL KEYS
- 3 BED DUAL KEYS + MEDIA NOOK
- 3 BED DUAL KEYS + TERRACE
- 4 BED APARTMENT
- 4 BED DUAL KEYS
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- B BOLLARD
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- SR STORAGE ROOM
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- L LIVABLE APARTMENT
- EASEMENT - TO BE EXTINGUISHED
- A/C AIR CONDITIONER CONDENSER UNIT

DCP CAR PARKING RATES

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BASEMENT 1 PLAN

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UNIT TYPES

- | | |
|---|----------------------------------|
|  | 1 BED |
|  | 1 BED + STUDY |
|  | 1 BED + MEDIA NOOK |
|  | 1 BED + TERRACE |
|  | 2 BED APARTMENT |
|  | 2 BED + STUDY |
|  | 2 BED + MEDIA NOOK |
|  | 2 BED + TERRACE |
|  | 3 BED APARTMENT |
|  | 3 BED DUAL KEYS |
|  | 3 BED DUAL KEYS + MEDIA NOOK |
|  | 3 BED DUAL KEYS + TERRACE |
|  | 4 BED APARTMENT |
|  | 4 BED DUAL KEYS |
|  | BALCONY |
|  | RESIDENTIAL CARSPACE |
|  | VISITORS CARSPACE |
|  | ADAPTABLE CARSPACE |
|  | ACCESSIBLE CARSPACE |
|  | SHARED ZONE |
|  | BOLLARD |
|  | STORAGE CAGES |
|  | STORAGE ROOM |
|  | DEEP SOIL ZONE - DCP 30% = 369mm |
|  | ADAPTABLE APARTMENT |
|  | LIVABLE APARTMENT |
|  | EASEMENT - TO BE EXTINGUISHED |
|  | AIR CONDITIONER CONDENSER |

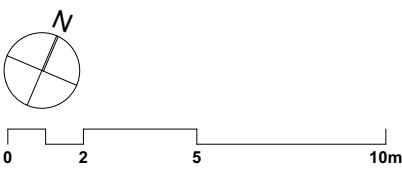
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DEVELOPMENT APPLICATION
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SHEET NO.	REVISION
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GEORGE STREET

GREAT NORTHERN RAILWAY

27 GEORGE STREET
4 STOREY

27 GEORGE STREET
6 STOREY

23A GEORGE STREET
4 STOREY

SWIMMING POOL

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UNIT TYPES

- 1 BED
- 1 BED + STUDY
- 1 BED + MEDIA NOOK
- 1 BED + TERRACE
- 2 BED APARTMENT
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LEVEL 1 PLAN
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DA 104
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GEORGE STREET

GREAT NORTHERN RAILWAY

27 GEORGE STREET
4 STOREY

27 GEORGE STREET
6 STOREY

23A GEORGE STREET
4 STOREY

SWIMMING POOL

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UNIT TYPES

- 1 BED
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- 1 BED + MEDIA NOOK
- 1 BED + TERRACE
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25 GEORGE STREET

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LEVEL 2 PLAN

SHEET NO.	REVISION
DA 105	09

GEORGE STREET

GREAT NORTHERN RAILWAY

27 GEORGE STREET
4 STOREY

27 GEORGE STREET
6 STOREY

23A GEORGE STREET
4 STOREY

SWIMMING POOL

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UNIT TYPES

- 1 BED
- 1 BED + STUDY
- 1 BED + MEDIA NOOK
- 1 BED + TERRACE
- 2 BED APARTMENT
- 2 BED + STUDY
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GEORGE STREET

GREAT NORTHERN RAILWAY

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- 1 BED + STUDY
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PROJECT STATUS
DEVELOPMENT APPLICATION

DRAWING TITLE
LEVEL 4 PLAN

SHEET NO.	REVISION
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GEORGE STREET

GREAT NORTHERN RAILWAY

27 GEORGE STREET
4 STOREY

27 GEORGE STREET
6 STOREY

23A GEORGE STREET
4 STOREY

SWIMMING POOL

GENERAL NOTES

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UNIT TYPES

1 BED

1 BED + STUDY

1 BED + MEDIA NOOK

1 BED + TERRACE

2 BED APARTMENT

2 BED + STUDY

2 BED + MEDIA NOOK

2 BED + TERRACE

3 BED APARTMENT

3 BED DUAL KEYS

3 BED DUAL KEYS + MEDIA NOOK

3 BED DUAL KEYS + TERRACE

4 BED APARTMENT

4 BED DUAL KEYS

BALCONY

RESIDENTIAL CARSPACE

V

VISITORS CARSPACE

A

ADAPTABLE CARSPACE

ACCESSIBLE CARSPACE

SHARED ZONE

B

BOLLARD

S

STORAGE CAGES

SR

STORAGE ROOM

DEEP SOIL ZONE - DCP 30% = 369m²

A

ADAPTABLE APARTMENT

L

LIVABLE APARTMENT

EASEMENT - TO BE EXTINGUISHED

A/C

AIR CONDITIONER CONDENSER UNIT

REVISION ID

ISSUE NAME

ISSUE DATE

09

FOR INFORMATION

13/4/18

08

FOR INFORMATION

6/4/18

07

FOR INFORMATION

3/4/18

06

FOR INFORMATION

16/3/18

ARCHITECT

FUSE

ARCHITECTURE | URBAN DESIGN | INTERIOR DESIGN

STUDIO 64

61 MARLBOROUGH STREET

SYDNEY NSW 2010

MAIL@FUSEARCHITECTURE.COM.AU

ABN 61 612 046 643

NOMINATED ARCHITECT RACHID ANDARY 8627

CLIENT

PIETYTHP

SUITE 802, LEVEL 8, 117 YORK STREET SYDNEY NSW 2000 AUSTRALIA

N

0

2

5

10m

PROJECT

25 GEORGE STREET

SITE ADDRESS

25 GEORGE STREET, NORTH STRATHFIELD, NSW 2137

JOB NO

1711

CHECKED

DRAWN

DATE

13/4/18

SCALE

1:200 @ A1

1:400 @ A3

PROJECT STATUS

DEVELOPMENT APPLICATION

DRAWING TITLE

LEVEL 5 PLAN

SHEET NO.

DA 108

REVISION.

09

GEORGE STREET

GREAT NORTHERN RAILWAY

27 GEORGE STREET
4 STOREY

27 GEORGE STREET
6 STOREY

23A GEORGE STREET
4 STOREY

SWIMMING POOL

GENERAL NOTES

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NO REPRODUCTION WITHOUT PERMISSION
UNLESS NOTED OTHERWISE
THIS DRAWING IS NOT FOR CONSTRUCTION
ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE
PRIOR TO THE COMMENCEMENT OF WORK
INFORM FUSE ARCHITECTURE OF ANY DISCREPANCIES FOR
CLARIFICATION BEFORE PROCEEDING WITH WORK
DRAWINGS ARE NOT TO BE SCALED
USE ONLY FIGURED DIMENSIONS
REFER TO CONSULTANT DOCUMENTATION FOR FURTHER
INFORMATION

file: 190329_25 GEORGE STREET
print date and time: Friday, 31 May 2019 @ 1:16 pm

LEGEND

UNIT TYPES

- 1 BED
- 1 BED + STUDY
- 1 BED + MEDIA NOOK
- 1 BED + TERRACE
- 2 BED APARTMENT
- 2 BED + STUDY
- 2 BED + MEDIA NOOK
- 2 BED + TERRACE
- 3 BED APARTMENT
- 3 BED DUAL KEYS
- 3 BED DUAL KEYS + MEDIA NOOK
- 3 BED DUAL KEYS + TERRACE
- 4 BED APARTMENT
- 4 BED DUAL KEYS
- BALCONY
- RESIDENTIAL CARSPACE
- V VISITORS CARSPACE
- A ADAPTABLE CARSPACE
- ACCESSIBLE CARSPACE
- SHARED ZONE
- B BOLLARD
- S STORAGE CAGES
- SR STORAGE ROOM
- DEEP SOIL ZONE - DCP 30% = 369m²
- A ADAPTABLE APARTMENT
- L LIVABLE APARTMENT
- EASEMENT - TO BE EXTINGUISHED
- A/C AIR CONDITIONER CONDENSER UNIT

REVISION ID	ISSUE NAME	ISSUE DATE
09	FOR INFORMATION	13/4/18
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07	FOR INFORMATION	3/4/18
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ARCHITECT
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PROJECT
25 GEORGE STREET

SITE ADDRESS
25 GEORGE STREET, NORTH STRATHFIELD, NSW 2137

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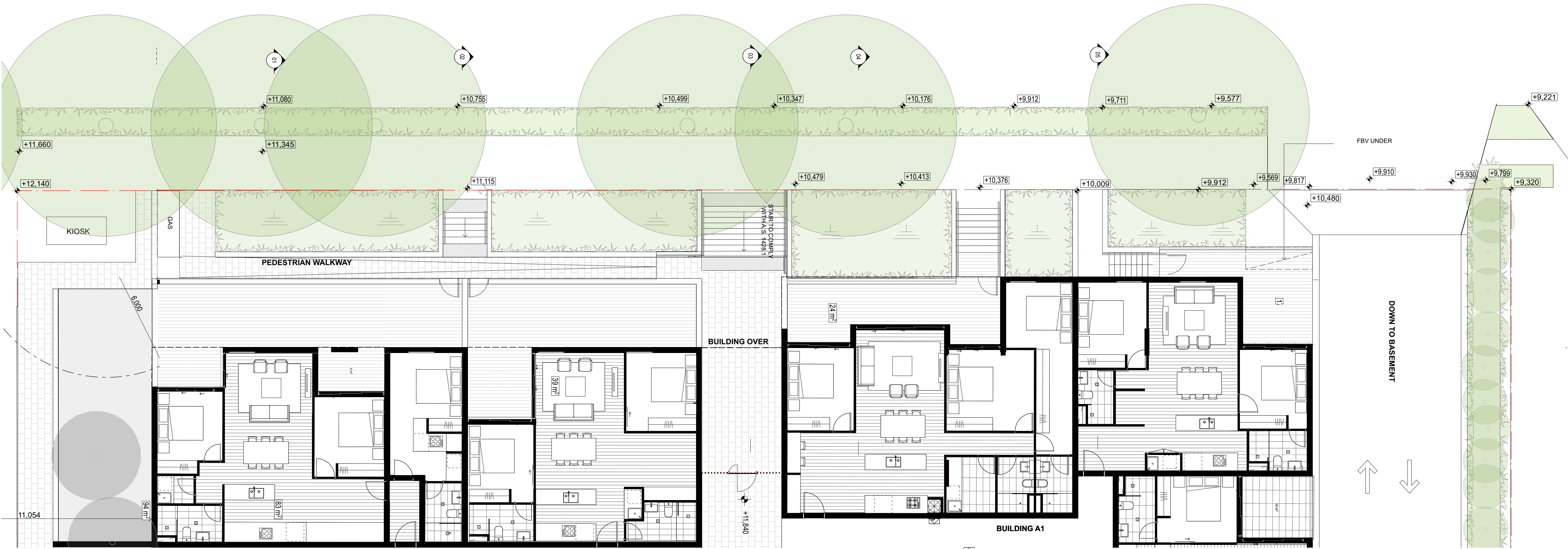
SCALE
1:200 @ A1 1:400 @ A3

PROJECT STATUS
DEVELOPMENT APPLICATION

DRAWING TITLE
ROOF PLAN

SHEET NO.	REVISION
DA 109	09

GEORGE STREET



REVISION ID ISSUE NAME ISSUE DATE

ARCHITECT
FUSE
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STUDIO 64
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SYDNEY NSW 2010
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PROJECT
25 GEORGE STREET
SITE ADDRESS
25 GEORGE STREET, NORTH STRATHFIELD, NSW 2137
JOB NO
1711
CHECKED DRAWN
DATE SCALE
1:100 @ A1 1:200 @ A3

PROJECT STATUS
DEVELOPMENT APPLICATION
DRAWING TITLE
STREET INTERFACE

SHEET NO.
DA 604
REVISION

