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ABA SQUARE PTY LTD

Detailed Site Investigation

15 Hilwa Street and 890, 896 and 898 Woodville Road,
Villawood NSW

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Appendices

Executive Summary

EI Australia (EI) was engaged by ABA Square Pty Ltd (‘the client’) to conduct a detailed investigation of 15 Hilwa Street and 890, 896 and 898 Woodville Road in Villawood, New South Wales (‘the site’).

The site is located within the local government area of Fairfield City Council. It comprised the following properties, covering a total area of approximately 4,400m^2:

- Lot 13 in Deposited Plan (DP) 220348 (15 Hilwa Street; 510m^2);
- Lot 3 in DP 208677 and Lot 100 in DP 1070965 (890 and 896 Woodville Road; 3,410m^2);
- Lot 1 in DP 217764 (898 Woodville Road; 480m^2).

At the time of this investigation, 15 Hilwa Street and 898 Woodville Road were both low-density, residential properties. 890-896 Woodville Road was a commercial property.

The site was designated for mixed, commercial (retail) and residential (apartment) redevelopment and environmental investigation was required in support of the corresponding development application. This report complements previous (contamination and geotechnical) assessments of the site and enabled the developer to meet its obligations under the *Contaminated Land Management Act 1997* and *State Environmental Planning Policy (Resilience and Hazards) 2021*.

Objectives

The objectives of this detailed site investigation (DSI) were to:

- Establish the nature and degree of any soil and groundwater contamination, by means of intrusive sampling and laboratory analysis for the contaminants of potential concern;
- Provide a conclusion regarding suitability of the site for its proposed use; and
- Make recommendations for the appropriate management of any impacted soils and/or groundwater, should site contamination be confirmed.

Findings

The key findings of this DSI were:

- The southern portions of the site (15 Hilwa Street and 898 Woodville Road) had continuously been used for residential purposes. The central and northern portions had been used for commercial purposes since the mid-1960s, at least, the activities including a donut shop, restaurants and piano store. The presence of a rectangular, concrete slab repatch near the mid-western boundary, suggested the presence of a former underground storage tank (UST).
- The local surroundings had consisted of residential and commercial properties since the 1940s, at least. A petrol service station was immediately adjacent (east; on 894-896 Woodville Road).
- The site was free of statutory notices and licensing agreements issued under the *Contaminated Land Management Act 1997* and *Protection of the Environment Operations Act 1997*. No part of it was included on the *List of NSW Contaminated Sites Notified to the EPA*.

- No above-ground storage tank (AST) was present on the site. A ground penetrating radar (GPR) survey of the rectangular concrete patch near the western boundary of 890 and 896 Woodville Road “did not validate the parameters associated with the potential underground storage tank”; however, there were indications “suggesting the presence of an anomaly or variation in the subsurface composition”, such that “the findings point to potential underground features that warrant further exploration and analysis”.
- Excluding all hardstand pavements, the sub-surface of the site was generalised as a layer of poorly compacted, silty sand, gravelly sand and/or sand filling, overlying natural (residual), silty clay / gravelly clay and (weathered) shale bedrock, the latter encountered from 4.7-4.9m below ground level (BGL). The potential for acid sulphate soils (ASSs) to be present on the site was very low.
- No olfactory indication of contamination (i.e. suspicious odour) was detected during the site inspections and subsequent sampling works. No visual evidence of contamination was encountered, including fragments of fibre cement sheeting (FCS) on the ground surface.
- All laboratory analytical results for the representative fill and natural soil samples were found to comply with the adopted human health-based investigation levels applicable to residential settings with minimal soil access.
- The site was deemed to be low risk with respect to asbestos contamination.
- The local groundwater table was at 6.60-9.78 mBGL (11.91-16.28m Australian Height Datum (AHD)). The groundwater flow direction was inferred to be north-easterly, towards the concrete-lined canal, which ultimately drains into the Georges River (approximately two kilometres south west of the site).
- Local groundwater was mildly acidic (pH: 6.56-6.63), saline (electrical conductivity: 20,620-23,590 µS/cm) and non-oxidising. All laboratory analytical results for the representative samples (BH107M and BH109M) were found to comply with the adopted investigation levels, except for some dissolved metals (arsenic, cadmium, copper, nickel and zinc). The concentrations, however, were consistent with natural (background) levels in groundwater from highly urbanised areas.

Based on the findings of this DSI, and with consideration of EI’s *Statement of Limitations* (**Section 11**), it was concluded that gross, or widespread, contamination was not present within the site area. The land can be made suitable for the proposed (mixed-use commercial/residential) development, in accordance with *State Environmental Planning Policy (Resilience and Hazards) 2021*, subject to the implementation of the recommendations made in **Section 10** of this report.

1. Introduction

1.1 Background and Purpose

EI Australia (EI) was engaged by ABA Square Pty Ltd ('the client') to conduct a detailed investigation of 15 Hilwa Street and 890, 896 and 898 Woodville Road in Villawood, New South Wales (henceforth referred to as 'the site').

The site is located within the local government area (LGA) of Fairfield City Council (**Figure 1**, **Appendix A**). It comprised the following properties, covering a total area of approximately 4400m^2 (**Figure 2**, **Appendix A**):

- Lot 13 in Deposited Plan (DP) 220348 (15 Hilwa Street; 510 m^2);
- Lot 3 in DP 208677 and Lot 100 in DP 1070965 (890 and 896 Woodville Road; 3,410 m^2);
- Lot 1 in DP 217764 (898 Woodville Road; 480 m^2).

At the time of this investigation, 15 Hilwa Street and 898 Woodville Road were both low-density, residential properties, each containing a house. 890-896 Woodville Road was a commercial property (formerly *Gospel Pianos)*, being used as a storage space for construction materials, including floor and wall tiles.

The site was designated for mixed, commercial (retail) and residential (apartment) redevelopment and environmental investigation was required in support of the corresponding development application. This report complements previous (contamination and geotechnical) assessments of the site and enabled the developer to meet its obligations under the *Contaminated Land Management Act 1997* and *State Environmental Planning Policy (Resilience and Hazards) 2021*.

1.2 Proposed Development

Based on the supplied plans (**Appendix C**), the proposed development involved demolition of all existing structures, followed by the construction of a ten storey, mixed commercial (retail) and residential (apartment) building, overlying three levels of common basement. Commercial units were designated for the ground floor, with residential apartments specified for the upper (nine) levels.

The basement was to extend across the majority of the site area, requiring bulk excavation to a maximum depth of 12.8 metres below ground level (mBGL), although locally deeper excavations would be needed for footings, service trenches, crane pads and lift overrun pits.

A nine meter set back along the northern (Howatt Street) boundary was excluded from the bulk excavation, this strip being dedicated for landscaping.

1.3 Project Objectives

The objectives of this detailed site investigation (DSI) were to:

- Establish the nature and degree of any soil and groundwater contamination, by means of intrusive sampling and laboratory analysis for the contaminants of potential concern (COPCs);
- Provide a conclusion regarding suitability of the site for its proposed use; and
- Make recommendations for the appropriate management of any impacted soils and/or groundwater, should site contamination be confirmed.

1.4 Scope of Work

To achieve the above objectives, the following scope of work was completed:

- A review of relevant topographical, geological and soil landscape maps for the project area;
- A review of the previous environmental reports issued for the site;
- Surveying of existing underground services on-site, utilising *Before-You-Dig* plans and ground penetrating radar (GPR) scanning, the latter operated by a licensed locator;
- A site walkover inspection;
- Construction of test boreholes at sixteen locations (BH101-BH116), distributed according to a mixed, targeted and systematic grid pattern across the site (allowing for structural obstacles and occupied premises);
- Multiple level sampling of fill and natural soils at each of the test boreholes;
- In-field screening of soil headspace samples for volatile organic compounds (VOCs), using a portable photoionisation detector (PID);
- Surface soil sampling at seven additional locations, to broaden the screening for asbestos-containing materials (ACMs);
- Installation of a groundwater monitoring well in three of the test bores (BH107M, BH109M and BH113M), followed by the completion of a groundwater monitoring event (GME);
- Laboratory analysis of selected soil and groundwater samples for the COPCs, as determined from the conceptual site model (CSM) and field observations; and
- Data interpretation and reporting.

This report documents the desk study findings, the CSM, data quality objectives, sampling methodologies and laboratory analytical results. It also provides a record of observations made during the site walkover inspections, borehole logs and a discussion of the results in regards to potential risks to human health and the environment. It concludes with a statement concerning the suitability of the site for the proposed (mixed commercial / residential) development.

1.5 Regulatory Framework

The following regulatory framework and guidelines were considered during this DSI:

- *Contaminated Land Management Act 1997* (the CLM Act 1997);
- *Environmental Planning and Assessment Act 1979* (the EP&A Act 1979);
- *Protection of the Environment Operations Act 1997* (the POEO Act 1997);
- *State Environmental Planning Policy (Resilience and Hazards) 2021*;
- *Fairfield Local Environmental Plan 2013*;
- NEPC (2013) *National Environmental Protection (Assessment of Site Contamination) Amendment Measure 1999;*
- NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme*;
- NSW EPA (2020) *Consultants Reporting on Contaminated Land*;
- NSW EPA (2022a) *Sampling Design Guidelines Part 1 – Application*; and
- NSW EPA (2022b) *Sampling Design Part 2 – Interpretation*.

2. Site Description

2.1 Property Identification, Location and Physical Setting

The site identification details and associated information are presented in **Table 2-1**.

Table 2-1 Site Identification

Attribute	Description
Street Address	15 Hilwa Street and 890, 896 and 898 Woodville Road, Villawood NSW
Location and Description	The site is bound by: ▪ North: Howatt Street, followed by commercial properties and Hilwa Park; ▪ East: Apex Service Station (894-896 Woodville Road), followed by Woodville Road and residential properties; ▪ South: residential properties, followed by Kirrang Avenue; and ▪ West: Hilwa Street, followed by residential properties.
Geographical Coordinates	North-western corner of the site (GDA2020-MGA56): Easting: 312792.702; Northing: 6248923.659 (Source: http://maps.six.nsw.gov.au)
Area	Approximately 4,400 m^2
Cadastral Identification	Lot 13 in DP 220348 (15 Hilwa Street; 510m^2) Lot 3 in DP 208677 and Lot 100 in DP 1070965 (890 and 896 Woodville Road; 3410m^2) Lot 1 in DP 217764 (898 Woodville Road; 480m^2)
LGA	Fairfield City Council
State Survey Marks	Permanent survey marks PM3348 D and PM6921 are on the corner of Howatt Street and Woodville Road (north eastern site corner). (Source: http://maps.six.nsw.gov.au)
Zoning	CA: Complex Area E1: Local Centre RE1: Public Recreation (*Fairfield Local Environmental Plan 2013*)

2.2 Surrounding Land Use

The site is situated within an area of mixed uses. Local sensitive receptors within close proximity to the site (<500m) are identified in **Table 2-2**.

Table 2-2 Surrounding Land Use

Direction	Land Use Description	Sensitive Receptors
North	Commercial properties Hilwa Park	Building occupants (15m north) Ecological receptors (40m north-west)
South	Residential properties	Residents (immediately adjacent)
East	Commercial properties (service station) Residential properties	Building occupants (immediately adjacent) Residents (approximately 30m east)
West	Residential properties	Residents (immediately adjacent)

2.3 Regional Setting

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

Table 2-3 Regional Setting Information

Attribute	Description
Topography	Gently down sloping towards the north east. Site surface elevations range from approximately 24 metres Australian Height Datum (mAHD) at the south western boundary, to approximately 22 mAHD at the north eastern boundary. Source: https://meconemosaic.au/
Drainage	Likely to be consistent with the general slope of the site. Surface runoff is expected to be collected in stormwater pits on Woodville Road and Howatt Street, then piped to the municipal drain system.
Geology	With reference to the Geological Survey of New South Wales / Department of Minerals and Energy (GS / DME, 1991) *Penrith 1:100,000 Geological Series Sheet 9030*, the site is underlain by Bringelly Shale (*Rwb*) of Wianamatta Group, consisting of shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone, rare coal and tuff.
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 overlies a Richmond (*ri*) alluvial landscape, characterised by quaternary-age terraces of the Nepean and Georges Rivers, which are mainly flat (slopes <1%), with splays and levees providing local relief of <3m.
Acid Sulfate Soil (ASS) Risk	The site is not mapped for ASS on the *Fairfield Local Environmental Plan 2013*. The *Liverpool Acid Sulfate Soil Risk Map* (1:25,000 scale; Murphy, 1997) indicates that the site lies within an area having *No Known Occurrence* of acid sulfate soil. Based on the site's elevation (>20 mAHD) and map information, the presence of ASS on the site was considered to be unlikely and further investigation was unwarranted.
Nearest Surface Water Feature	A concrete-lined stormwater canal, located approximately 755 m north east.
Groundwater Flow Direction	Anticipated to be north easterly, towards the concrete-lined canal, which ultimately drains into the Georges River (approximately 2 km south west of the site).

2.4 Groundwater Bore Records and Local Groundwater Use

An online search for groundwater bores registered with WaterNSW was conducted by EI on 30 September 2024 (https://realtimedata.waternsw.com.au/water.stm; **Appendix D**). There were no registered bores within a 500 metre radius of the site, indicating that the local groundwater resource was not being (heavily) utilised. In addition, there were no receptors between the site and the concrete-lined stormwater canal, located approximately 755 m to the north east.

2.5 Site Walkover Inspection

Observations were recorded by EI during walkover inspections of the site, conducted on 10 and 30 October 2024. These observations are summarised below and photographs taken during the inspection are presented in **Appendix E**.

- The site was comprised of two residential buildings (located at 15 Hilwa Street and 898 Woodville Road) and a commercial building (located at 890 and 896 Woodville Road; occupied by *Gospel Pianos*), with associated vehicle parking and storage areas.
- The surroundings consisted of commercial and residential properties. An Apex Service Station was adjacent to the site, within the inner portion of the U-shape, its address being 894-896 Woodville Road.
- The site surface was flat, with a gentle down slope towards the north-east / east.

- 15 Hilwa Street (Lot 13 in DP 220348) formed the south-western corner of the site. It contained a single storey, residential building.
    - The gardens fronting Hilwa Street were in fair condition, with no signs of plant distress.
    - The paved driveway and entrance in front of the property were in good condition, with no cracking observed.
- 898 Woodville Road (Lot 1 in DP 217764) formed the south eastern corner of the site. It contained a single storey, residential building.
    - The gardens fronting Woodville Road were in good condition, with no signs of plant distress.
    - The concrete paved driveway and parking area in the front of the property were in fair condition, with some cracking observed.
- 890 and 896 Woodville Road (Lot 3 in DP 208677 and Lot 100 in DP 1070965) was a U-shaped block of land, covering the central and northern portions of the site. This area contained a single storey, commercial (warehouse) building with basement level for storage and associated vehicle parking and storage areas on asphalt hardstand.
    - Garden areas at the front (facing Woodville Road) and within narrow strips around the perimeter of the property were in good condition with no signs of plant distress.
    - The asphalt hardstand was in poor condition, with extensive cracking and portions replaced with concrete slabs. A rectangular concrete patch was noted along western boundary, suggesting the possible presence (or former presence) of an underground storage tank (UST).
    - Boxed floor tiles and a stockpile of timber pallets were present in the western central portion of this property.
    - A strip drain, blocked by soil, was in the north eastern corner of the property.
- No visual evidence of groundwater wells was observed on the site.
- No suspicious odour, or visual evidence of gross contamination, was observed on any part of the site during the inspections.
- No above-ground storage tank (AST) was present on the site.
- No visual or olfactory (hydrogen sulphide) evidence of actual or potential ASS was encountered.

Surveying of Underground Services

The site inspection of 30 October 2024 coincided with a survey for existing underground services, utilising *Before-You-Dig* plans and ground penetrating radar (GPR) scanning, the latter performed by Smartscan Locators Pty Ltd (SL). Refer to **Appendix F** for the corresponding SL *Site Report*, dated 30 October 2024.

With respect to the rectangular concrete patch near the western boundary of 890 and 896 Woodville Road, the SL report stated:

- The multiple scans “did not validate the parameters associated with the potential underground storage tank”; however, there were
- indications “suggesting the presence of an anomaly or variation in the subsurface composition”; such that
- “the findings point to potential underground features that warrant further exploration and analysis”.

3. Previous Reports

Previous investigations of the site were documented under the following reports:

- EI (2022a) *Preliminary Site Investigation; 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW* (EI Australia Report E25635.E01_Rev0, dated 27 June 2022); and
- EI (2022b) *Preliminary Geotechnical Investigation; 15 Hilwa Street, 890, 896 & 898 Woodville Road, Villawood NSW* (EI Australia Report E25635.G01, dated 27 June 2022).

A summary of the relevant information is provided in **Table 3-1**.

Table 3-1 Summary of Previous Reports

Stage	Summary
***Preliminary Site Investigation* (EI, 2022a)**	
Objective	To appraise the potential for site contamination.
Scope of Work	The investigation included: ▪ Desktop review of site (use) history, based on land title deeds, aerial photographs, property files archived by Fairfield City Council and a search for dangerous goods licencing records with SafeWork NSW; ▪ A site inspection; and ▪ Presentation of a preliminary CSM.
Key Findings	The site was occupied by two residences and a commercial (warehouse) building, with storage sheds and vehicle parking areas (across the central and northern portions). The site had a history of commercial and residential land uses. The commercial activities undertaken at the site included a donut shop, restaurants and a piano store. The surrounding areas also consisted of mixed commercial and residential properties, with a petrol service station immediately adjacent to the east (cross- to down- gradient). The service station was in operation at the time of the investigation. The site was free of statutory notices and licensing agreements issued by the Environment Protection Authority of New South Wales (EPA) under the *Contaminated Land Management Act 1997* and *Protection of the Environment Operations Act 1997*. The site was not included on the *List of NSW Contaminated Sites Notified to the EPA*. The SafeWork NSW database search did not locate any records pertaining to the on-site storage of dangerous goods (including under and above ground storage facilities). The preliminary CSM established there was “moderate” potential for contamination to exist on the land, as a result of: ▪ The importation of fill of unknown origin and quality, used to grade the site surface and/or backfill excavated areas; ▪ Deposition of hazardous materials, such as asbestos and lead, from building fabrics; ▪ Application of pesticides, particularly around building footings; ▪ Spills and leaks from parked vehicles; and ▪ Migration of mobile contaminants, both from on-site and adjacent commercial activities, in particular petroleum hydrocarbons from the (former) use of fuel storage / dispensing facilities and automotive servicing.
Conclusion and Recommendation	EI concluded that there was potential for site contamination. It was recommended that further (detailed) investigation be conducted.

Stage	Summary
***Preliminary Geotechnical Investigation* (EI, 2022b)**	
Objective	To assess the likely sub-surface conditions.
Scope of Work	The investigation included: ▪ Review of relevant geological and soil landscape maps; ▪ Review of documents associated with previous and proposed development of the site; ▪ Site walkover inspection; and ▪ Data interpretation and reporting.
Key Findings	The conceptual ground model inferred fill materials to be present at the site, overlying residual silty clay soils and (weathered) shale bedrock. Groundwater was anticipated to be between 5-6 mBGL.
Recommendations	EI recommended that an intrusive investigation be conducted, involving at least six boreholes cored to bedrock, with three of these being converted into groundwater monitoring wells, to allow the completion of pump out tests.

4. Conceptual Site Model

In accordance with NEPC (2013) *Schedule B2 – Guideline on Site Characterisation*, EI developed a CSM as part of the contamination appraisal, assessing plausible linkages between potential contamination sources, migration pathways and receptors. The CSM provided a framework for identifying data gaps in the existing site characterisation (i.e. assisted in determining the scope of the DSI).

4.1 Summary of Site History

Based on the findings from the preliminary investigation (**Section 3**), the southern portions of the site (15 Hilwa Street and 898 Woodville Road) had continuously been used for residential purposes. The central and northern portions had been used for commercial purposes since the mid-1960s, at least, the activities including a donut shop, restaurants and piano store. The presence of a rectangular, concrete slab repatch near the mid-western boundary, coupled with the GPR scanning of this area (**Section 2.5**), suggested the presence of a former UST.

The local surroundings had consisted of residential and commercial properties since the 1940s, at least. A petrol service station was immediately adjacent (east; on 894-896 Woodville Road).

4.2 NSW EPA Online Records

Searches of the public registers maintained by the NSW EPA for statutory notices and licensing agreements issued under the *Contaminated Land Management Act 1997* (CLM Act 1997) and *Protection of the Environment Operations Act 1997* (POEO Act 1997) were repeated by EI for this DSI.

Record of Notices Under Section 58 of CLM Act 1997

An on-line search of the contaminated land public record was conducted on 30 September 2024. The contaminated land public record is a searchable database of:

- Orders made under Part 3 of the CLM Act 1997;
- Notices available to the public under Section 58 of the CLM Act;
- Approved voluntary management proposals under the CLM Act 1997 that have not been fully carried out and where the approval of the EPA has not been revoked;
- Site audit statements provided to the NSW EPA under Section 53B of the CLM Act 1997 that relate to significantly contaminated land;
- Where practicable, copies of anything formerly required to be part of the public record; and
- Actions taken by the NSW EPA under Section 35 or 36 of the *Environmentally Hazardous Chemicals Act 1985* (EHC Act 1985).

The search confirmed that neither the site, nor the surrounding lands within close proximity (≤500m), were subject to any regulatory notices relevant to the above legislations.

List of NSW Contaminated Sites Notified to EPA

A search through the *List of NSW Contaminated Sites Notified to the EPA* under Section 60 of the CLM Act 1997 was conducted on 30 September 2024. This list is maintained by the EPA and includes properties on which contamination has been identified, but not deemed to be impacted significantly enough to warrant regulation.

The search confirmed that neither the site, nor the surrounding lands within close proximity (≤500m) were notified as contaminated to the NSW EPA (i.e. they were not included in the list).

POEO Public Register

A search of the *Protection of the Environment Operations Act 1997* public register was conducted on 30 September 2024. This public register contains records related to environmental protection licences, applications, notices, audits, pollution studies and reduction programs. The search confirmed that the site was not subject to any licensing agreements / notices / programs relevant to this legislation.

Note: The closest property on the register was KNC Haulage Pty Ltd at 2 Urana Street, Villawood (approximately 2,175 m north east of the site), which was subject to a penalty notice in August 2000.

4.3 Subsurface Conditions

The predicted ground model is summarised in **Table 4-1**.

Table 4-1 Conceptual Ground Model

Unit	Material	Comment
1	Hardstand	A layer of concrete hardstand and/or road-base, in paved portions of the site.
2	Fill	Inferred to be poorly compacted, sand-, clay- and gravel- dominated filling. Possibly deepest beneath existing structures and in concrete (repatched) areas.
3	Residual Soils	Inferred as silty clays, medium to high plasticity, typically firm to very stiff, grading into extremely weathered bedrock.
4	Bedrock	Inferred as Bringelly Shale, expected to be of very low strength and distinctly weathered initially, with the strength generally increasing and weathering decreasing with depth.
5	Groundwater	The depth to groundwater is inferred to be 5-6 mBGL.

4.4 Potential Contamination Sources

The potential contamination sources were identified as follows:

- The importation of fill of unknown origin and quality, used to grade the site surface and/or backfill excavated areas;
- Deposition of hazardous materials, including ACMs, lead-based paints and other metals, from building fabrics;
- Application of pesticides, particularly around building footings;
- Spills and leaks from parked vehicles; and
- Migration of mobile contaminants, both from on-site and adjacent commercial activities, in particular petroleum hydrocarbons from the (former) use of fuel storage / dispensing facilities and automotive servicing.

4.5 Potential Contaminants

The Potential contaminants for this site were considered to be:

- **Soil:**
  - Priority Metals (PMs; arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc);
  - Total Recoverable Hydrocarbons (TRHs);
  - Volatile Organic Compounds (VOCs); including
  - Benzene, Toluene, Ethyl-benzene and Xylenes (BTEX);

  - Polycyclic Aromatic Hydrocarbons (PAHs);
  - Organochlorine and Organophosphorus Pesticides (OCPs / OPPs);
  - Polychlorinated Biphenyls (PCBs);
  - Phenols; and
  - Asbestos.
- **Groundwater:**
  - PMs;
  - TRHs;
  - VOCs (including BTEX);
  - PAHs;
  - Phenols; and
  - Per- and Poly- Fluoroalkyl Substances (PFAS).

Note: The potential for any other emerging chemical of concern to be present on-site, such as dioxins and organotin compounds, was considered to be very low.

4.6 Risk Assessment

An assessment of the potential contamination risks for the site is summarised in **Table 4-2**.

Table 4-2 Assessment of Potential Contamination Risk

Potential Source	Impacted Medium	COPC	Risk of Contamination
Importation of fill of unknown origin and quality	Soil	PM, TRH, BTEX, PAH, OCP, OPP, PCB, asbestos	**Moderate** Filling is expected to be present.
Hazardous building materials	Near surface soil	PM (lead in particular), asbestos	**Low to Moderate** Buildings have been present since 1940s-1960s, and thus could include ACMs and lead-based paints.
Application of pesticides	Surface soil (building footings)	PM, OCP, OPP	**Low** If present, will be limited to shallow, building footprints. Metals and OCP highly persistent in soils though.
Leakage from vehicles	Surface soil	PM, TRH, VOC (including BTEX), PAH, phenols	**Low** Contamination, if present, likely to be localised and restricted to surface or shallow soil horizons. Cracking was observed in the parking areas, however.
Migration from on- and off- site sources	Soil (adjacent to USTs) Groundwater	PM, TRH, VOC (including BTEX), PAH, phenols, PFAS	**Moderate** Petrol station directly adjacent (east) of the site, which is a cross- to down- gradient area. A rectangular, concrete slab repatch near the mid-western boundary suggested the potential presence of a former UST on-site.

4.7 Identified Receptors

The following potential receptors of site contamination were identified:

- Current and future site users / occupiers;
- On-site demolition, excavation and construction workers (during future redevelopment);
- Users of the adjacent land during future redevelopment works;
- Future intrusive (maintenance) workers;
- Ecological receptors in areas of exposed soil; and
- Ecological communities in local groundwater and Georges River, including its tributaries.

4.8 Summary

Refer to **Table 4-3** for an overview of the CSM, identifying the potential contamination sources, exposure pathways and human and environmental receptors.

The CSM established there was potential for contamination to be present within the site area and that the risks to human and environmental receptors posed by the identified contaminant sources were such that further (detailed / field-based) investigation was warranted.

Table 4-3 Conceptual Site Model

Potential Source	Impacted Medium	Contaminants of Potential Concern	Transport Mechanism	Exposure Pathway	Potential Receptor	Source-Pathway-Receptor (SPR) Linkage
Imported fill materials Hazardous building materials Application of pesticides Leakage from vehicles Migration from on- and off-site sources	Soil	PM, TRH, VOC (BTEX), PAH, OCP, OPP, PCB, phenols, asbestos	Disturbance of surface and subsurface soils during site redevelopment, future site maintenance and future use of the site post redevelopment	Ingestion Dermal contact Inhalation of particulates	Current and future site users Demolition / excavation / construction workers Adjacent site users Future intrusive workers	**Potentially complete**
			Atmospheric dispersion from soil to outdoor and indoor air spaces			
			Volatilisation of contamination from soil and diffusion to indoor air spaces	Inhalation of vapours		
			Roots absorption of bioavailable compounds from impacted soils	Biota uptake	Ecological receptors in areas of exposed soil / landscaping	**Potentially complete**
	Groundwater	PM, TRH, VOC (BTEX), PAH, phenols, PFAS	Volatilisation of contamination from groundwater to indoor or outdoor air spaces (onsite and offsite)	Inhalation of vapours	Current and future site users Demolition / excavation / construction workers Adjacent site users Future intrusive workers	**Potentially complete**
			Disturbance of surface soils during site redevelopment, future site maintenance and future use of the site post redevelopment	Ingestion Dermal contact	Demolition / excavation / construction workers Future intrusive workers	
			Migration of dissolved phase impacts in groundwater via diffusion and advection	Biota uptake	Georges River and tributaries	**Potentially complete**

Footnotes:
The overall potential for contamination to exist on the site was deemed to be moderate
Human-health risks associated with all Source-Pathway-Receptor (SPR) linkages considered to be low to moderate with the site its current (paved / built) state
Site workers during demolition, excavation and construction, as well as future building / service maintenance, assumed to use personal protective equipment (PPE), as per SafeWork NSW regulations; hence, eliminating SPR linkage

5. Field Work Methodology

5.1 Sampling, Analytical and Quality Plan

A pre-conceived sampling, analytical and quality plan (SAQP) was required, to ensure that the data collected during the DSI were representative, providing a robust basis for land suitability decisions. The SAQP for this investigation included description of the following:

- Data quality objectives (DQOs), restating the objective of the investigation, then articulating the perceived goals of the sampling and analysis components, as well as the rationale behind their conception and means of their attainment;
- A quality assurance / quality control (QA/QC) program specific for the data set; defining the
- Data quality indicators (DQIs), corresponding to the QC measures integrated into the sampling and analysis components of the investigation phase;
- Sampling methodology, including description of the (intended) sampling points, the media sampled at each point and details of any in-field screening;
- Procedures for sample handling, preservation and storage; and
- Identification of the required laboratory analyses.

5.2 Data Quality Objectives

In accordance with the NEPC (2013) *Schedule B2 Guideline on Site Characterisation*, the USEPA (2006) *Data Quality Assessment* and EPA (2017) *Guidelines for the NSW Site Auditor Scheme*, DQOs were developed by the EI investigation team, following the seven step process endorsed by the NEPC and EPA (**Table 5-1**). The appropriate levels of data quantity and quality needed for the specific requirements of the project were thereby established.

Table 5-1 Summary of Project Data Quality Objectives

DQO Steps	Details
1. State the Problem Summarise the contamination problem that required environmental data.	The site was designated for redevelopment, involving the demolition of existing structures, followed by the construction of a multi-storey, mixed-used tower building, overlying a three to four level basement facility (**Section 1.2**). The basement would require bulk soil excavation to a maximum depth of 12.8 mBGL. The CSM indicated there was potential for contamination. Further (detailed) investigation required, by way of soil and groundwater sampling, with analyses for the contaminants of potential concern (COPCs). The environmental (contamination) investigations were required by Fairfield Council, in support of the development application. Also necessary in order for the developer to meet obligations under *State Environmental Planning Policy (Resilience and Hazards) 2021* and the C*ontaminated Land Management Act 1997*.
2. Identify the Goal of the Study (Identify the decisions) Identify the decisions that needed to be made on the contamination problem and the collated data.	Based on the objectives outlined in **Section 1.3**, the decisions for this DSI concerned the following questions: ▪ Has the nature, extent and source of any soil and/or groundwater impacts on-site been defined? ▪ What impact do the sub-surface conditions have on the fate and transport of any contaminants that may be present? ▪ Does the level of impact coupled with the fate and transport of potential contaminants represent an unacceptable risk to identified human and/or environmental receptors on- or off- site? ▪ Does the collected data provide sufficient information to allow the selection and design of an appropriate remedial strategy, if necessary? ▪ If the data does not provide sufficient information, what data gaps require closure to enable the suitability of the site to be determined, or selection and design of an appropriate remedial strategy? At the end of the DSI, a conclusion had to be made regarding whether the site was suitable for the proposed redevelopment, or if additional assessment / remedial works were required to make the site suitable.
3. Identify Information Inputs (Identify inputs to decision) Identify the information needed to support any decision relating to the contamination status of the site.	Inputs to the decision making process included: ▪ The proposed development plans and land use; ▪ Review of previous investigations at the site; ▪ National and NSW EPA guidelines endorsed under the *NSW Contaminated Land Management Act 1997*; ▪ Observations obtained from the intrusive (sampling) components, in locations and to depths appropriate for assessment purposes; and ▪ Laboratory analysis of selected samples for the COPCs.
4. Define the Boundaries of the Study Specify the spatial and temporal limits to the current investigation.	Lateral – The proposed development area, as shown on **Figure 2**, **Appendix A**. Vertical – From the ground surface, down to the deepest depth of borehole drilling. Temporal – Results were valid on the day of data / 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.
5. Develop the Analytic Approach (Develop a decision rule) Specify the decision rule, in the form of a simple statement that determined a logical basis for the conclusion of the investigation.	The decision rules for the investigation were: ▪ If the concentrations of contaminants in the soil and/or groundwater data exceed the adopted criteria, then assess the need to further investigate the extent of impacts on-site. ▪ Decision criteria for QA/QC measures are defined by the DQIs in **Table 5-2**.

DQO Steps	Details
6. Specify Acceptance Criteria (Specify limits on decision errors) Specify the acceptable limits on decision errors, which were established (defined) by the inherent uncertainties in the data.	Specific limits for this project were in accordance with National and EPA guidance, which covered standard procedures for field sampling and handling, as well as the indicators of data quality. The specific criteria were: ▪ The null hypothesis for the investigation was that the concentration of each COPC exceeded relevant land use criteria across the site. ▪ Acceptance of site suitability was based on the probability that: ‣ Individual COPC results satisfied (were below) the corresponding assessment criteria; ‣ The standard deviation of the data set for each COPC was less than 50% of the relevant criterion; and ‣ No single result exceeded the corresponding criterion by 250% or more. ▪ Concentrations of COPCs that were below the assessment criteria were regarded as indicative of suitability for the proposed land use(s). If contaminant concentrations exceeded the adopted criteria, further investigation / remediation was considered prudent.
7. Develop the Plan for Obtaining Data (Optimise the study design) Identify the most resource-effective sampling and analysis design, to satisfy the DQOs of the investigation.	In order to identify the most resource-effective sampling and analysis design and satisfy the DQOs: ▪ Soil sampling was conducted at sixteen test bores (BH101-BH116), distributed according to a mixed, targeted and systematic grid pattern. Boreholes BH109M, BH111 and BH114 were targeted downslope of the possible former UST area, being the rectangular concrete slab in the western portion of 890 and 896 Woodville Road. Boreholes BH107M, BH112, BH115 and BH116 were in the vicinity of infrastructure associated with the adjacent service station (i.e. the expected location of the tank farm and workshop). Borehole BH113M represented the point of lowest site elevation (approximately 22 mAHD), where mobile contaminants would migrate towards. Remaining bores completed the/a grid pattern. ▪ An upper soil profile sample was collected at each borehole location and tested for the potential contaminants, to assess the conditions of the fill layer, and impacts from activities at ground level. ▪ Surface fill sampling was completed at seven additional locations, to broaden the screening for ACMs. ▪ Several natural soil samples were analysed for metals, TRH, BTEX, VOCs and PAH. These samples were selected on field observations (including visual and olfactory evidence). ▪ Three groundwater monitoring wells were installed, with a GME completed. ▪ Representative soil and groundwater samples were laboratory analysed for the COPCs. ▪ Review of the results was undertaken to determine if further sampling was warranted. Prior to commencement of the field work, written instructions were issued to the personnel assigned for their completion. These included standard operating procedures (SOPs), which were drafted with reference to NEPC and EPA guidelines. All subsequent field works were performed in accordance with these SOPs.

5.3 Data Quality Indicators

To ensure the investigation data were acceptable, the quality indicators outlined in **Table 5-2** were applied. Assessment of data quality is presented in **Section 6**.

Table 5-2 Data Quality Indicators

QA/QC Component	Data Quality Indicator(s)
Precision A quantitative measure of the variability (or reproducibility) of data	Data precision was assessed by reviewing the performance of blind field duplicate sample sets, through calculation of relative percentage differences (RPD). Precision was deemed acceptable if RPDs were found dominantly to be less than 30%. RPDs that exceeded this range were considered acceptable where: ▪ Results were less than 10 times the limit of reporting (LOR); ▪ Results were less than 20 times the LOR and the RPD was less than 50%; or ▪ Heterogeneous materials or volatile compounds were encountered.
Accuracy A quantitative measure of the closeness of reported data to the "true" value	Data accuracy was assessed through the analysis of: ▪ Split field duplicate sample sets; ▪ Trip blank and spike samples; ▪ Field / method blanks; ▪ Matrix spike sample sets; and ▪ Laboratory control samples.
Representativeness The confidence (expressed qualitatively) that data are representative of each medium present onsite	To ensure the data produced by the laboratory were representative of conditions encountered in the field, the following measures were taken: ▪ Blank samples run in parallel with field samples, to confirm there were no unacceptable instances of laboratory artefacts; ▪ Review of RPDs for field and laboratory duplicates to provide an indication that the samples were generally homogeneous, with no unacceptable instances of significant sample matrix heterogeneities; and ▪ The appropriateness of collection methodologies, handling, storage and preservation techniques was assessed to ensure/confirm there was minimal opportunity for sample interference or degradation (i.e. volatile loss during transport due to incorrect preservation / transport methods).
Completeness A measure of the amount of useable data from a data collection activity	Analytical data sets acquired during the DSI were considered complete upon confirmation that: ▪ SOPs for sampling protocols were adhered to; and ▪ All chain of custody (COC) documentation was properly completed. It could then be determined whether the generated data were sufficient for the purposes of the land use assessment.
Comparability The confidence that data are equivalent for each sampling event	Issues of comparability were reduced through adherence to SOPs and regulator-endorsed or published guidelines and standards on each data gathering activity. In addition, the data were collected by experienced samplers and NATA-accredited laboratory methods were employed for all testing programs.

5.4 Sampling Rationale

With reference to the CSM described in **Section 4**, as well as the DQOs in **Table 5-1**, soil and groundwater sampling were planned in accordance with the following rationale.

- Fill and natural soils were sampled at 16 test bore locations (BH101-BH116), distributed according to a mixed, targeted and systematic grid pattern across the site (allowing for structural obstacles and occupied premises).

  This number of locations complied with the minimum number of points recommended under Table 2 of EPA (2022a) *Sampling Design Part 1 – Application* for investigation of an area of 4,400 m^2.

Boreholes BH109M, BH111 and BH114 were targeted downslope of the possible former UST area (being the rectangular concrete slab in the western portion of 890 and 896 Woodville Road). Boreholes BH107M, BH112, BH115 and BH116 were in the vicinity of infrastructure associated with the adjacent service station (i.e. the expected location of the tank farm and workshop). Remaining bores completed the/a grid sampling pattern.

Borehole BH113M represented the point of lowest site elevation (approximately 22 mAHD), where mobile contamination would most likely migrate towards.

In-field screening of soil headspace samples for VOCs was performed using a portable PID.

Surface soil sampling at seven additional locations was completed, to broaden the screening for ACMs.

- The drilling of bores BH107M, BH109M and BH113M was extended to 8.6 mBGL, 8.1 mBGL and 10 mBGL, respectively (all encountering refusal in shale bedrock), enabling the installation of a groundwater monitoring well in each. A GME was subsequently completed.
- Laboratory analysis of representative soil and groundwater samples was commissioned for the identified COPCs.

5.5 Assessment Criteria

The site was designated for mixed, commercial (retail) and residential (apartment) redevelopment. The proposed tower building would overly a three level, common basement facility (**Section 1.2** and **Appendix C**).

The assessment criteria adopted for this DSI were selected from available published guidelines that are endorsed by national or state regulatory authorities, with due consideration of the exposure scenario that is expected for the site, the likely exposure pathways, and the identified potential receptors. They are defined in **Table 5-3**.

For the purposes of this investigation, the adopted soil assessment criteria are referred to as *Soil Investigation Levels* (SILs) and the adopted groundwater assessment criteria are referred to as *Groundwater Investigation Levels* (GILs).

Table 5-3 Adopted Investigation Levels for Soil and Groundwater

Medium	Criteria	Rationale
Soil	NEPC (2013) HILs, HSLs, EILs, ESLs and Management Limits	**Health-based Investigation Levels (HILs)** NEPC (2013) *HIL B* thresholds for residential settings with minimal opportunities for soil access. **Health-based Screening Levels (HSLs)** NEPC (2013) *HSL A&B* thresholds for vapour intrusion at low to high density residential settings, to assess potential human health impacts from residual petroleum hydrocarbons, including BTEX and naphthalene: applied to areas outside the proposed basement footprint. NEPC (2013) *HSL D* thresholds for vapour intrusion at commercial and industrial settings, to assess potential human health impacts from residual petroleum hydrocarbons, including BTEX and naphthalene: applied to the proposed basement footprint. Fine grained soil criteria were applied, as the material type (clay) observed at the site. **Asbestos Health-based Screening Levels:** ▪ Bonded ACM: *HSL B* across building footprint; ▪ No visible ACM on the soil surface for all parts of the site; ▪ Asbestos presence/absence screening: <0.01% w/w. **Ecological Investigation / Screening Levels (EILs / ESLs)** Results for samples collected from areas of proposed soil retention (i.e. outside the basement footprint) were compared against NEPC (2013)

Medium	Criteria	Rationale
		EILs/ESLs applicable to fine grained soil in urban residential settings, to assess the potential impact on ecological receptors. The derived EIL criteria were based on the addition of a site-specific, added contaminant limit and the ambient background concentration for a high traffic NSW suburb. **Management Limits for Petroleum Hydrocarbons** Where the HSLs and/or ESLs for TRH fractions (F1-F4) were exceeded, sample results were compared against the NEPC (2013) Management Limits, to assess potential site management issues such as fire and explosive hazards and adverse effects on buried infrastructure.
Groundwater	ANZG (2018) GILs for Freshwaters and NEPC (2013) Groundwater HSLs	**Groundwater Investigation Levels (GILs) for Freshwaters** ANZG (2018) provides GILs for typical, slightly-moderately disturbed aquatic ecosystems. The trigger values for 95% level of protection of aquatic ecosystems were adopted, with the 99% level values being applied for bio-accumulative analytes. **Health-based Screening Levels (HSLs)** The NEPC (2013) groundwater HSLs for vapour intrusion were adopted, used to assess potential human health impacts from residual petroleum hydrocarbons, including BTEX and naphthalene: Areas outside the basement footprint: *HSL A/B* thresholds for low to high density residential settings. Areas within the basement footprint: *HSL D* thresholds for commercial / industrial settings.

5.6 Soil Sampling Methodology

The soil sampling methodology is described in **Table 5-4**. The borehole locations are presented in **Figure 2**, **Appendix A**.

Table 5-4 Summary of Soil Sampling Methodology

Activity	Details
Fieldwork	Borehole drilling and soil sampling works were conducted on 10 and 30 October 2024. Soil sampling was conducted at sixteen boreholes (BH101 to BH116), and seven additional surface fill locations (SS1 to SS7).
Service locating	A GPR survey was conducted on 30 October 2024, within the western portion of the site, targeting the suspected former UST area (see **Section 2.5** and **Appendix G**).
Drilling Method and Depth	The test boreholes BH101 to BH113M were drilled using a mechanical, track-mounted rig, fitted with solid flight augers (0.35-10 mBGL). Boreholes BH114 to BH116 were drilled using a hand auger (2.6 mBGL, 2.5 mBGL and 2.6 mBGL, respectively). The corresponding borehole logs are presented in **Appendix G**. Seven surface fill samples (0.05-0.1 mBGL) for additional ACM screening were collected by manual method (trowel and mixing bowl). **Notes:** Boreholes BH109M, BH111 and BH114 were located downslope of the possible former UST area (being the rectangular concrete slab in the western portion of 890 and 896 Woodville Road). Boreholes BH107M, BH112, BH115 and BH116 were located in the vicinity of infrastructure associated with the adjacent service station (i.e. the expected location of the tank farm and workshop). BH113M represented the point of lowest site elevation (approximately 22 mAHD), where mobile contamination would most likely migrate towards.
Soil Logging	Drilled / examined soils were described in-field with respect to lithological characteristics and evaluated on a qualitative basis for odour and visual signs of contamination. Soil classifications and descriptions were based on Australian Standard (AS) 1726-2017.
Field Observations	Field observations such as inclusions, odour and colour in/of recovered soil samples were noted in the borehole logs (**Appendix G**).

Activity	Details
In-Field Soil Vapour Screening	Screening for VOCs in soil headspace samples was conducted using a pre-calibrated PID with a 10.6mV ionisation lamp. Refer to Appendix F for the calibration certificate.
Soil Sampling	Soil samples were collected by dry grab method from the auger or site surface (the sampler wearing dedicated nitrile gloves) and placed into laboratory-supplied, glass jars and zip-lock, plastic bags (the latter for asbestos and PID screening samples). Blind and split field duplicates were separated from the primary samples and placed into dedicated glass jars. At each location, aliquots of soil were placed into separate zip-lock bags for laboratory asbestos analysis and in-field VOC screening.
Decontamination Procedures	New sets of nitrile sampling gloves were used per sample. Sampling equipment (i.e. auger, trowel and mixing bowl) was scrubbed and washed with a mixture of *Alconox* and potable water (1/20) until free of all residual materials, then rinsed with potable water.
Management of Soil Cuttings	Soil cuttings were used to backfill the completed boreholes.
Sample Preservation and Transport	Samples were stored in an insulated chest (containing ice packs), whilst on-site and in transit to the contracted laboratories. Primary soil samples were transported to SGS Australia Pty Ltd (SGS; the primary laboratory) under strict chain-of-custody (COC) conditions, while the split (inter-laboratory) field duplicate was submitted to Envirolab Services Pty Ltd (Envirolab; the secondary laboratory). Signed COC certificates and sample receipt advice (SRA) were provided by SGS and Envirolab for confirmation purposes (**Appendix H**).
Laboratory Analysis and Quality Control	Soil samples were analysed by SGS and Envirolab for the COPCs. All analyses were performed within the required holding period, as documented in the corresponding laboratory reports (**Appendix I**). In addition to the split (inter-laboratory) field duplicate (analysed by Envirolab), QC testing comprised one blind (intra-laboratory) field duplicate, an equipment rinsate blank, a laboratory-prepared trip spike sample and a laboratory-prepared trip blank sample, all analysed by SGS.

5.7 Groundwater Sampling Methodology

The groundwater sampling methodology is described in **Table 5-5**. Monitoring well locations are identified in **Figure 2**, **Appendix A**.

Table 5-5 Summary of Groundwater Sampling Methodology

Activity	Details
Fieldwork	Three groundwater monitoring wells (BH107M, BH109M and BH113M) were installed on 10 October 2024. The bores were mechanically drilled to 8.6 mBGL, 8.1 mBGL and 10 mBGL, respectively (all encountering refusal in shale bedrock).
Well Construction	Well construction was in accordance with NUDLC (2020) and involved the following: ▪ Ø50 mm, Class 18 uPVC, threaded, machine-slotted screen and casing, with slotted intervals in wells set to screen to at least 0.5m above the standing water level to allow sampling of phase-separated hydrocarbon product, if present; ▪ The base and top of each well was sealed with a uPVC cap; ▪ Annular, graded sand filter was applied to approximately 0.5m above the top of the screen interval; ▪ Granular bentonite was applied above the annular filter to seal the screened interval; ▪ Cement backfilled to just below ground level; and ▪ Surface completion comprised a stick-down section of pipe, a plastic J-cap closing the well and a gatic cover at ground level. Immediately after installation, the well was developed to remove any (seepage) water and sediment. Water level gauging, purging, field testing and sampling of the groundwater monitoring wells were conducted more than one week after installation.

Activity	Details
Well Development	Well development involved agitation and water removal within the full length of the water column using a dedicated, high-density polyethylene (HDPE), disposable bailer. Development was continued until no further reduction in suspected sediment was observed (i.e. after removal of several well volumes).
Well Survey (Elevation)	Ground surface elevation at each monitoring well location was determined using a high precision RKT GNSS using the closest station to the site. Well elevations were obtained in metres AHD. Survey data is provided in the borehole / well logs (**Appendix G**).
Well Gauging	Each monitoring well was gauged to determine SWL, prior to purging and groundwater sampling. Gauging was undertaken with a water/oil interface probe to measure possible light and dense, non-aqueous phase liquids.
Well Purging, Field Testing and Sampling	Groundwater was purged and sampled by a low-flow / minimal draw-down method, using a peristaltic pump with dedicated tubing. During the purging process, water was continuously measured for field parameters (temperature (T), electrical conductivity (EC), oxidation-reduction potential (ORP), dissolved oxygen (DO) and pH) using a *Hanna Multi Parameter 9829* positioned within an open flow-through cell. Once water quality parameters stabilised (i.e. within ±0.2° for T, ±3% for EC, ±20mV for ORP, ±10% for DO and ±0.05 for pH), groundwater sampling was undertaken, by diverting the outlet of the bladder pump (immediately before the flow cell) to the sampling vials and bottles. Refer to **Appendix F** for all field data sheets.
Decontamination Procedure	Dedicated gloves were used for the collection of each sample. Sampling equipment (interface probe, sampling pump, and water quality kit probes) were decontaminated between uses by washing in a mixture of *Alconox* and potable water (1/20), and then rinsed with potable water.
Sample Preservation	Samples were collected into laboratory-supplied, pre-preserved containers, as follows: ▪ One, 1 litre amber glass, acid-washed and solvent-rinsed bottle; ▪ Two, 40mL glass vials, pre-preserved with dilute hydrochloric acid, Teflon-sealed; ▪ One, 250mL HDPE bottle, pre-preserved with dilute nitric acid (1mL); and ▪ One HDPE bottle for PFAS analysis, with no Teflon-lined lid. Samples for metals analysis were field filtered through 0.45 µm pore-size membranes. All containers were filled with sample to the brim then capped and stored in an insulated chest (containing ice packs), until completion of the fieldwork and during transit to the laboratory.
Sample Transport	Primary water samples were transported to SGS under strict COC conditions, while the split (inter-laboratory) field duplicate was submitted to Envirolab. Signed COC certificates and SRA were provided by SGS and Envirolab for confirmation purposes (**Appendix H**).
Laboratory Analysis and Quality Control	Groundwater samples were analysed by SGS and Envirolab for selected COPCs. All analyses were performed within the required holding period, as documented in the corresponding laboratory reports (**Appendix I**). In addition to the split (inter-laboratory) field duplicate (analysed by Envirolab), QC testing comprised one blind (intra-laboratory) field duplicate, an equipment rinsate blank, a laboratory-prepared trip spike sample and a laboratory-prepared trip blank sample, all analysed by SGS.

6. Data Quality Assessment

The assessment of data quality is defined as the statistical evaluation of environmental results to determine if they meet the objectives of the project (USEPA, 2006). For this DSI, data quality assessment involved an evaluation of the compliance of the field (sampling) and laboratory procedures with established protocols, as well as the accuracy and precision of the associated results from the quality control measures. The findings are summarised in **Table 6-1** and discussed in further detail in **Appendix K**.

In summary, the overall quality of the analytical data from this DSI was considered to be of an acceptable standard for interpretive use and preparation of an updated CSM.

Table 6-1 Quality Assurance Process

Stage	QA/QC Component(s)	Conformance [Yes, Part, No]	Report Section(s)
Preliminaries	DQOs and DQIs established	Yes	**Section 5.2**
Sampling Plan and Field Work	Use of appropriate sampling plan	Part	**Table 5-1**, **Section 5.4**
	Suitable documentation of fieldwork observations including borehole logs, sample register, field notes, calibration forms	Yes	**Appendices F** and **G**
	All media sampled and duplicates collected	Yes	**Appendix H**
	Use of approved and appropriate sampling methods (soil and groundwater)	Yes	**Section 5**
	Selection of soil samples according to field PID readings (where VOCs are present)	Yes	**Section 5**
	Preservation and storage of samples upon collection and during transport to the laboratory	Yes	**Sections 5.6** and **5.7**
	Appropriate rinsate, field and trip blanks taken	Yes	**Sections 5.6** and **5.7** and **Appendix K**
	Completed field and analytical laboratory sample COC procedures and documentation	Yes	**Appendix H**
Laboratory	Sample holding times within acceptable limits	Yes	**Appendices I**, **J**, **K**
	Use of appropriate analytical procedures and NATA-accredited laboratories	Yes	**Appendices I**, **J**, **K**
	LORs low enough to meet adopted criteria	Yes	**Appendices I**, **J**, **K**
	Blanks	Yes	**Appendices I**, **J**, **K**
	Duplicates	Yes	**Appendices I**, **J**, **K**
	Matrix spikes	Yes	**Appendices I**, **J**, **K**
	Surrogates	Yes	**Appendices I**, **J**, **K**
	Results for replicates expressed as RPD	Yes	**Appendices I**, **J**, **K**
	Checking for unusual or anomalous results that appear inconsistent with field observations	Yes	**Appendices B**, **F**, **G**
Reporting	Report reviewed by senior staff to assess project meets desired quality, EPA guidelines and project outcomes	Yes	**Document Control**

7. Results

7.1 Soil

Subsurface Conditions

Based on the logs for boreholes BH101-BH116 (**Appendix G**), and excluding all hardstand pavements, the sub-surface of the site was generalised as a layer of poorly compacted, silty sand, gravelly sand and/or sand filling, overlying natural (residual), silty clay / gravelly clay and (weathered) shale bedrock, the latter encountered from 4.7-4.9 mBGL. More detailed description is provided in **Table7-1**.

Table 7-1 Generalised Sub-Surface Profile

Layer	Description	Minimum - Maximum Depth (mBGL)
Fill	Silty SAND; fine to coarse grained, grey / pale brown / brown, with sub-angular to angular gravels, with rootlets, no odour	0.0 -0.7
	Gravelly SAND; fine to coarse grained, grey / brown, with sub-angular to angular gravels, no odour	0.01-0.6
	SAND; fine grained, pale brown, with rootlets, no odour	0.0-0.9
Natural (Residual) Soil	Silty CLAY; medium to high plasticity, orange mottled red / orange / pale grey, no odour	0.3 – 4.7
	Gravelly CLAY; medium plasticity, orange mottled red, with sub angular gravels, no odour	0.6-1.0
Bedrock	SHALE: extremely weathered, initially of low strength and increasing with depth, no odour	4.7 – 10.0+

Field observations and PID Results

Soil samples were collected from the test bores at various depths. All examined soils were evaluated on a qualitative basis for odour and visual signs of contamination (e.g. hydrocarbon odours, oil staining, petrochemical filming, foreign materials, asbestos fragments, ash, and charcoal). The observations were as follows:

- No suspicious odour was detected in any of the examined soils and weathered shale;
- No staining was observed in any of the examined soils and weathered shale;
- No ACM fragments were observed in any of the examined materials (spoil);
- No ash or slag was observed in any of the examined soils and weathered shale.

With regards to the screening of soil headspace samples for VOCs using a calibrated PID:

- No significant PID reading was recorded, the values ranging from 0.0-3.2 parts per million (ppm). These results were consistent with the non-detection of any suspicious odour in the examined soils and weathered shale.

Laboratory Analytical Results

A summary of the laboratory analytical results for the tested (representative) soil samples is presented in **Table7-2**. More detailed tabulation is presented in **Table B.1**, **Appendix B**. Refer also to **Appendix L** for statistical analyses involving the soil data.

All results were found to comply with the adopted SILs applicable to residential settings with minimal soil access, except for the C_{10}-C_{16} (F2) TRH fraction in BH111_0.1-0.2 (170 mg/kg), which slightly exceeded the corresponding ESL of 120 mg/kg.

Table 7-2 Summary of Soil Analytical Results

Number of Primary Samples	Analyte	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Sample(s) Exceeding SIL
Priority Metals				
21	Arsenic	<1	20	None
21	Cadmium	<0.3	0.3	None
21	Chromium	1.7	73	None
21	Copper	2.8	58	None
24	Lead	1	55	None
21	Mercury	<0.05	<0.05	None
21	Nickel	1.1	100	None
21	Zinc	3.6	60	None
PAHs				
21	Naphthalene	<0.1	<0.1	None
21	Benzo(α)pyrene	<0.1	<0.1	None
21	Carcinogenic PAHs (as B(α)P TEQ)	<0.3	<0.3	None
21	Total PAHs	<0.8	<0.8	None
BTEX and TRHs				
24	Benzene	<0.1	<0.1	None
24	Toluene	<0.1	<0.1	None
24	Ethyl benzene	<0.1	<0.1	None
24	Total Xylenes	<0.3	<0.3	None
24	TRH-F1	<25	<25	None
24	TRH-F2	<25	170	None
24	TRH-F3	<90	250	None
24	TRH-F4	<120	260	None
Pesticides and PCB				
13	Total OCPs	<1	<1	None
13	Total OPPs	<1.7	<1.7	None
13	Total PCBs	<1	<1	None
VOCs				
6	Total VOC	<24	<24	None
Phenols				
6	Total phenols	<0.5	<0.5	None
Asbestos				
20	Asbestos	Not detected	Not Detected	None

7.2 Groundwater

Monitoring Well Construction

Three groundwater monitoring wells (BH107M, BH109M and BH113M) were installed for this DSI. The well construction details are summarised in **Table 7-3**.

Table 7-3 Monitoring Well Construction Details

Well	Top of casing (mAGL)	Top of Casing (mAHD)	Well Depth (mBGL)	Screen Interval (mBGL)	Lithology Screened
BH107M	-0.05	22.86	8.6	5.6-8.6	Shale Bedrock
BH109M	1.0	23.88	7.2	4.2-7.2	Shale Bedrock
BH113M	1.0	22.69	10	7.0-10.0	Shale Bedrock

Footnotes:
m AGL – metres above ground level; m AHD – metres Australian Height Datum
Water seepage (first water) was not encountered during drilling of the bores

Field Observations and Water Quality Readings

Field data collected during the GME are presented in **Table 7-4**. Field data sheets are attached in **Appendix G**. Groundwater was evaluated on the basis of odour and visual signs of contamination, with the following observations noted:

- Groundwater was pale white / pale brown in colour, with medium to high turbidity;
- No suspicious odour was detected in any of the wells, or purged and sampled groundwater;
- No sheen was observed in any of the purged and sampled groundwater;
- SWLs were 8.2 mBGL, 6.6 mBGL and 9.78 mBGL, respectively; and
- At the time of the GME, there was insufficient water in BH113M to allow purging / sampling.

Table 7-4 Groundwater Field Data

Well	Well Elevation (mAHD)	SWL (mBGL)	SWL (mAHD)	DO (mg/L)	pH	EC (µS/cm)	T (^{o}C)	ORP (mV)
BH107M	22.91	8.2	14.71	0.65	6.63	23590	24.5	245
BH109M	22.88	6.6	16.28	0.96	6.56	20620	22.0	284
BH113M	21.69	9.78	11.91	-	-	-	-	-

Footnotes:
mAHD – metres Australian Height Datum; SWL – standing water level
ORP readings were adjusted to the standard hydrogen electrode by adding an electrode potential of 205mV

Based on the groundwater elevations and local topography, the inferred groundwater flow gradient was towards the north-eastern boundary. A groundwater contour plan showing regional flow across the site is presented as **Figure 3, Appendix A**.

The physio-chemical data indicated that local groundwater was mildly acidic (pH: 6.56-6.63), saline (EC: 20620-23590 µS/cm) and non-oxidising (DO: 0.65-0.96 mg/L; ORP: 245-284mV).

Laboratory Analytical Results

A summary of the laboratory analytical results for the groundwater samples is presented in **Table 7-5**. More detailed tabulation is presented in **Table B.2**, **Appendix B**.

All results were found to comply with the adopted GILs, except for some dissolved metals (arsenic, cadmium, copper, nickel and zinc). The concentrations, however, were consistent with natural (background) levels in groundwater from highly urbanised areas, including the Sydney suburb of Villawood.

Table 7-5 Summary of Groundwater Analytical Results

Number of Primary Samples	Analyte	Minimum Concentration (µg/L)	Maximum Concentration (µg/L)	Sample(s) Exceeding GIL
Priority Metals (total dissolved)				
2	Arsenic	20	20	BH107M (20 µg/L) BH109M (20 µg/L)
2	Cadmium	0.2	0.8	BH107M (0.8µg/L)
2	Chromium	<1	<1	None
2	Copper	<1	3	BH107M (3µg/L)
2	Lead	<1	<1	None
2	Mercury	<0.1	<0.1	None
2	Nickel	27	32	BH107M (32 µg/L) BH109M (27 µg/L)
2	Zinc	45	63	BH107M (20 µg/L) BH109M (20 µg/L)
PAH				
2	Naphthalene	<0.1	<0.1	None
2	Benzo(α)pyrene	<0.1	<0.1	None
2	Total PAH	<1	<1	None
BTEX				
2	Benzene	<0.5	<0.5	None
2	Toluene	<0.5	<0.5	None
2	Ethyl benzene	<0.5	<0.5	None
2	o-xylene	<0.5	<0.5	None
2	m + p-xylene	<1	<1	None
TRHs				
2	F1 TRH	<50	<50	None
2	F2 TRH	84	97	None
2	F3 TRH	<500	<500	None
2	F4 TRH	<500	<500	None
VOCs				
2	Total VOC	<10	<10	None
Phenols				
2	Total phenols	<50	<50	None
PFAS				
2	PFOS	<0.01	<0.01	None
2	PFOS + PFHxs	<0.01	<0.01	None
2	PFOA	<0.01	<0.01	None

8. Site Characterisation

8.1 Subsurface Soil Conditions

Based on the logs for boreholes BH101-BH116, and excluding all hardstand pavements, the sub-surface of the site was generalised as a layer of poorly compacted, silty sand, gravelly sand and/or sand filling, overlying natural (residual), silty clay / gravelly clay and (weathered) shale bedrock, the latter encountered from 4.7-4.9 mBGL. The potential for ASSs to be present on the site was very low.

8.2 Soil Impacts

Laboratory analytical results for the representative fill and natural soil samples were compared against the adopted SILs.

Human Health

All results were found to comply with the adopted human health-based SILs applicable to residential settings with minimal soil access.

Ecological

All results were found to comply with the adopted EILs/ESLs, except for the C_{10}-C_{16} (F2) TRH fraction in BH111_0.1-0.2 (170 mg/kg), which slightly exceeded the corresponding ESL of 120 mg/kg. The 95% upper confidence limit (UCL) of the arithmetic average for C_{10}-C_{16} (F2) TRHs in fill soil was 56.0 mg/kg (n=13), which complied with the corresponding ESL (**Appendix L**). It was therefore considered that site fill soils would not pose a risk to ecological receptors in regards to TRHs.

Asbestos Risk

Twenty (near-) surface soil samples were laboratory screened for the presence of asbestos. For all samples, no ACM was detected (<0.01% w/w detection limit). Given the absence of FCS fragments across the accessible site surfaces, the site was deemed to be low risk with respect to this contaminant.

8.3 Groundwater Impacts

Based on the GME conducted on 17 October 2024, the local groundwater table was at 6.60-9.78 mBGL (11.91-16.28 mAHD). The groundwater flow direction was inferred to be north-easterly, towards the concrete-lined canal, which ultimately drains into the Georges River (approximately 2 km south west of the site). A groundwater contour plan showing regional flow across the site is presented as **Figure 3, Appendix A**.

Local groundwater was mildly acidic (pH: 6.56-6.63), saline (EC: 20,620-23,590 µS/cm) and non-oxidising (DO: 0.65-0.96 mg/L; ORP: 245-284mV). All laboratory analytical results for the representative samples (BH107M and BH109M) were found to comply with the adopted GILs, except for some dissolved metals (arsenic, cadmium, copper, nickel and zinc). The concentrations, however, were consistent with natural (background) levels in groundwater from highly urbanised areas, including the Sydney suburb of Villawood. The local soils were not considered to be the source of metal impacts (at least for those tested for this DSI), given the generally low levels in the representative (fill and natural) samples.

8.4 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 on-site and off-site receptors. EI concluded that gross, or widespread, contamination was not present within the site (proposed development) area.

Some uncertainty remains with regard to the “anomalies” identified within the concrete patch area in the western portion of the site, as noted in the GPR survey (**Appendix F**). Further investigation by way of exploratory trenching is necessary, to fully assess the area for the presence of abandoned/former infrastructure. Such trenching will be best served post building and pavement demolition.

9. Conclusion

At the request of ABA Square Pty Ltd, a detailed investigation of 15 Hilwa Street and 890, 896 and 898 Woodville Road, Villawood NSW was conducted, the purpose being to assess the nature and degree of any contamination.

The key findings of this DSI were:

- The southern portions of the site (15 Hilwa Street and 898 Woodville Road) had continuously been used for residential purposes. The central and northern portions had been used for commercial purposes since the mid-1960s, at least, the activities including a donut shop, restaurants and piano store. The presence of a rectangular, concrete slab repatch near the mid-western boundary, suggested the presence of a former UST.
- The local surroundings had consisted of residential and commercial properties since the 1940s, at least. A petrol service station was immediately adjacent (east; on 894-896 Woodville Road).
- The site was free of statutory notices and licensing agreements issued under the *Contaminated Land Management Act 1997* and *Protection of the Environment Operations Act 1997*. No part of it was included on the *List of NSW Contaminated Sites Notified to the EPA*.
- No above-ground storage tank (AST) was present on the site. A GPR survey of the rectangular concrete patch near the western boundary of 890 and 896 Woodville Road “did not validate the parameters associated with the potential underground storage tank”; however, there were indications “suggesting the presence of an anomaly or variation in the subsurface composition”, such that “the findings point to potential underground features that warrant further exploration and analysis”.
- Excluding all hardstand pavements, the sub-surface of the site was generalised as a layer of poorly compacted, silty sand, gravelly sand and/or sand filling, overlying natural (residual), silty clay / gravelly clay and (weathered) shale bedrock, the latter encountered from 4.7-4.9 mBGL. The potential for ASSs to be present on the site was very low.
- No olfactory indication of contamination (i.e. suspicious odour) was detected during the site inspections and subsequent sampling works. No visual evidence of contamination was encountered, including fragments of FCS on the ground surface.
- All laboratory analytical results for the representative fill and natural soil samples were found to comply with the adopted human health-based SILs applicable to residential settings with minimal soil access.
- The site was deemed to be low risk with respect to asbestos contamination.
- The local groundwater table was at 6.60-9.78 mBGL (11.91-16.28 mAHD). The groundwater flow direction was inferred to be north-easterly, towards the concrete-lined canal, which ultimately drains into the Georges River (approximately 2km south west of the site).
- Local groundwater was mildly acidic (pH: 6.56-6.63), saline (EC: 20,620-23,590 μS/cm) and non-oxidising (DO: 0.65-0.96 mg/L; ORP: 245-284mV). All laboratory analytical results for the representative samples (BH107M and BH109M) were found to comply with the adopted GILs, except for some dissolved metals (arsenic, cadmium, copper, nickel and zinc). The concentrations, however, were consistent with natural (background) levels in groundwater from highly urbanised areas.

Based on the findings of this DSI, and with consideration of EI’s *Statement of Limitations* (**Section 11**), it was concluded that gross, or widespread, contamination was not present within the site area. The land can be made suitable for the proposed (mixed-use commercial/residential) development, in accordance with *State Environmental Planning Policy (Resilience and Hazards) 2021*, subject to the implementation of the recommendations made in **Section 10** of this report.

10. Recommendations

EI makes the following recommendations in relation to the proposed redevelopment:

- Before commencement of any demolition works, a Hazardous Materials Survey (HMS) should be completed by a suitably qualified consultant, to confirm the presence / location of any hazardous materials within the existing building fabrics.
- All demolition and excavation works must be managed in accordance with the *Fairfield Development Control Plan 2013*.
  - Where subsequent clearance inspection indicates hazardous materials remain on the site, removal and re-clearance, must be undertaken.
- Upon completion of the demolition stage (including surface pavement removal), exploratory trenching within the concrete patch area in the western portion of the site will be necessary to further assess the presence of potential unexpected finds (anomalies).
- All soil materials designated for off-site disposal as part of the proposed development, including any *virgin excavated natural material* (VENM), must be pre-classified in accordance the NSW EPA (2014) *Waste Classification Guidelines*. In designing the SAQP for waste classification, the EPA (2022a) *Sampling Design Part 1 - Application* guidelines should be referred to and the analytical suite is to include the identified COPCs (**Section 4**). The analytical results from this DSI could be utilised for this purpose.
- All non-VENM (fill) soils are to be transported to NSW EPA-licenced landfill facilities. Tipping dockets are to be collated for all waste loads removed off-site.
- Any material imported to the site should be validated as suitable for the intended (residential) land use, in accordance with NSW EPA guidelines.

EI emphasises that these recommendations can be managed through the development application process, in accordance with *State Environmental Planning Policy (Resilience and Hazards) 2021*.

11. Statement of Limitations

This report has been prepared for the exclusive use of ABA Square Pty Ltd, whom is the only intended beneficiary of EI’s work. The scope of the investigation carried out for the purpose of this report was limited to that agreed with ABA Square Pty Ltd.

No other party should rely on this document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

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, NSW 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 investigation.

EI’s investigation was based upon the results of a 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 investigation.

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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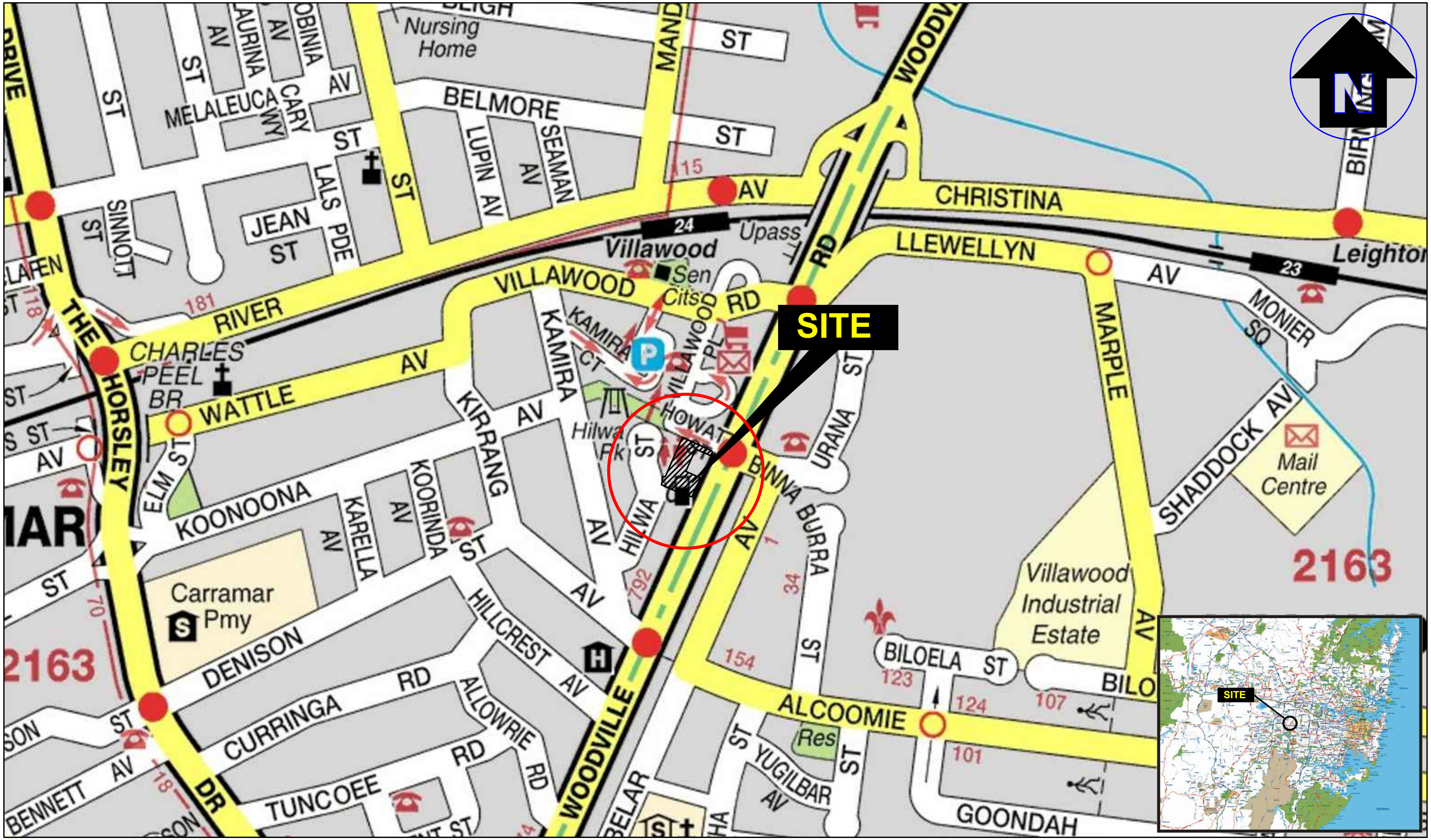
Appendix A – Figures



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ABA SQUARE PTY LTD
Detailed Site Investigation
15 Hilwa St, 896 & 898 Woodville Road, Villawood NSW

Site Locality Plan

Figure:
1

Project: E25635.E02_Rev0

Map Source: NearMap, dated 30/09/24

LEGEND. Note: all locations are approximate

Site Boundary	⌖ Monitoring Well Location	Expected UST Location
Basement boundary	▼ Surface sample Location	Service Station Workshop
⊕ Borehole Location	Concrete slab area	

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ABA Square Pty Ltd

Detailed Site Investigation
15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood
Groundwater Contour Plan

Figure:
2

Project: E25635.E02

Map Source: NearMap, dated 30/09/24

LEGEND. Note: all locations are approximate

- 🟥 Site Boundary
- 🟦 Basement boundary
- ⌖ Monitoring Well

GW Contours

- — 13
- — 14
- — 15

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Detailed Site Investigation
15 Hilwa Street and 890, 896 & 898 Woodville Road,
Villawood
Groundwater Contour Plan

Figure:
3

Project: E25635.E02

Appendix B – Tables

Table B.1 – Summary of Soil Analytical Results

E25635 - Villawood

Sample ID	Sampling Date	Priority Metals								PAHs				BTEX				TRHs				Total VOCs	Total Phenols	Pesticides		PCBs	Asbestos
		As	Cd	Cr#	Cu	Pb	Hg	Ni	Zn	Carcinogenic PAHs (as B(α)P TEQ)	**Benzo(α)pyrene**	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4			OCPs	OPPs		Presence / absence
Fill																											
BH101_0.1-0.2	10/10/2024	6	<0.3	15	17	55	<0.05	4.1	59	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH102_0.2-0.3		2	0.3	6.9	9	13	<0.05	4.1	33	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH103_0.1-0.2		3	<0.3	11	21	41	<0.05	3.2	37	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH104_0.1-0.2		2	<0.3	4.7	14	30	<0.05	7.5	40	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH105_0.2-0.3		<1	<0.3	1.7	2.8	2	<0.05	1.1	3.6	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH106_0.2-0.3		1	<0.3	10	58	1	<0.05	100	38	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH107M_0.3-0.4		2	<0.3	8.2	53	2	<0.05	100	49	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<24	<0.5	<1	<1.7	<1	Absent
BH108_0.2-0.3		2	<0.3	8.3	53	3	<0.05	78	40	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH109M_0.2-0.3		2	<0.3	13	58	7	<0.05	92	40	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<24	<0.5	<1	<1.7	<1	Absent
BH110_0.1-0.2		4	<0.3	17	39	20	<0.05	54	44	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	130	220	NA	NA	<1	<1.7	<1	Absent
BH111_0.1-0.2		3	<0.3	18	55	4	<0.05	58	37	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	170	250	260	NA	NA	<1	<1.7	<1	Absent
BH112_0.1-0.2		2	<0.3	38	47	4	<0.05	80	51	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	<1	<1.7	<1	Absent
BH113M_0.1-0.2		2	<0.3	73	35	5	<0.05	81	60	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	91	<120	<24	<0.5	<1	<1.7	<1	Absent
SS1		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	Absent
SS2		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	Absent
SS3		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	Absent
SS4		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	Absent
SS5		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	Absent
SS6		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	Absent
SS7		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	Absent
Statistical Analysis																											
Maximum concentration		6	0.3	73	58	55	<0.05	100	60	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	170	250	260	<24	<0.5	<1	<1.7	<1	Absent
Statistical Summary																											
95% UCL (Fill)		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	56.03	NC	NC	NC	NC	NC	NC	NC	NC
Natural																											
BH104_0.4-0.5	10/10/2024	4	<0.3	16	2.7	17	<0.05	1.7	8.6	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
BH106_0.7-0.8		5	<0.3	23	12	13	<0.05	6.6	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
BH107M_0.8-0.9		8	<0.3	16	13	13	<0.05	2.2	16	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<24	NA	NA	NA	NA	NA
BH109M_1.0-1.1		7	<0.3	19	15	14	<0.05	3.4	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<24	NA	NA	NA	NA	NA
BH110_0.4-0.5		5	<0.3	7.6	9.7	9	<0.05	2	6.2	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
BH111_0.6-0.7		20	<0.3	12	16	13	<0.05	6.7	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
BH112_0.4-0.5		4	<0.3	5.1	11	8	<0.05	0.5	6.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
BH113M_0.6-0.7		12	<0.3	11	13	8	<0.05	1.6	12	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<24	NA	NA	NA	NA	NA
BH114_2.5-2.6	30/10/2024	NA	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
BH115_2.4-2.5		NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
BH115_2.5-2.6		NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA	NA	NA
Statistical Analysis																											
Maximum concentration		20	<0.3	23	16	19	<0.05	6.7	16	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<24	NC	NC	<1.7	NC	NC
NEPM (2013) Criteria																											
HIL B - *Residential with minimal soil access*		500	150	500 Cr(VI)	30,000	1,200	120	1,200	60,000	4		400											45,000	600		1	
HSL A & B - Low to high density residential Soil texture classification – Clay		Source depths (0 m to <1 m. BGL)											5	0.7	480	NL	110	50	280								
		Source depths (1 m to <2 m. BGL)											NL	1	NL	NL	310	90	NL								
		Source depths (2 m to <4 m. BGL)											NL	2	NL	NL	NL	150	NL								
		Source depths (4 m + BGL)											NL	3	NL	NL	NL	290	NL								
HSL D - *Commercial / Industrial* Soil texture classification – Clay		Source depths (0 m to <1 m. BGL)											NL	4	NL	NL	NL	310	NL								
		Source depths (1 m to <2 m. BGL)											NL	6	NL	NL	NL	480	NL								
		Source depths (2 m to <4 m. BGL)											NL	9	NL	NL	NL	NL	NL								
		Source depths (4 m + BGL)											NL	20	NL	NL	NL	NL	NL								
EILs / ESLs - *Urban residential and public open space* [1] [2]		100		410	200	1,100		140	490		33 [3]		170	65	105	125	45	180	120	1,300	5,600			180			
Management Limits – Residential, parkland and public open space 1																		800	1,000	3,500	10,000						

Notes:

🟨 Highlighted values exceed HIL / HSL

🟩 Highlighted values exceedEILs/ESLs

🟦 Concentration exceeds highlighted criteria

Results are recorded in mg/kg

HIL B	NEPC 1999 Amendment 2013 'HIL B' - Health based Residential with minimal opportunities for soil access including dwellings with fully and permanenetly paved yard space such as high-rise buildings and apartments.
HSL A & B	NEPC 1999 Amendment 2013 'HSL A & B' Health Based Screening Levels applicable for vapour intrusion values applicable for low-high density residential settings.
EIL	Ecological Investigation Level for urban residential and public open space land use.
ESL	Ecology Screening Level for urban residential and public open space land use.
#	Thresholds are for Chromium VI.
NA	Not Analysed
NL	Not Limiting' If the derived soil vapour limit exceeds the soil concentration at which the pore water phase cannot dissolve any more of the individual chemical
NC	Not calculated
1	As strata is predominantly clay, fine grained soil assessment criteria values were applied.
2	EIL criteria is derived from a site specific Added Contaminant Limit (ACL) with the Ambient Background Concentration (ABC) (pH = 9/CEC = 34.75)for a high traffic NSW suburb.
3	The ecological criteria for benzo(α)pyrene was sourced from CRC Care (2017) Technical Report No. 39 Risk-based management and remediation guidance for benzo(a)pyrene.
F1	To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
F2	To obtain F2 subtract naphthalene from the >C10-C16 fraction.
F3	(>C16-C34)
F4	(>C34-C40)

Table B.2 - Summary of Groundwater Analytical Results

Sample ID	Sampling Date	Metals								PAHs [9]			BTEX					TRHs				Total VOC	Total Phenols	PFAS		
		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			PFOS	PFOS + PFHxs	PFOA
BH107M	17/10/2024	20	0.8	<1	3	<1	<0.1	32	45	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	97	<500	<500	<10	<50	<0.01	<0.01	<0.01
BH109M		20	0.2	<1	<1	<1	<0.1	27	63	<1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<1	<50	84	<500	<500	<10	<50	<0.01	<0.01	<0.01
Statistical Analysis																										
Maximum Concentration		20	0.8	1	3	1	0.1	32	63	1	0.1	0.1	0.5	0.5	0.5	0.5	1	50	97	500	500	10	50	0.01	0.01	0.01
GILs																										
HSL A & B - *Low to high density residential* Soil texture classification – Clay		2m to <4m										NL	5,000	NL	NL	NL	NL	NL	NL							
		4m to <8m										NL	5,000	NL	NL	NL	NL	NL	NL							
		8m+										NL	5,000	NL	NL	NL	NL	NL	NL							
HSL D - *Commercial / industrial* Soil texture classification – Clay		2m to <4m										NL	30,000	NL	NL	NL	NL	NL	NL							
		4m to <8m										NL	30,000	NL	NL	NL	NL	NL	NL							
		8m+										NL	35,000	NL	NL	NL	NL	NL	NL							
GILs	Fresh Waters [1]	24 (AsIII) 13 (AsV)	0.2	1 [3] (Cr VI)	1.4	3.4	0.06 [2]	11	8 [3]		0.2	16	950	180	80	350	275						320			
	Recreational Water [6]	100	20		1,000 *	100	10	200	3,000*				10	25*	3*	20 *	20 *								7	56
PFAS - Freshwater [8]																								0.13		220

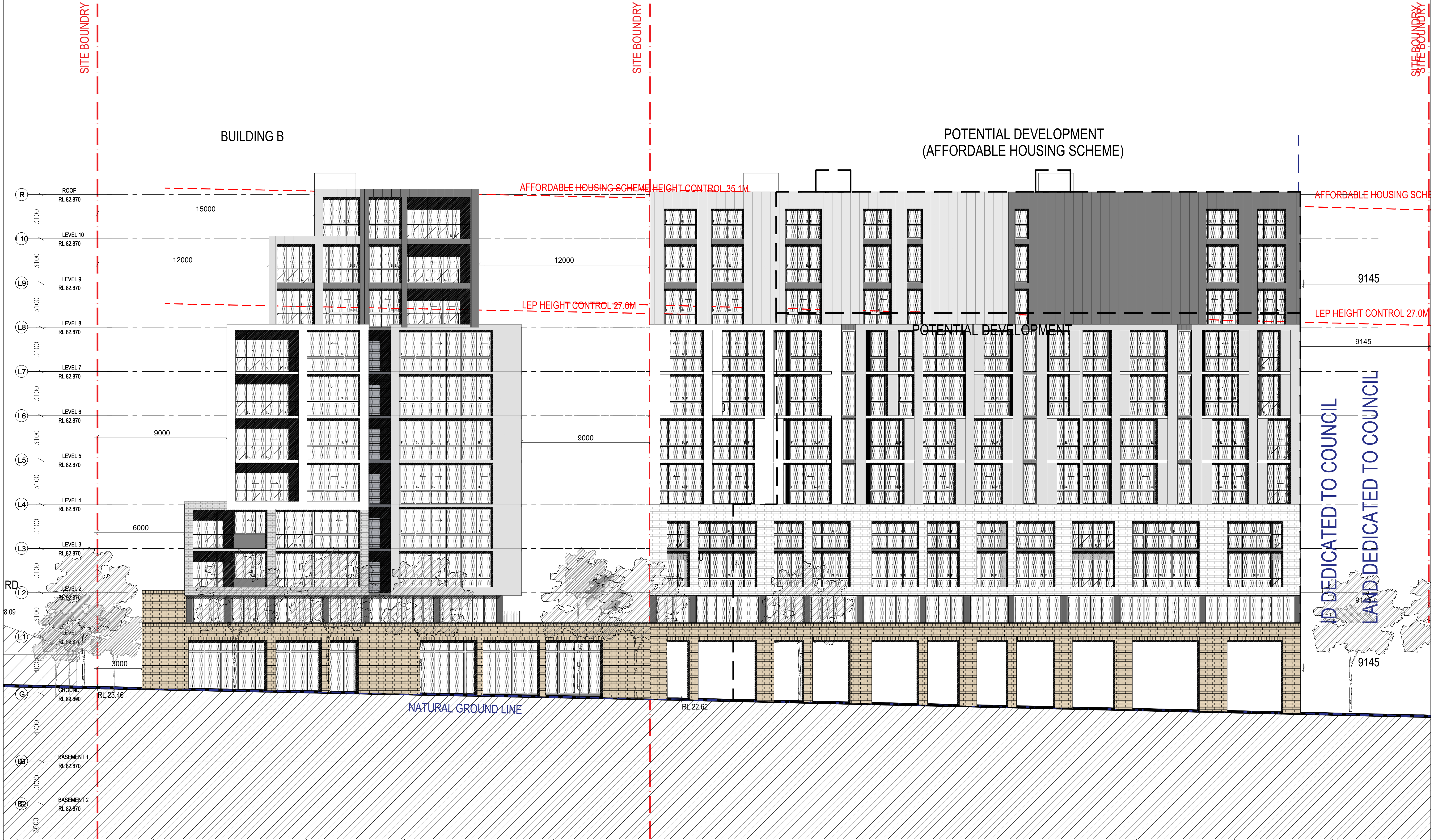
Notes:

🟨	Highlighted indicates criteria exceeded
🟦	Highlighted indicates criteria not met

All values are µg/L unless stated otherwise

HSL A & B	NEPC 1999 Amendment 2013 'HSL A & B' Health Based Screening Levels for vapour intrusion applicable for low-high density residential settings.
HSL D	NEPC 1999 Amendment 2013 'HSL D' Health Based Screening Levels for vapour intrusion applicable for commercial / industrial settings.
NL	Not Limiting
NA	'Not Analysed' i.e. the sample was not analysed.
ND	Not Detected - i.e. concentration below the laboratory PQL
F1	To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
F2	To obtain F2 subtract naphthalene from the >C10-C16 fraction.
F3	(>C16-C34)
F4	(>C34-C40)
1	Groundwater Investigation Levels for fresh, marine, based on ANZG (2018) Australian and New Zealand Guidelines for 95% protection level for Fresh and Marine Water Quality, Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia, August 2018
2	Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, 99% species protection level DGV is used , refer to ANZG (2018) for further guidance.
3	Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance
4	There were insufficient marine toxicity data to derive a reliable guideline value. Therefore, the freshwater DGV (low reliability) should be used with caution for marine waters, as an unknown reliability value.
5	In lack of a criteria the laboratory PQL has been used (DEC, 2007).
6	Based on NHMRC (2011 - update August 2018 v.3.5) Drinking Water Guidelines. The lowest of the Health Guideline x10 or the Aesthetic Guideline has been chosen as the assessment criteria. Aesthetic based criteria have been indicated by *
7	Value dervied from the NJDEP (2021) vapour intrusion groundwater screening levels (GWSL)
8	Value dervied from the National Environmental Management Plan for PFAS - 95% species protection for slightly to moderately disturbed systems.
9	Listed all tested PAH with detections, all the other PAH were below PQL.
#	Results after silica gel clean-up.

Appendix C – Proposed Development Plans



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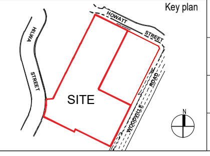
Key plan



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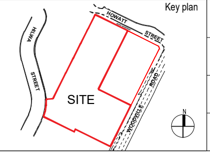

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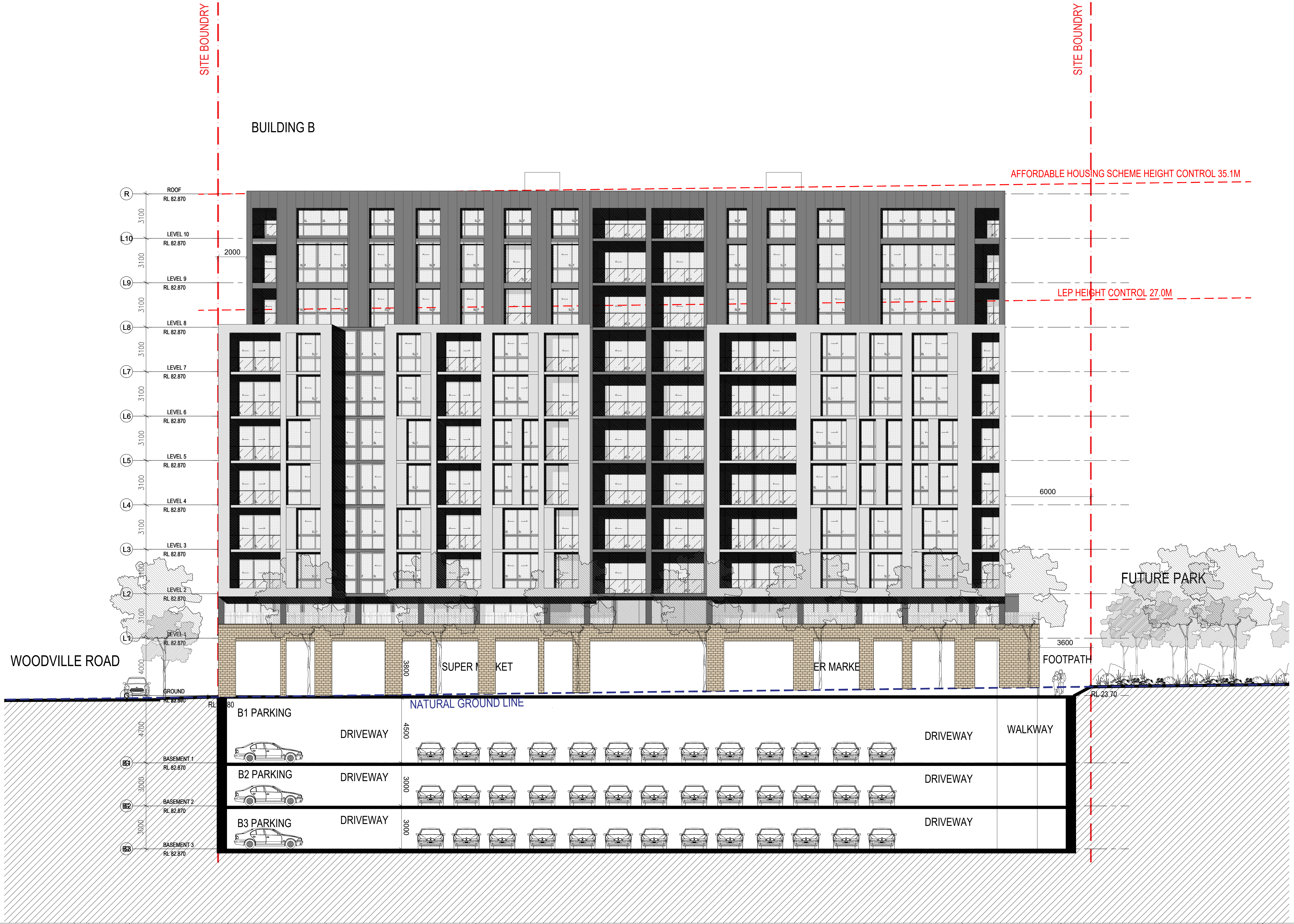

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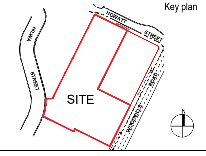

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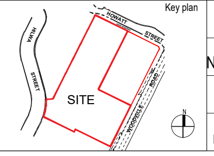

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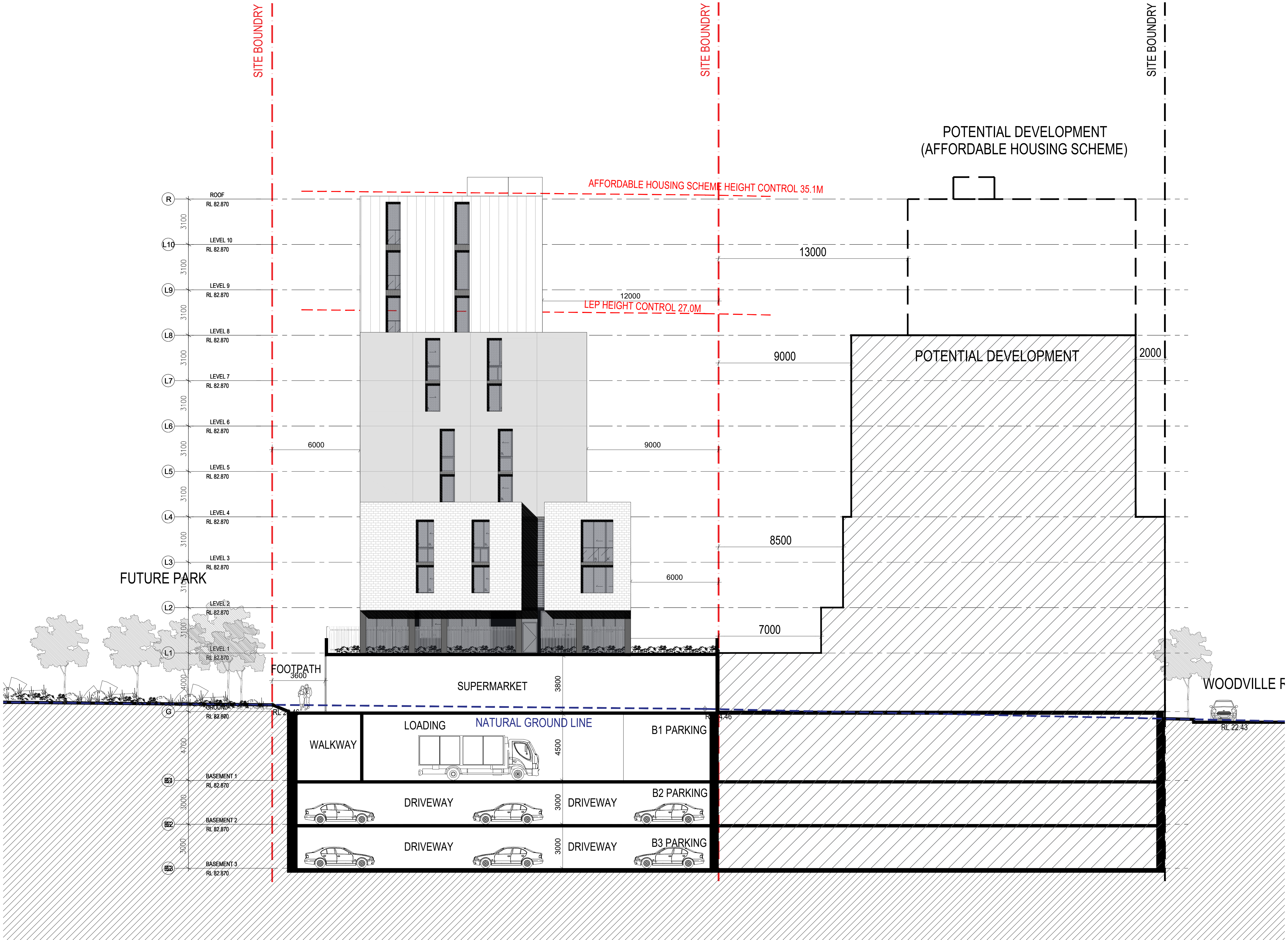

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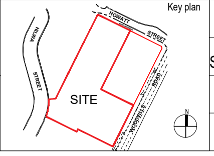

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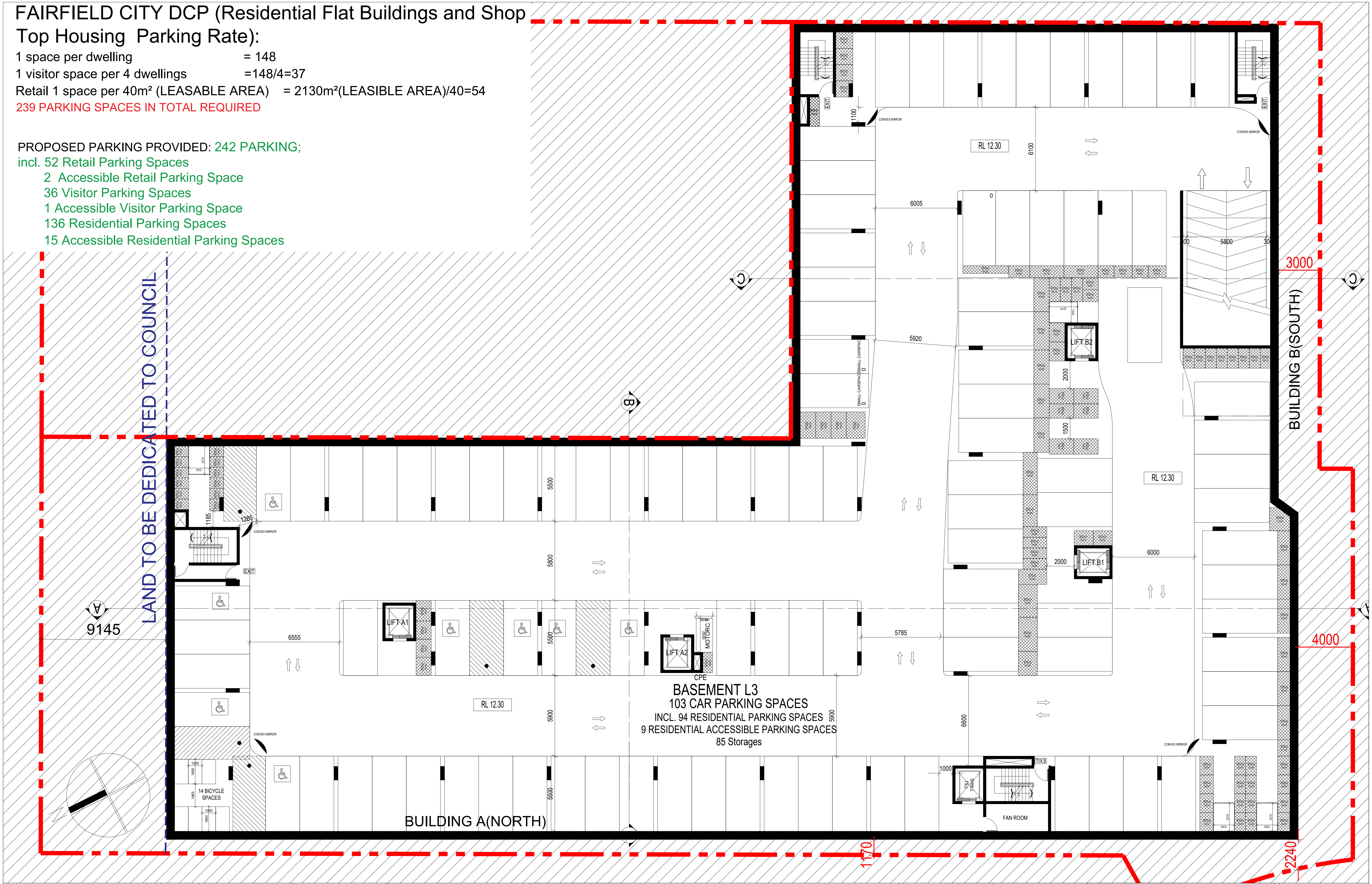
FAIRFIELD CITY DCP (Residential Flat Buildings and Shop Top Housing Parking Rate):

1 space per dwelling = 148
1 visitor space per 4 dwellings =148/4=37
Retail 1 space per 40m² (LEASABLE AREA) = 2130m²(LEASIBLE AREA)/40=54
239 PARKING SPACES IN TOTAL REQUIRED

PROPOSED PARKING PROVIDED: 242 PARKING;
incl. 52 Retail Parking Spaces
2 Accessible Retail Parking Space
36 Visitor Parking Spaces
1 Accessible Visitor Parking Space
136 Residential Parking Spaces
15 Accessible Residential Parking Spaces



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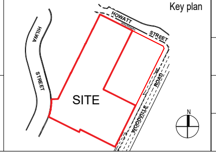

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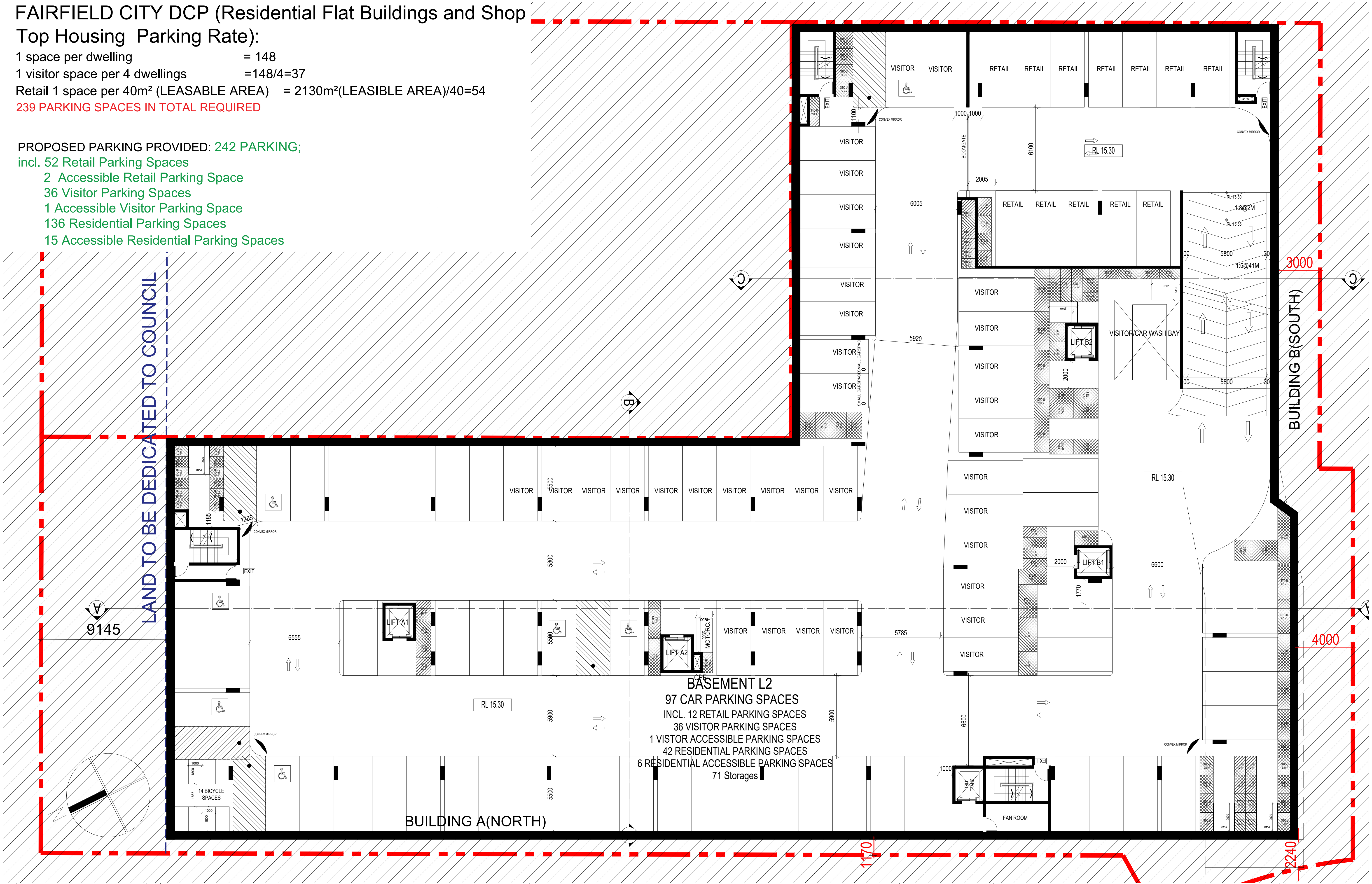
- 15 Accessible Residential Parking Spaces



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BUILDER TO CHECK ALL SITE DIMENSIONS PRIOR TO FABRICATION OF FITMENTS

Legend

DRAWING LABEL

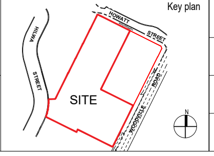
B2 FLOOR PLAN

Client
ABA PTY. LTD.

Architects
tony owen ptnrs
Level 2
12-16 Queen Street
Chippendale NSW 2008
P 6122 9698 2900
F 6122 9699 3018
E info@tonyowen.com.au

Project
WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address
890 Woodville Road, Villawood
2163 NSW

Key plan


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Drawing title
B2 FLOOR PLAN

Project no. 1051
Drawing no. A101
Drawn DL , AV, ZS

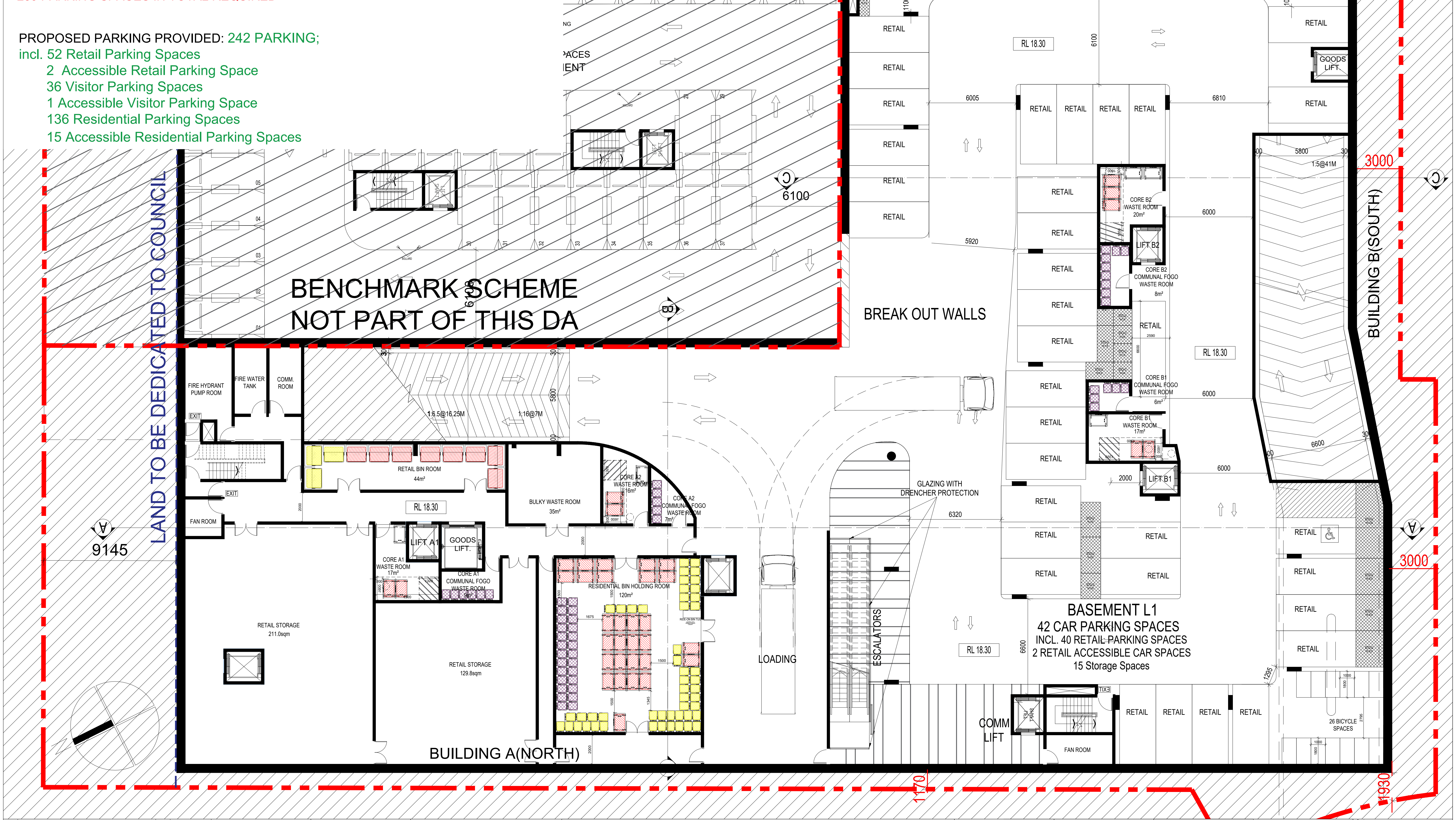
Drawing status
ISSUE TO CONSULTANTS

FAIRFIELD CITY DCP (Residential Flat Buildings and Shop Top Housing Parking Rate):

1 space per dwelling	= 148
1 visitor space per 4 dwellings	=148/4=37
Retail 1 space per 40m² (LEASABLE AREA)	= 2130m²(LEASIBLE AREA)/40=54

239 PARKING SPACES IN TOTAL REQUIRED

PROPOSED PARKING PROVIDED: 242 PARKING;
incl. 52 Retail Parking Spaces
- 2 Accessible Retail Parking Space
- 36 Visitor Parking Spaces
- 1 Accessible Visitor Parking Space
- 136 Residential Parking Spaces
- 15 Accessible Residential Parking Spaces



Rev.	Description	By	Date
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B	ISSUE TO CONSULTANTS	DL ZS	OCTOBER 2024

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Legend

DRAWING LABEL

B1 FLOOR PLAN

Client
ABA PTY. LTD.

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Project
WOODVILLE ROAD
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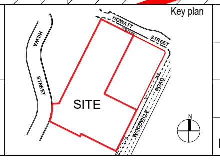
Project address
890 Woodville Road, Villawood
2163 NSW

Key plan


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Drawing no. A102
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Drawing status
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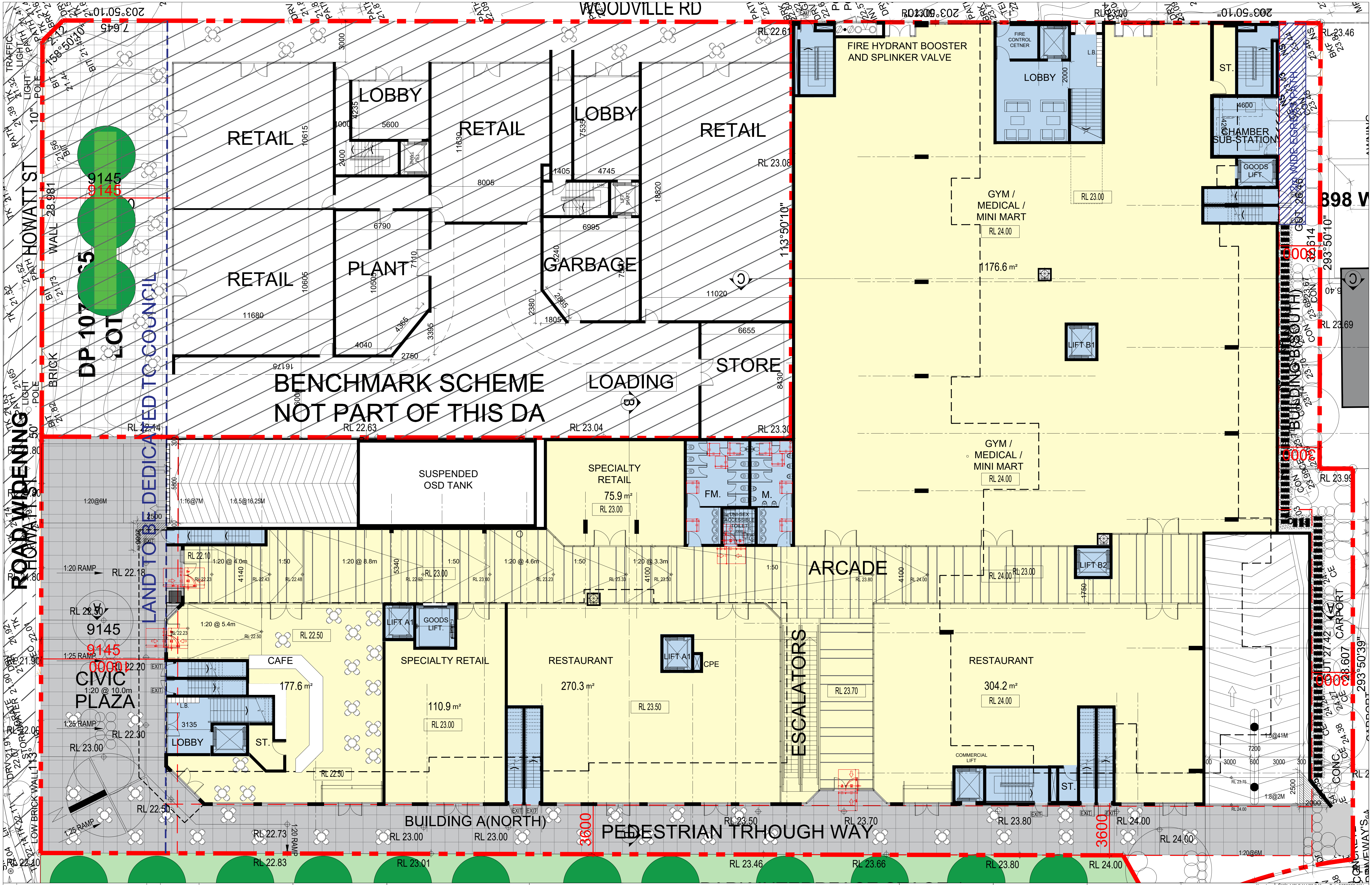

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DRAWING LABEL

GROUND FLOOR PLAN

Client

ABA PTY. LTD.

Architects

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12-16 Queen Street
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E info@tonyowen.com.au

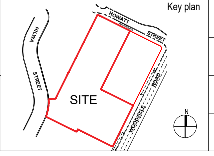
Project

WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address

890 Woodville Road, Villawood
2163 NSW

Key plan



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Date OCTOBER 2024

Drawing title
GROUND FLOOR PLAN

Project no. 1051 Drawing no. A103

Drawn DL , AV, ZS

Drawing status
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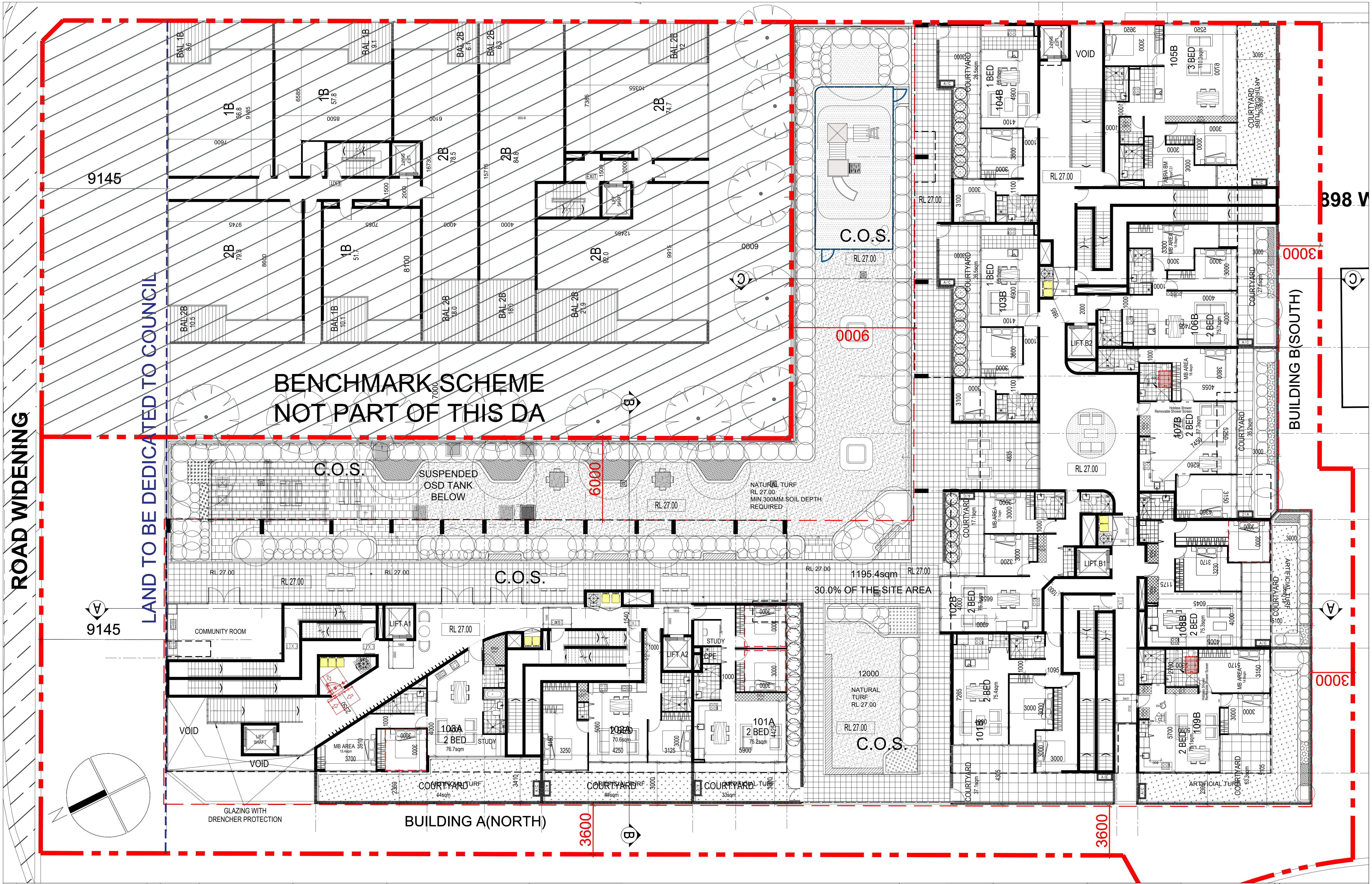

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Legend

DRAWING LABEL

L1 FLOOR PLAN

Client

ABA PTY. LTD.

Architects

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12–16 Queen Street
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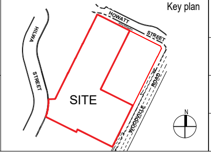
Project

WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address

890 Woodville Road, Villawood
2163 NSW

Key plan



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Date OCTOBER 2024

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L1 FLOOR PLAN

Project no. 1051
Drawing no. A104

Drawn DL , AV, ZS

Drawing status
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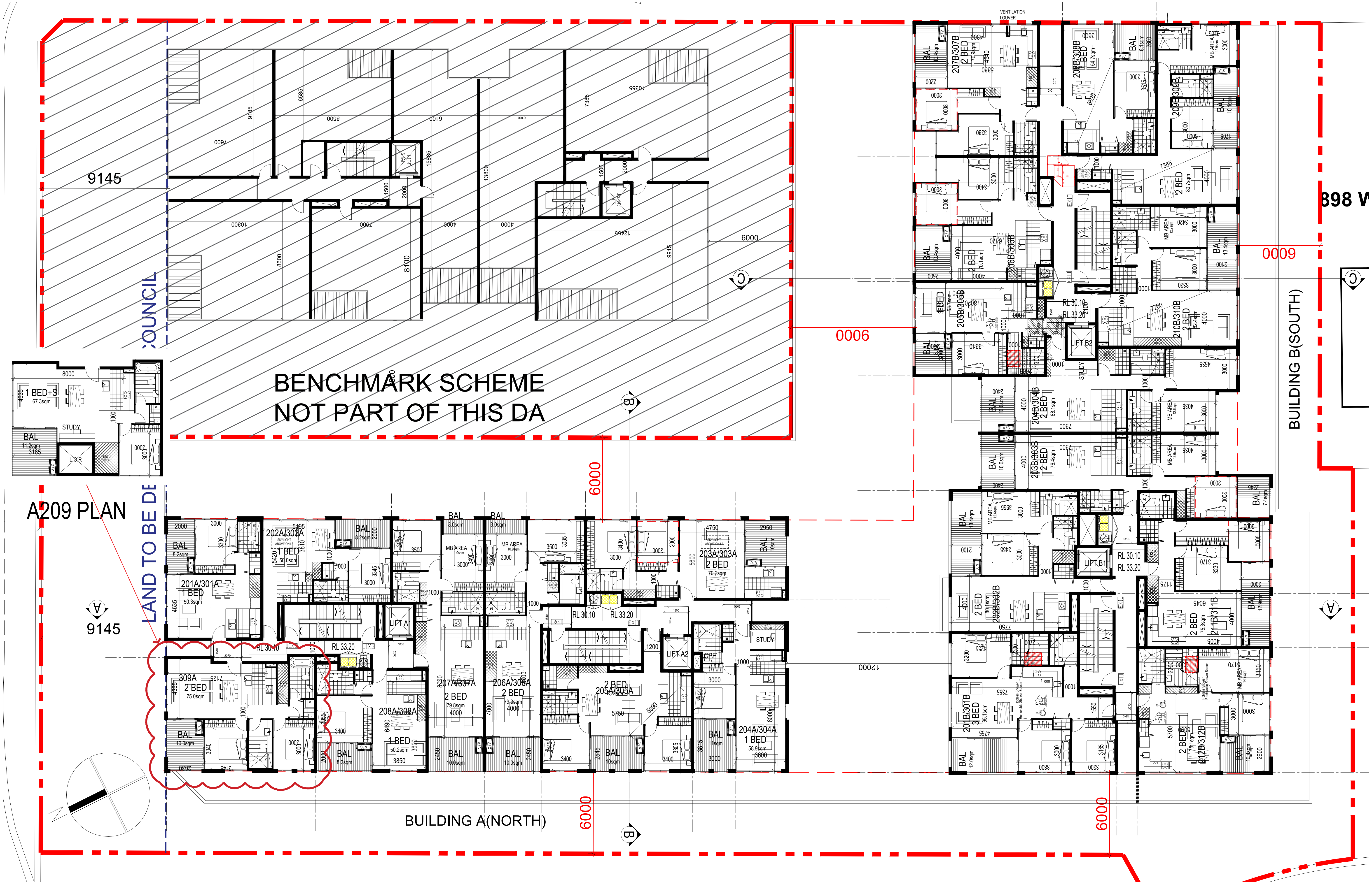

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L2-3 FLOOR PLAN

Client
ABA PTY. LTD.

Architects
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Project
WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address
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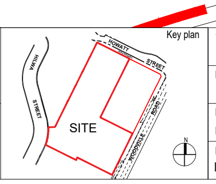
2163 NSW

Key plan



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Drawing no. A105
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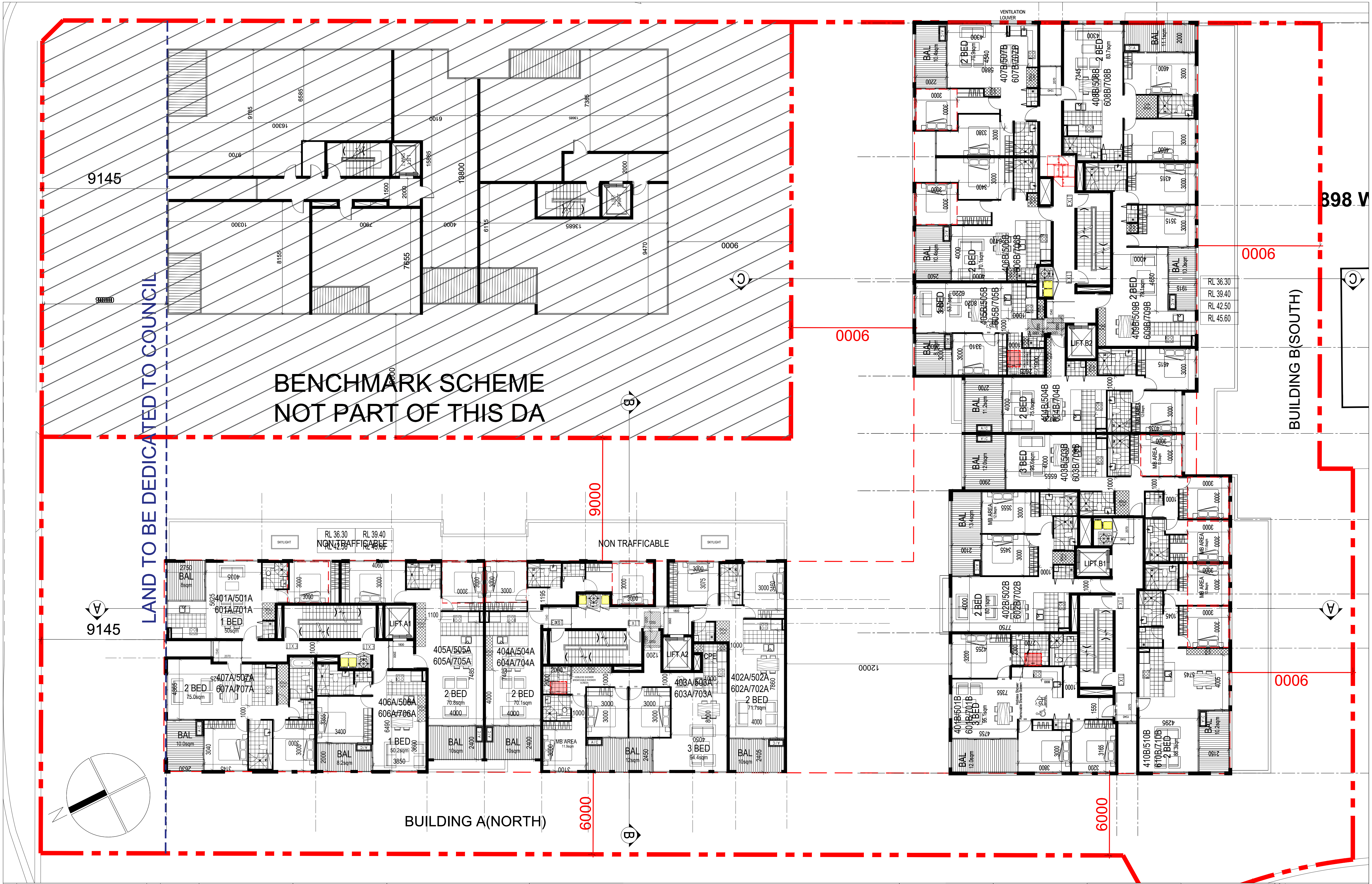

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DRAWING LABEL

L4-7 FLOOR PLAN

Client

ABA PTY. LTD.

Architects

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E info@tonyowen.com.au

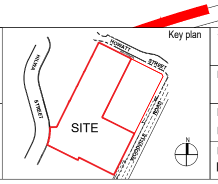
Project

WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address

890 Woodville Road, Villawood
2163 NSW

Key plan



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Date OCTOBER 2024

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L4-7 FLOOR PLAN

Project no. 1051
Drawing no. A106
Drawn DL , AV, ZS

Drawing status
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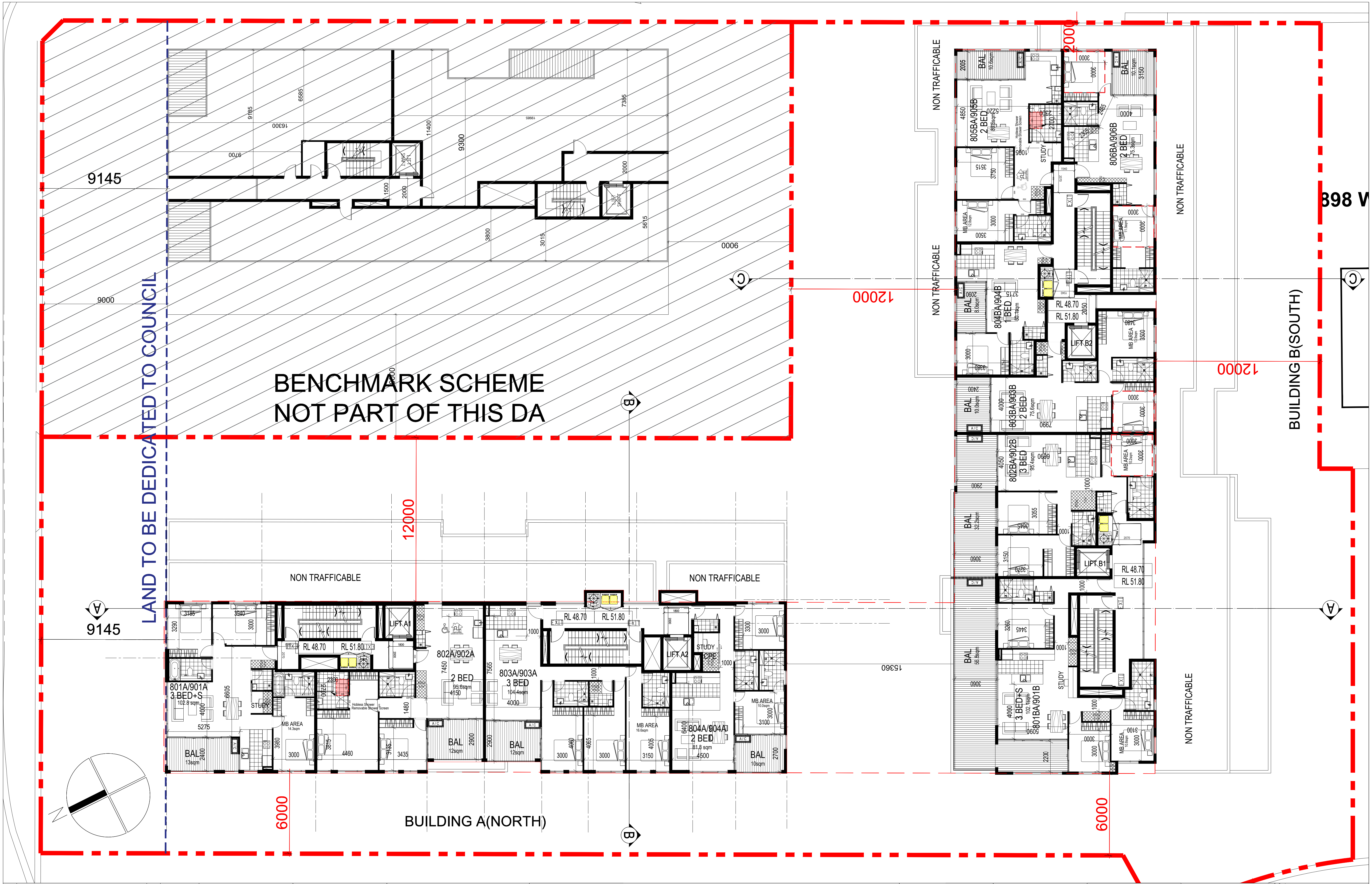

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Legend

DRAWING LABEL

L8-9 FLOOR PLAN

Client

ABA PTY. LTD.

Architects

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E info@tonyowen.com.au

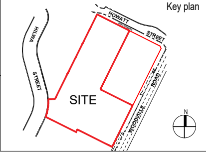
Project

WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address

890 Woodville Road, Villawood
2163 NSW

Key plan



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Drawing title
L8-9 FLOOR PLAN

Project no. 1051
Drawing no. A107

Drawn DL , AV, ZS

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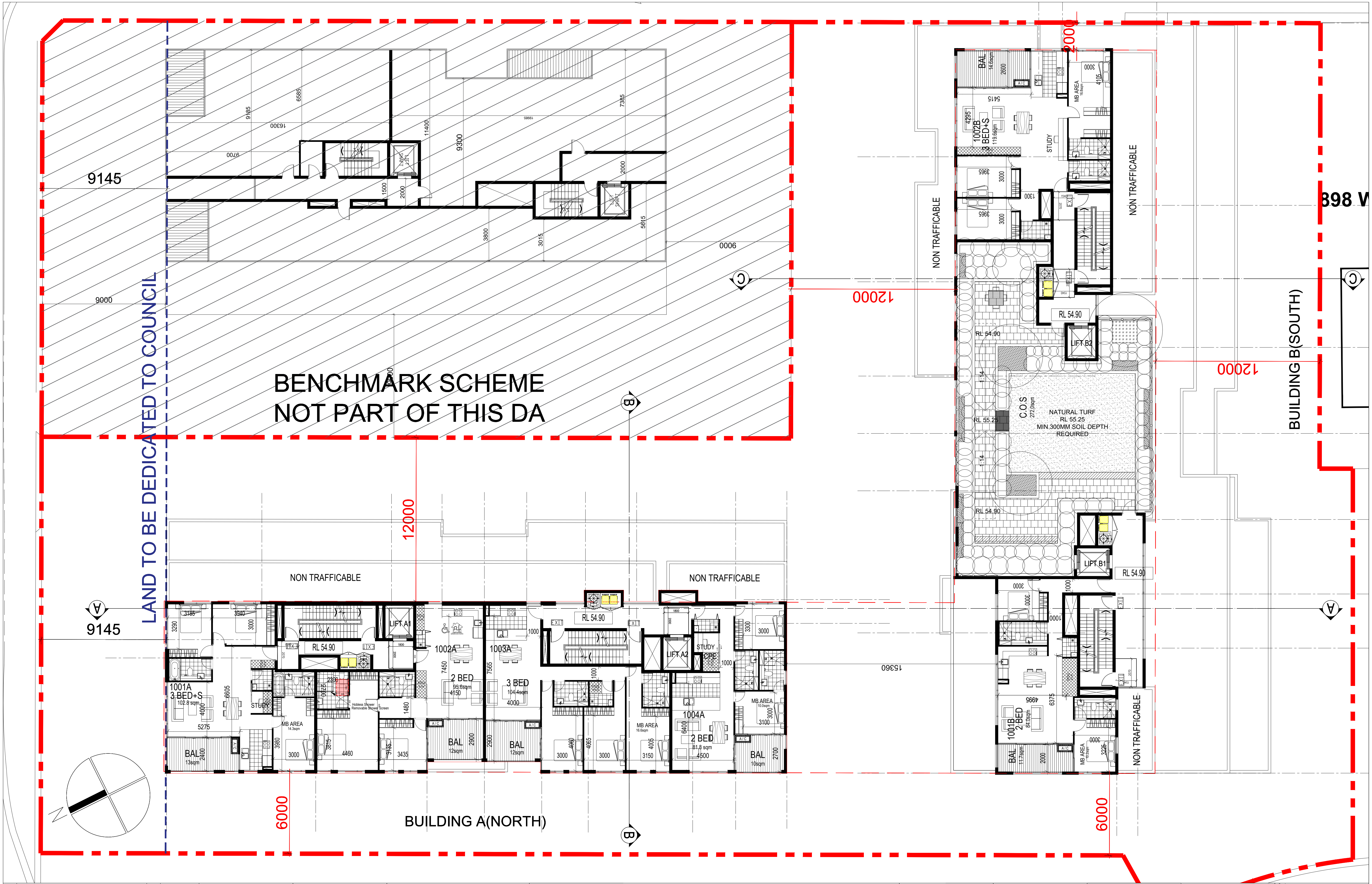

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DRAWING LABEL

L10 FLOOR PLAN

Client

ABA PTY. LTD.

Architects

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E info@tonyowen.com.au

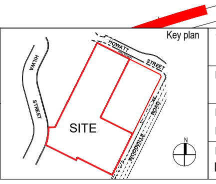
Project

WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address

890 Woodville Road, Villawood
2163 NSW

Key plan



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Drawing title
L10 FLOOR PLAN

Project no. 1051
Drawing no. A108
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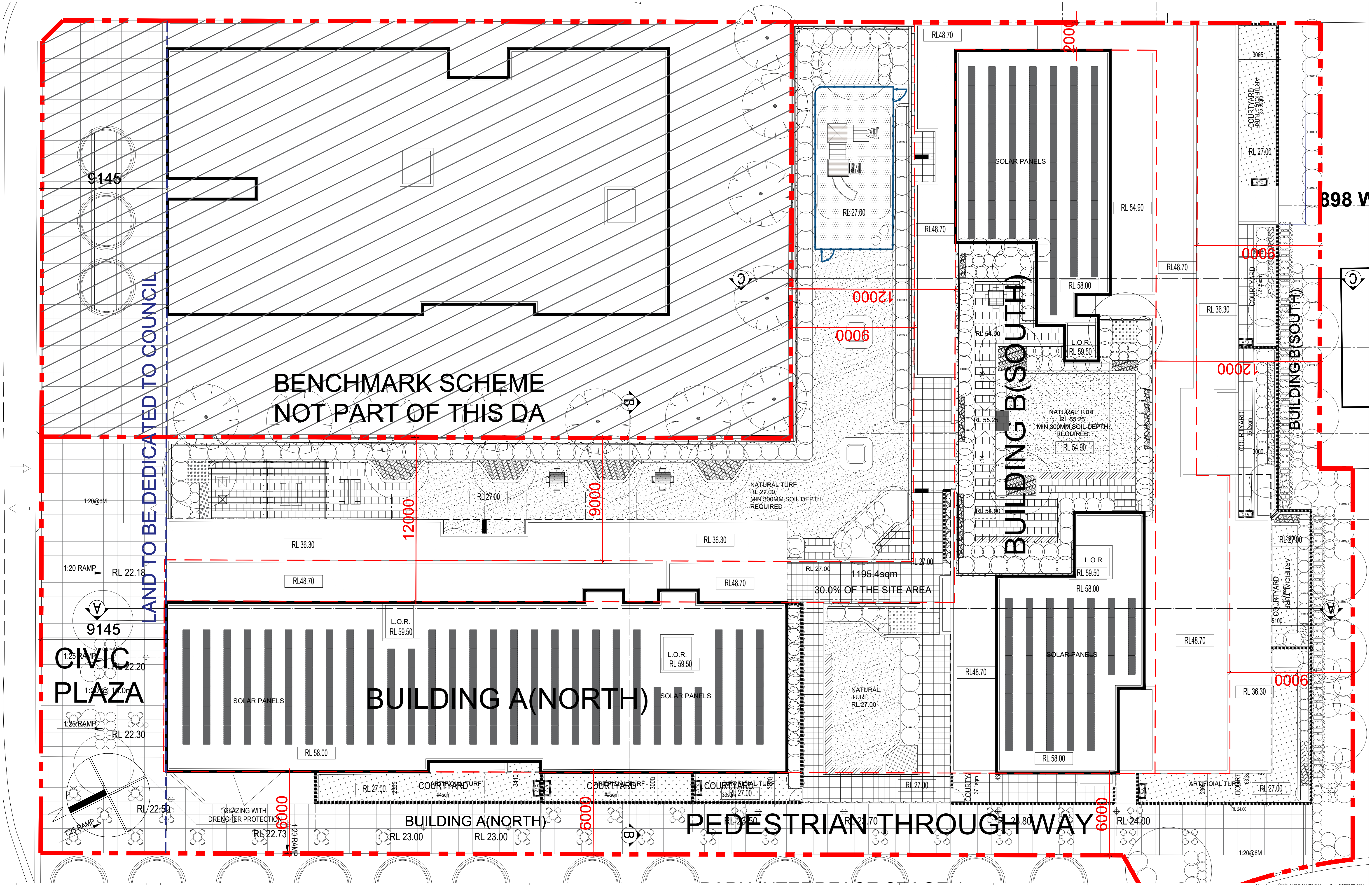

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Legend

DRAWING LABEL

ROOF PLAN

Client

ABA PTY. LTD.

Architects

tony owen ptnrs

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12-16 Queen Street
Chippendale NSW 2008
P 6122 9698 2900
F 6122 9699 3018
E info@tonyowen.com.au

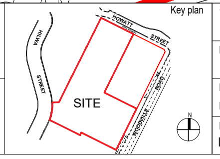
Project

WOODVILLE ROAD
RESIDENTIAL DEVELOPMENT

Project address

890 Woodville Road, Villawood
2163 NSW

Key plan



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ROOF PLAN

Project no. 1051
Drawing no. A109
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Drawing status
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Appendix D – Groundwater Bore Search

eiaustralia

WaterNSW

home help contact
customise

State Overview
State Overview

Rivers and Streams
favourites search
download sites
find a site
⊞ Real Time Data - Riv...

Daily River Reports
⊞ Daily River Reports

Dams
favourites search
download sites
find a site
⊞ Real Time Data - Ma...

Groundwater (Telemetered data)
favourites search

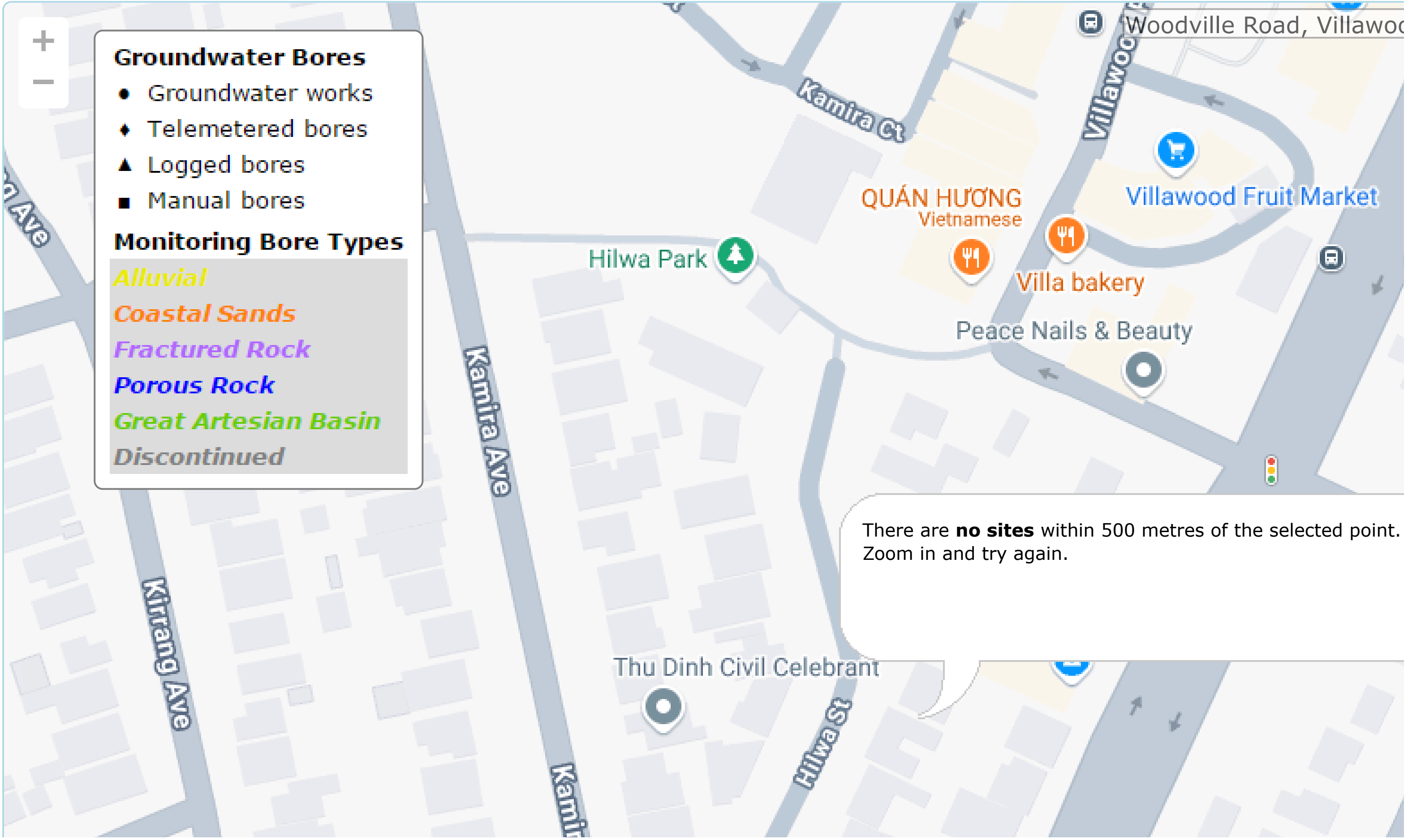
All Groundwater Site Details

ALL GROUNDWATER MAP

bookmark this page

All data times are Eastern Standard Time

Map Info



There are **no sites** within 500 metres of the selected point. Zoom in and try again.

contact WaterNSW

Appendix E – Site Photographs

Photograph 1: View of residential building at 15 Hilwa Street

Photograph 2: View of residential building at 898 Woodville Road

Photograph 3: View of commercial building at 890 & 896 Woodville Road

Photograph 4: Garden bed located at the north-eastern perimeter (890 & 896 Woodville Road)

Photograph 5: Asphalt driveway with major cracking (890 & 896 Woodville Road)

Photograph 6: Boxed floor tiles stored on western central portion, looking south-west (890 & 896 Woodville Road)

Photograph 7: A rectangular concrete patch on the floor noted along western boundary (890 & 896 Woodville Road)

Appendix F – Field Data Sheets and GPR Scanning Report

Daily Inspection / Work Summary Card - Remediation & Validation Form

OP 005a (Rev 2)

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

ABN 42 909 129 957
E service@eiaustralia.com.au
W www.eiaustralia.com.au
T 02 9516 0722

Project Number:	E25635	Engineer Name:	J2	Page:	___ of ___
Date:	17/10/24	Time ON Site:	11.15 am		
Travel Time:	1.15 hr	Time OFF Site:	3.00 pm		

Site Address/Location: 15 Hilwa Street, and 890-898 Woodville Rd, Villawood

Climatic Conditions: Sunny

Completed Works:

- Completed 1 round of GME and Well head survey with GPS

Comments / Issues / Conclusions / Further Testing Required / Actions to be Undertaken / Timing of Actions:

- BH113M was dry during investigation, did n't sample.
- QA/QC from BH109M

Signed by:

WATER SAMPLING FIELD SHEET

Site Address:	Job Number: E25635
Client:	Date: 17/10/24
Field Staff:	Sampling Location ID BH113M
Well Location:	Round No:

MEDIUM ☐Groundwater ☐Surface Water ☐Stormwater ☐Other:

SAMPLING POINT INFO

Well Installation Date: 10/10/24	Stick up / down (m): + 1.0m (+ above ground - below ground)
Initial Well Depth (mBTOC): 10	Screen Interval (mBTOC): 7-10
Previous Sampling Date:	Previous SWL (mBTOC):

PID READINGS

PID Headspace (ppm):	PID Background (ppm):
PID Breathing Space (ppm):	

PRE PURGE

Total Well Depth (mBTOC): 10.96	Well Head Condition:
SWL (mBTOC): 10.78	Water Column (m):

PHASE SEPARATED HYDROCARBONS (PSH)

Depth to PSH (mBTOC):	PSH Visually Confirmed (Bailer):
PSH Thickness (mm):	

Field Filtered

Yes (0.45 µm) ☐	No ☐ (Request lab 0.45 µm filter the sample)

PURGE AND SAMPLE

Sampling Method ☐Bladder ☐Peristaltic ☐Submersible ☐Other:

Depth of Pump Inlet (mBTOC):	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.)
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2	

OTHER COMMENTS/OBSERVATIONS:

Not enough water to sample

SIGNATURE:

Rev 1 20150604SH
Form OP 017

WATER SAMPLING FIELD SHEET

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Site Address:	Job Number:
Client:	Date: 17/10/24
Field Staff:	Sampling Location ID BH109M
Well Location:	Round No:

MEDIUM ☑Groundwater ☐Surface Water ☐Stormwater ☐Other:

SAMPLING POINT INFO

Well Installation Date: 10/10/24	Stick up / down (m): +1.0 m (+ above ground - below ground)
Initial Well Depth (mBTOC): 7.2	Screen Interval (mBTOC): 4.2-7.2
Previous Sampling Date:	Previous SWL (mBTOC):

PID READINGS

PID Headspace (ppm):	PID Background (ppm):
PID Breathing Space (ppm):	

PRE PURGE

Total Well Depth (mBTOC): 8.98	Well Head Condition:
SWL (mBTOC): 7.6	Water Column (m):

PHASE SEPARATED HYDROCARBONS (PSH)

Depth to PSH (mBTOC):	PSH Visually Confirmed (Bailer):
PSH Thickness (mm):	

Field Filtered

Yes (0.45 µm) ☑	No ☐ (Request lab 0.45 µm filter the sample)

PURGE AND SAMPLE

Sampling Method ☐Bladder ☑Peristaltic ☐Submersible ☐Other:

Depth of Pump Inlet (mBTOC):	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.)
12.15	0.5	7.6	21.87	20540	74.3	1.39	6.53	pale white, med. turbid,
12.20	1.0	8.10	21.92	20570	75.7	1.25	6.54	
12.25	1.5	8.22	22.00	20595	76.2	1.11	6.56	no sheen no odour
12.30	2.0	8.29	22.04	20619	79.3	0.96	6.56	
12.35	2.5	8.32	22.04	20620	79.3	0.96	6.56	
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2	

OTHER COMMENTS/OBSERVATIONS:

QA/QC Sample

SIGNATURE:

WATER SAMPLING FIELD SHEET

eiaustralia

Site Address:
Job Number: E25635
Client:
Date: 17/10/24
Field Staff:
Sampling Location ID BH107M
Well Location:
Round No:

MEDIUM ☑Groundwater ☐Surface Water ☐Stormwater ☐Other:

SAMPLING POINT INFO

Well Installation Date: 10/10/24
Stick up / down (m): − 0.010 (+ above ground - below ground)
Initial Well Depth (mBTOC): 8.6
Screen Interval (mBTOC): 5.6 – 8.6
Previous Sampling Date:
Previous SWL (mBTOC):

PID READINGS

PID Headspace (ppm):
PID Background (ppm):
PID Breathing Space (ppm):

PRE PURGE

Total Well Depth (mBTOC): 8.42
Well Head Condition:
SWL (mBTOC): 8.15
Water Column (m):

PHASE SEPARATED HYDROCARBONS (PSH)

Depth to PSH (mBTOC):
PSH Visually Confirmed (Bailer):
PSH Thickness (mm):

Field Filtered

Yes (0.45 µm) ☑
No ☐ (Request lab 0.45 µm filter the sample)

PURGE AND SAMPLE

Sampling Method ☐Bladder ☑Peristaltic ☐Submersible ☐Other:

Depth of Pump Inlet (mBTOC):
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.)
1.15	0.5	8.15	23.95	23670	37.3	0.90	6.66	
1.20	1.0	8.22	24.11	23630	38.0	0.80	6.64	Pale brown, turbid, no odour
1.25	1.5	8.29	24.30	23600	38.6	0.71	6.64	no sheen
1.30	2.0	8.35	24.53	23590	39.5	0.65	6.63	
1.35	2.5	8.40	24.53	23590	39.5	0.65	6.63	
Stabilisation range: **3 consecutive readings**			**±0.2°C**	**±3%**	**±20mV**	**±10%**	**±0.2**	

OTHER COMMENTS/OBSERVATIONS:

Not enou water
– No plastic bottle sample

SIGNATURE:

Smartscan Locators Pty Ltd

ABN: 84 622 814 813
admin@sslocators.com.au

Site Report

Smartscan Rep
Dylan Fitzharris

Date
30/10/2024

Client Company
Ei Australia

Client Name
Sean

Site Address
890 Woodville Road, Villawood NSW

Description of Work Required
Scope: Service clearing of 2-3 hand auger locations and one GPR survey of potential tank area.

Description of Work Completed
Completed visual site inspection
Completed review of available plans
Completed EMI tracing
Completed induction scans
Completed passive scans
Completed QL-B/QL-D markup
Completed GPR scans
Completed borehole clearance for hand augers.

Equipment Used
EMI Locator
Utility GPR

Method Used
Reviewed DBYD
Site Inspection
GPR Scans
Inductive Loc.
Direct Loc.
Passive Scans

DBYD Number
Na

Smartscan Locators Pty Ltd

ABN: 84 622 814 813
admin@sslocators.com.au

Site Markings
EOT – End of trace – Unable locate past this point due to loss of signal or end of service
UTO - Unable to lift pit
FOD - Full of debris
FOW - Full of water
MT - Empty conduits
EU - Electricity (Orange) - (414 - 11k HV)
TR - Electricity transmission (Red)
WM - Water main (Blue)
WY - Water service (Blue)
GM - Gas main (Yellow LG, MG, HPG, TG)
GY - Gas (Yellow)
SW - Storm water (Green)
SM - Sewer (purple)
TN - Telstra or Comms (White)
OU - Optic fibre (White)
TY - Telstra service (White)
RMS - RMS signal cables (Red)
UP or ? - Unknown service (Pink)

Quality Levels
Australian Standards –
AS 5488-2013 Classification of Subsurface Utility Information (SUI)
Quality Level A (QL-A)
QL-A is the positive identification and location of a service through potholing and has an absolute tolerance of +/- 50mm vertically and horizontally
Quality Level B (QL-B)
QL-B is achieved through electronic tracing and is ONLY accurate to +/- 300mm horizontally and +/- 500mm vertically
Quality Level C (QL-C)
QL-C location is derived from visible evidence of utility assets (pit lids, valves, hydrants etc) ONLY. There is NO verification that the service is directly under the visible feature, nor in a straight line.
Quality Level D (QL-D)
QL-D is an approximate location ONLY derived from DBYD drawings/ existing records and does NOT encompass any field verification involving direct measurement.

Additional Smart Scan Quality levels
Quality Level G (QL-G)
QL-G Asset located using just GPR
Quality Level P (QL-P)
QL-P Asset located using Passive mode only

Disclaimer

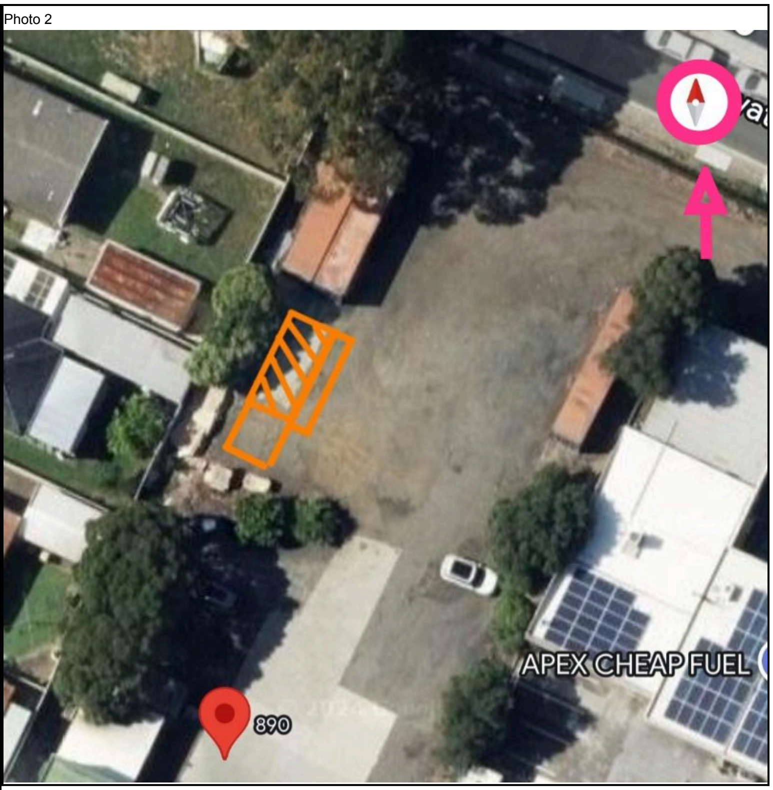
Smartscan Locators Pty Ltd is engaged in accordance with the following conditions.
1. The client is solely responsible for meeting duty of care and minimum clearance obligations of each Utility Provider and complying with all workplace health and safety legislation.
2. The client acknowledges that electronic detection will be carried out to the quality levels as stated per AS 5488
3. Electromagnetic Radio Frequency devices may be affected by other influences including environment conditions, Utility congestion or material of target. These utilities may be considered untraceable.
4. Our locating is to be used as a guide only and no guarantee is made for the exact location and depth of Utility. All services should be exposed by non destructive potholing methods prior to excavation.
5. Smartscan Locators does not accept liability from damage caused from reliance upon services provided and all responsibility remains with the client.

☐ Client not on site

Smartscan Rep Signature

Photo 1

Photo 2



Description of Photo 1

The raw GPR data depicted in this image was collected by traversing the GPR unit from north to south. Notably, a 13-meter-long hyperbola is visible at the 1.500-meter mark at its apex. This image provides the clearest depiction of an anomaly at a depth of 1.500 meters; however, it was not corroborated by additional scans. Cross-sectional scans did not validate the parameters associated with the potential underground storage tank.

Description of Photo 2

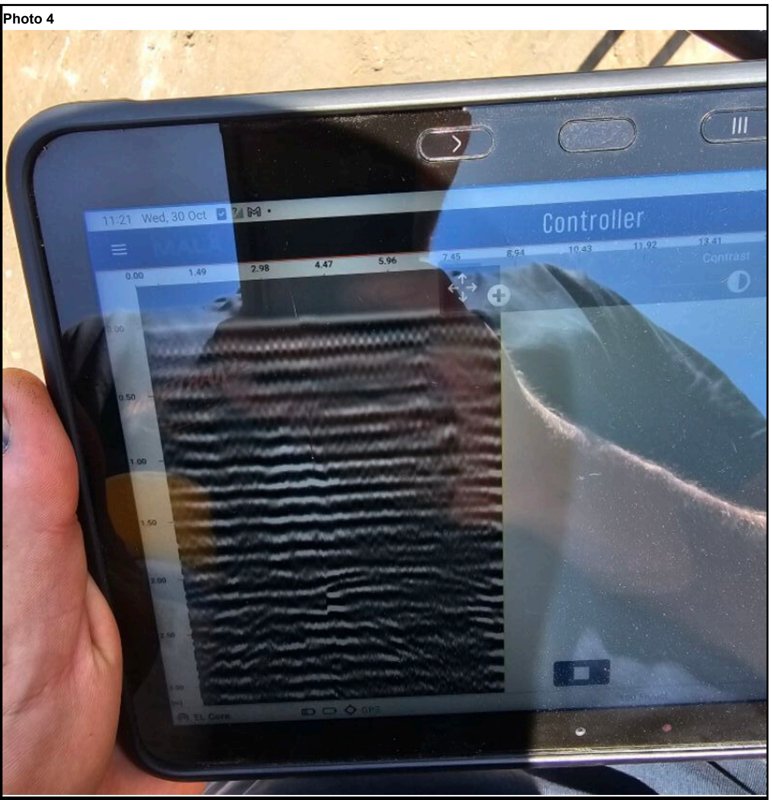
Location of GPR scans
:Note compass top right hand corner

Photo 3

Description of Photo 3

This scan was conducted by traversing north to south, revealing variations in the subsurface material. Although the details are not entirely clear, there are indications of an anomaly that merits further investigation.

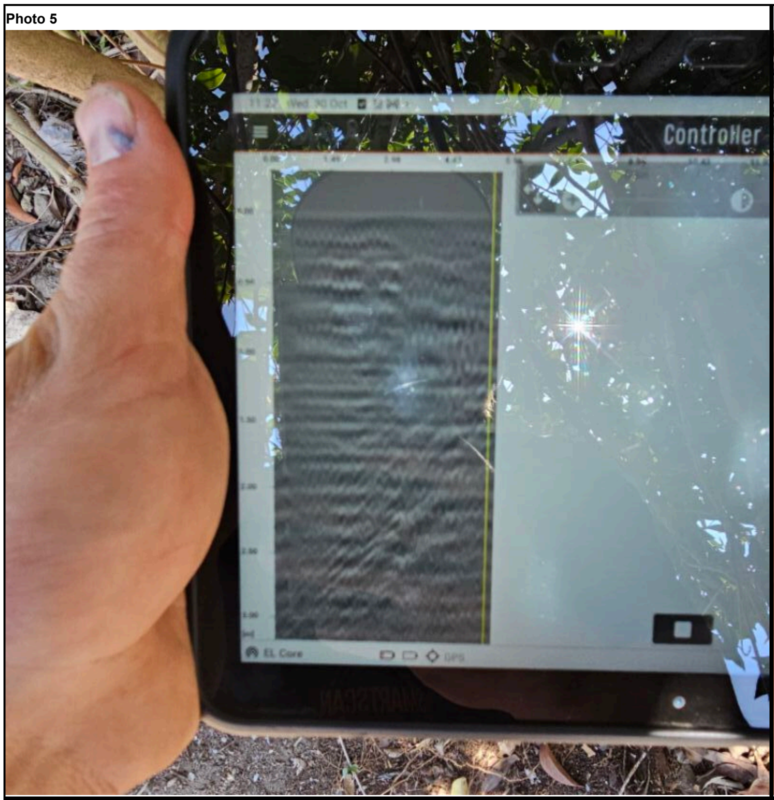
Photo 4



Description of Photo 4

Additional north/south scan.

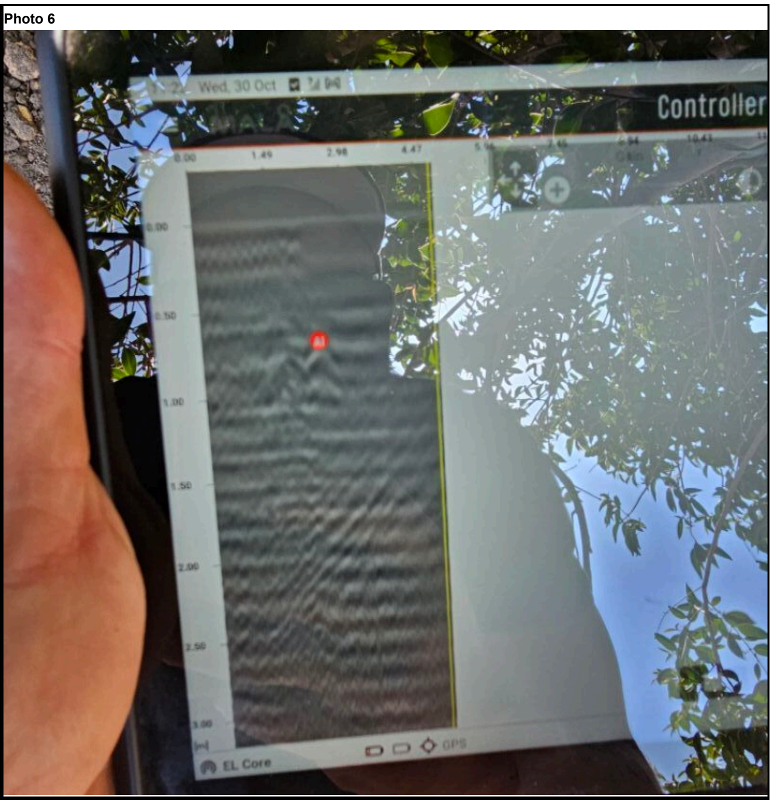
Photo 5



Description of Photo 5

The scan was conducted traversing from east to west, highlighting notable differences in the subsurface material. While the image lacks distinct clarity, it suggests the presence of an anomaly or variation in the subsurface composition.

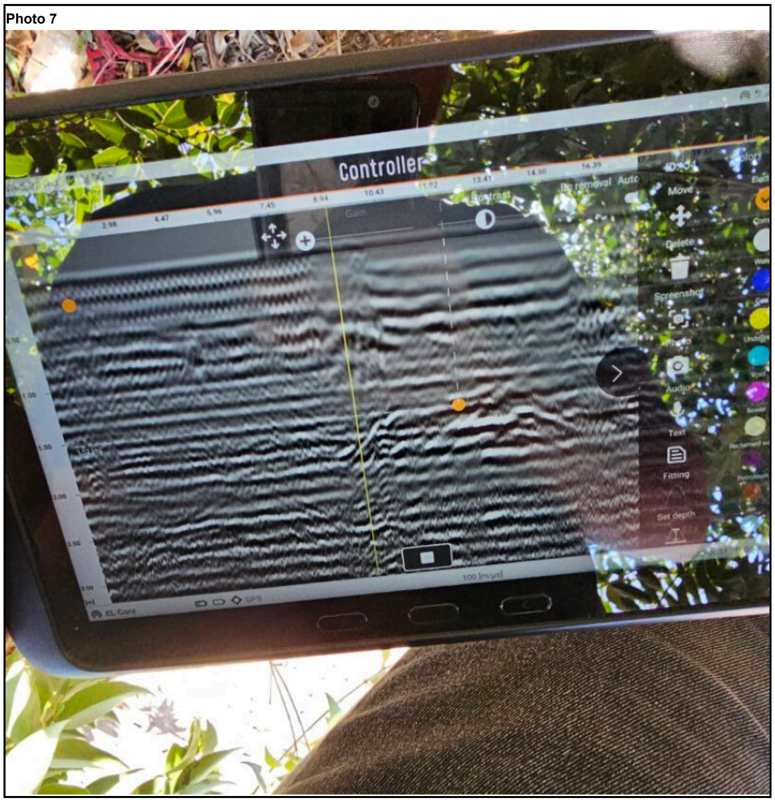
Photo 6



Description of Photo 6

The scan was conducted from east to west, revealing evidence of unknown material at a depth of 700 mm.

Photo 7



Description of Photo 7

The GPR data collected from multiple scans reveals significant insights into the subsurface materials. One notable scan, conducted from north to south, indicates variations in the subsurface composition, suggesting the presence of an anomaly. A previous scan traversing east to west also identified evidence of unknown material at a depth of 700 mm. While the clarity of the images is limited, the findings point to potential underground features that warrant further exploration and analysis.

Appendix G – Borehole Logs

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BOREHOLE LOG

BH ID: BH101

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH101_0.10-0.20 PID = 2.2	■	0 0.00	▩		FILL: Silty SAND: fine to coarse grained, brown, No odour	D	-	FILL
		BH101_0.40-0.50	■	0.30	▤		Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
				1 2 3 4 5			Terminated at 0.60m. Target Depth Reached.			

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

BOREHOLE LOG

BH ID: BH102

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE			0 0.00			CONCRETE: 100mm thick	D	-	CONCRETE
		BH102_0.20-0.30 PID = 0.1	■	0.10			FILL: Silty SAND: fine grained, brown, No odour			FILL
		BH102_0.50-0.60	■	0.40			Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
							Terminated at 0.70m. Target Depth Reached.			
				1						
				2						
				3						
				4						
				5						

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

BOREHOLE LOG

BH ID: BH103

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 1 of 1

Started 10 October 2024
Completed 10 October 2024
Logged By JM **Date** 10 October 2024
Review By **Date**

Drilling Contractor Hartgeo
Plant Ute-Mounted Rig
Surface RL -
Inclination 90°
Latitude -
Longitude -

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH103_0.10-0.20 PID = 0.0		0 0.00			FILL: Silty SAND: fine grained, brown, with rootlets, No odour	D	-	FILL
		BH103_0.40-0.50		0.30			Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
							Terminated at 0.60m. Target Depth Reached.			
				1						
				2						
				3						
				4						
				5						

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

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BOREHOLE LOG

BH ID: BH104

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH104_0.10-0.20 PID = 2.0	■	0.00	▨		FILL: Silty SAND: fine grained, brown, with rootlets, No odour	D	-	FILL
		BH104_0.40-0.50	■	0.30	▤		Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
							Terminated at 0.70m. Target Depth Reached.			
				1						
				2						
				3						
				4						
				5						

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

BOREHOLE LOG

BH ID: BH105

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH105_0.20-0.30	■	0.00	▨		FILL: Silty SAND: fine grained, brown, No odour	D	-	FILL
		BH105_0.80-0.90	■	0.70	▤		Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
							Terminated at 0.90m. Target Depth Reached.			

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

BOREHOLE LOG

BH ID: BH106

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE			0 0.00			ASPHALT: 10mm thick	D	-	ASPHALT
		BH106_0.20-0.30 PID = 1.8		0.01			FILL: Gravelly SAND: fine to coarse grained, grey-brown, with sub-angular to angular gravels, No odour			FILL
		BH106_0.70-0.80		0.60			Gravelly CLAY: medium plasticity, orange mottled red, with sub-angular to angular gravels, No odour			RESIDUAL SOIL
				1			Terminated at 1.00m. Target Depth Reached.			
				2						
				3						
				4						
				5						

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

BOREHOLE LOG

BH ID: BH107M

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE			0.00			ASPHALT: 200mm thick	D	-	ASPHALT
		BH107M_0.30-0.40 PID = 2.6	■	0.20			FILL: Gravelly SAND: fine grained, grey-brown, with sub-angular to angular gravels, No odour			FILL
		BH107M_0.80-0.90	■	0.70			Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
				4.70			SHALE: extremely weathered seams, No odour			WEATHERED ROCK
							Terminated at 8.60m. Refusal on bedrock.			

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

MONITORING WELL LOG

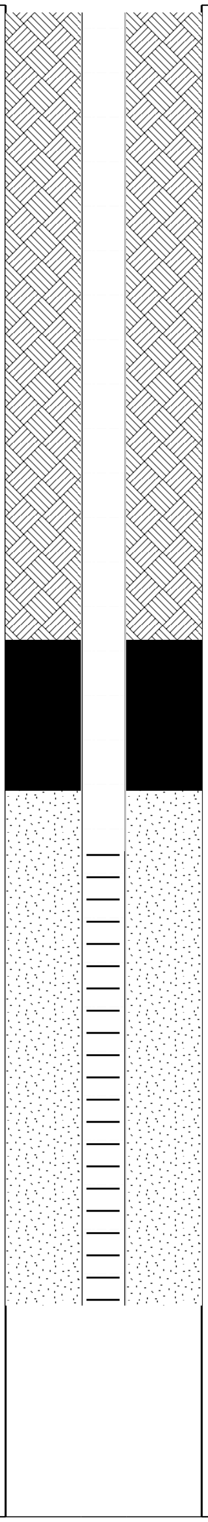
BH ID: BH107M

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 1 of 1

Started 10 October 2024
Completed 10 October 2024
Logged By JM **Date** 10 October 2024
Review By **Date**

Drilling Contractor Hartgeo
Plant Ute-Mounted Rig
Surface RL -
Inclination 90°
Latitude -
Longitude -

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
GWNE		0.00		ASPHALT: 200mm thick	D	Steel Cover at Surface	Well Stickup =-0.05m
	BH107M_0.30-0.40 PID = 2.6	0.20		FILL: Gravelly SAND: fine grained, grey-brown, with sub-angular to angular gravels, No odour		Cuttings 0.05m - 4.20m	0.05m - 5.60m PVC casing (50mm Ø)
	BH107M_0.80-0.90	0.70		Silty CLAY: medium to high plasticity, orange mottled red, No odour			
						Bentonite 4.20m - 5.20m	
		4.70		SHALE: extremely weathered seams, No odour			
						Sand 5.20m - 8.60m	5.60m - 8.60m PVC screen (50mm Ø)
		8.60		Terminated at 8.60m. Refusal on bedrock.			



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

BOREHOLE LOG

BH ID: BH108

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 1 of 1

Started 10 October 2024
Completed 10 October 2024
Logged By JM **Date** 10 October 2024
Review By **Date**

Drilling Contractor Hartgeo
Plant Ute-Mounted Rig
Surface RL -
Inclination 90°
Latitude -
Longitude -

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH108_0.20-0.30 PID = 0.1	■	0 0.00			ASPHALT: 10mm thick			ASPHALT
				0.01	▨		FILL: Gravelly SAND: fine grained, grey-brown, with sub-angular to angular gravels, No odour	D	-	FILL
							Terminated at 0.35m. Refusal on concrete slab.			
				1						
				2						
				3						
				4						
				5						

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

BOREHOLE LOG

BH ID: BH109M

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW

Client ABA Square Pty Ltd

Job No. E25635.E02

Sheets 1 of 1

Started 10 October 2024

Completed 10 October 2024

Logged By JM **Date** 10 October 2024

Review By **Date**

Drilling Contractor Hartgeo

Plant Ute-Mounted Rig

Surface RL -

Inclination 90°

Latitude -

Longitude -

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH109M_0.20-0.30 PID = 2.5		0.00			FILL: SAND: fine grained, pale brown, with rootlets, No odour	D	-	FILL
		BH109M_1.00-1.10		0.90			Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
				4.90			SHALE: extremely weathered seams, No odour			WEATHERED ROCK
							Terminated at 8.10m. Target Depth Reached.			

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

MONITORING WELL LOG

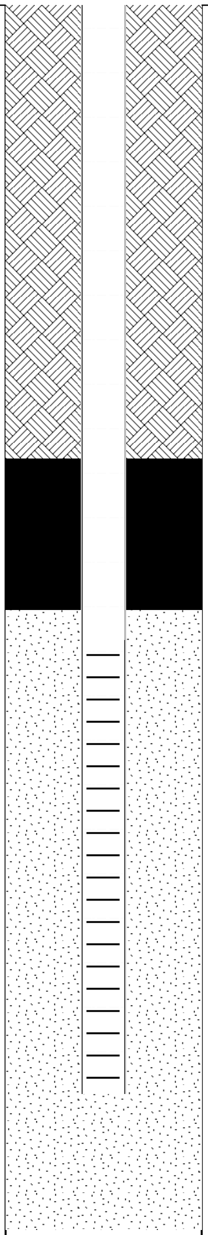
BH ID: BH109M

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 1 of 1

Started 10 October 2024
Completed 10 October 2024
Logged By JM **Date** 10 October 2024
Review By **Date**

Drilling Contractor Hartgeo
Plant Ute-Mounted Rig
Surface RL -
Inclination 90°
Latitude -
Longitude -

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
GWNE	BH109M_0.20-0.30 PID = 2.5	0.00			FILL: SAND: fine grained, pale brown, with rootlets,) No odour	D	Cuttings 0.00m - 3.00m	Well Stickup =1.0m -1.0m - 4.20m PVC casing (50mm Ø)
	BH109M_1.00-1.10	0.90			Silty CLAY: medium to high plasticity, orange mottled red, No odour		Bentonite 3.00m - 4.00m Sand 4.00m - 7.20m	4.20m - 7.20m PVC screen (50mm Ø)
		4.90			SHALE: extremely weathered seams, No odour		Hole Cave in 7.20m - 8.10m	
					Terminated at 8.10m. Target Depth Reached.			



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

BOREHOLE LOG

BH ID: BH110

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 1 of 1

Started 10 October 2024
Completed 10 October 2024
Logged By JM **Date**
Review By **Date**

Drilling Contractor Hartgeo
Plant Ute-Mounted Rig
Surface RL -
Inclination 90°
Latitude -
Longitude -

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE			0.00			ASPHALT: 10mm thick	D	-	ASPHALT
		BH110_0.10-0.20 PID = 2.1	■	0.01	▩		FILL: SAND: fine grained, pale brown, with rootlets, with angular to sub-angular gravels, No odour			FILL
		BH110_0.40-0.50	■	0.30	▤		Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
				1			Terminated at 1.00m. Target Depth Reached.			
				2						
				3						
				4						
				5						

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

BOREHOLE LOG

BH ID: BH111

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE			0 0.00			ASPHALT: 10mm thick	D	-	ASPHALT
		BH111_0.10-0.20 PID = 3.0	■	0.00			FILL: SAND: fine grained, pale brown, with rootlets, No odour			FILL
		BH111_0.60-0.70	■	0.50			Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
				1			Terminated at 1.00m. Target Depth Reached.			
				2						
				3						
				4						
				5						

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

BOREHOLE LOG

BH ID: BH112

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH112_0.10-0.20 PID = 2.9	■	0.00	▨		FILL: SAND: fine grained, pale brown, with rootlets, No odour	D	-	FILL
		BH112_0.40-0.50	■	0.30	▤		Silty CLAY: medium to high plasticity, orange mottled red, No odour			RESIDUAL SOIL
				1			Terminated at 1.00m. Target Depth Reached.			
				2						
				3						
				4						
				5						

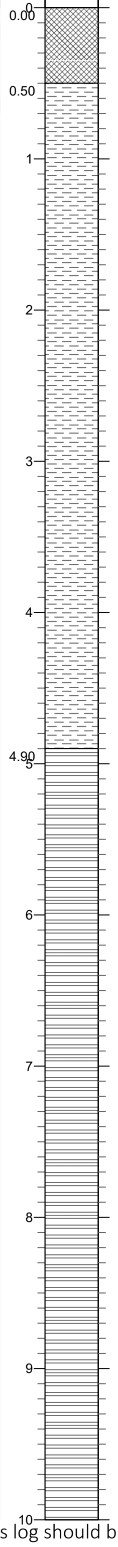
This log should be read in conjunction with EI Australia's accompanying explanatory notes.

BOREHOLE LOG

BH ID: BH113M

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	1 of 2	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-



METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH113M_0.10-0.20 PID = 3.2		0.00			FILL: Gravelly SAND: fine grained, grey-brown, with sub-angular to angular gravels, No odour	D	-	FILL
		BH113M_0.60-0.70		0.50			Silty CLAY: medium to high plasticity, orange mottled red / pale grey, No odour			RESIDUAL SOIL
				4.90			SHALE: extremely weathered seams, No odour			WEATHERED ROCK

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

BOREHOLE LOG

BH ID: BH113M

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 2 of 2

Started 10 October 2024
Completed 10 October 2024
Logged By JM **Date** 10 October 2024
Review By **Date**

Drilling Contractor Hartgeo
Plant Ute-Mounted Rig
Surface RL -
Inclination 90°
Latitude -
Longitude -

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
							Terminated at 10.00m. Target Depth Reached.			
				11						
				12						
				13						
				14						
				15						
				16						
				17						
				18						
				19						
				20						

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

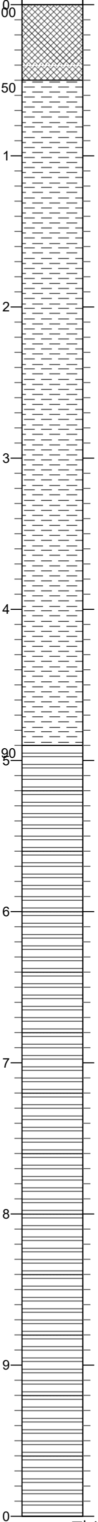
MONITORING WELL LOG

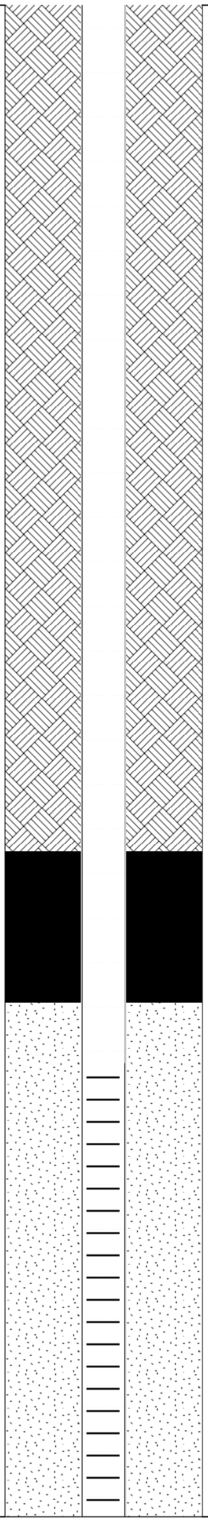
BH ID: BH113M

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 1 of 2

Started 10 October 2024
Completed 10 October 2024
Logged By JM **Date** 10 October 2024
Review By **Date**

Drilling Contractor Hartgeo
Plant Ute-Mounted Rig
Surface RL -
Inclination 90°
Latitude -
Longitude -





WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
GWNE	BH113M_0.10-0.20 PID = 3.2	0.00			FILL: Gravelly SAND: fine grained, grey-brown, with sub-angular to angular gravels, No odour		Cuttings 0.00m - 5.60m	Well Stickup =1.0m -1.0m - 7.0m PVC casing (50mm Ø)
	BH113M_0.60-0.70	0.50			Silty CLAY: medium to high plasticity, orange mottled red / pale grey, No odour			
		4.90			SHALE: extremely weathered seams, No odour	D	Bentonite 5.60m - 6.60m Sand 6.60m - 10.00m	7.0m - 10.0m PVC screen (50mm Ø)

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

MONITORING WELL LOG

BH ID: BH113M

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	10 October 2024		
Client	ABA Square Pty Ltd	**Completed**	10 October 2024		
Job No.	E25635.E02	**Logged By**	JM	**Date**	10 October 2024
Sheets	2 of 2	**Review By**		**Date**	

Drilling Contractor	Hartgeo	**Surface RL**	-	**Latitude**	-
Plant	Ute-Mounted Rig	**Inclination**	90°	**Longitude**	-

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
					Terminated at 10.00m. Target Depth Reached.			
		11						
		12						
		13						
		14						
		15						
		16						
		17						
		18						
		19						
		20						

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

BOREHOLE LOG

BH ID: BH114

Location 15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW
Client ABA Square Pty Ltd
Job No. E25635.E02
Sheets 1 of 1

Started 30 October 2024
Completed 30 October 2024
Logged By SN **Date** 30 October 2024
Review By **Date**

Drilling Contractor -
Plant -
Surface RL -
Inclination 90°
Latitude -
Longitude -

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE			0.00	▨		FILL: Silty SAND: fine grained, brown, with rootlets, trace concrete fragments, with trace gravels and plastic., No odour	D	-	FILL
		PID = 0.2 PID = 0.2 PID = 0.1 PID = 0.1 PID = 0.1 BH114_2.50-2.60 PID = 0.1	■	0.30 1 2	▤		Silty CLAY: medium to high plasticity, orange mottled red / grey, with trace ironstone gravels, No odour	M		RESIDUAL SOIL
				3 4 5			Terminated at 2.60m. Target depth reached.			

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

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BOREHOLE LOG

BH ID: BH115

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	30 October 2024		
Client	ABA Square Pty Ltd	**Completed**	30 October 2024		
Job No.	E25635.E02	**Logged By**	SN	**Date**	30 October 2024
Sheets	1 of 1	**Review By**		**Date**	

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	-	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE			0 0.00	▨		FILL: Silty SAND: fine grained, brown, with rootlets, trace concrete fragments, with trace gravels and plastic., No odour	M	-	FILL
		PID = 0.7		0.40	▤		Silty CLAY: medium to high plasticity, orange mottled red / grey, with trace ironstone gravels, No odour			RESIDUAL SOIL
		PID = 0.1		1						
		PID = 0.0								
		PID = 0.0		2						
		BH115_2.40-2.50	■							
		PID = 0.0					Terminated at 2.50m. Target Depth Reached.			
				3						
				4						
				5						

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

BOREHOLE LOG

BH ID: BH116

Location	15 Hilwa Street and 890, 896 & 898 Woodville Road, Villawood NSW	**Started**	30 October 2024	
Client	ABA Square Pty Ltd	**Completed**	30 October 2024	
Job No.	E25635.E02	**Logged By**	SN	**Date**
Sheets	1 of 1	**Review By**		**Date**

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	-	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE			0.00			FILL: Silty SAND: fine grained, brown, with rootlets, trace concrete fragments, with trace gravels and plastic., No odour	D	-	FILL
		PID = 2.0		0.50			Silty CLAY: medium to high plasticity, orange mottled red / grey, with trace ironstone gravels, No odour	M		RESIDUAL SOIL
		PID = 0.1		1						
		PID = 0.1								
		PID = 0.1		2						
		BH116_2.50-2.60 PID = 0.1	■							
							Terminated at 2.60m. Target Depth Reached.			
				3						
				4						
				5						

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

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EXPLANATION OF NOTES, ABBREVIATIONS & TERMS USED ON BOREHOLE AND TEST PIT LOGS

DRILLING/EXCAVATION METHOD

HA	Hand Auger	**RD**	Rotary blade or drag bit	**NQ**	Diamond Core - 47 mm
DT	Diatube Coring	**RT**	Rotary Tricone bit	**NMLC**	Diamond Core - 52 mm
NDD	Non-destructive digging	**RAB**	Rotary Air Blast	**HQ**	Diamond Core - 63 mm
AS*	Auger Screwing	**RC**	Reverse Circulation	**HMLC**	Diamond Core - 63 mm
AD*	Auger Drilling	**PT**	Push Tube	**BH**	Tractor Mounted Backhoe
***V**	V-Bit	**CT**	Cable Tool Rig	**EX**	Tracked Hydraulic Excavator
***T**	TC-Bit, e.g. AD/T	**JET**	Jetting	**EE**	Existing Excavation
ADH	Hollow Auger	**WB**	Washbore or Bailer	**HAND**	Excavated by Hand Methods

PENETRATION RESISTANCE

L	**Low Resistance**	Rapid penetration/ excavation possible with little effort from equipment used.
M	**Medium Resistance**	Penetration/ excavation possible at an acceptable rate with moderate effort from equipment used.
H	**High Resistance**	Penetration/ excavation is possible but at a slow rate and requires significant effort from equipment used.
R	**Refusal/Practical Refusal**	No further progress possible without risk of damage or unacceptable wear to equipment used.

These assessments are subjective and are dependent on many factors, including equipment power and weight, condition of excavation or drilling tools and experience of the operator.

WATER

▽ **Standing Water Level**

◁ **Partial water loss**

▷ **Water Seepage**

◀ **Complete Water Loss**

GWNO	GROUNDWATER NOT OBSERVED - Observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave-in of the borehole/ test pit.
GWNE	GROUNDWATER NOT ENCOUNTERED - Borehole/ test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/ test pit been left open for a longer period.

SAMPLING AND TESTING

SPT	Standard Penetration Test to AS1289.6.3.1-2004
4,7,11 N=18	4,7,11 = Blows per 150mm. N = Blows per 300mm penetration following a 150mm seating drive
30/80mm	Where practical refusal occurs, the blows and penetration for that interval are reported
RW	Penetration occurred under the rod weight only
HW	Penetration occurred under the hammer and rod weight only
HB	Hammer double bouncing on anvil
Sampling	
DS	Disturbed Sample
ES	Sample for environmental testing
BDS	Bulk disturbed Sample
GS	Gas Sample
WS	Water Sample
U50	Thin walled tube sample - number indicates nominal sample diameter in millimetres
Testing	
FP	Field Permeability test over section noted
FVS	Field Vane Shear test expressed as uncorrected shear strength (sv= peak value, sr= residual value)
PID	Photoionisation Detector reading in ppm
PM	Pressuremeter test over section noted
PP	Pocket Penetrometer test expressed as instrument reading in kPa
WPT	Water Pressure tests
DCP	Dynamic Cone Penetrometer test
CPT	Static Cone Penetration test
CPTu	Static Cone Penetration test with pore pressure (u) measurement

ROCK CORE RECOVERY

TCR=Total Core Recovery (%)

$$= \frac{\textit{Length of core recovered}}{\textit{Length of core run}} \times 100$$

SCR=Solid Core Recovery (%)

$$= \frac{\sum \textit{Length of cylindrical core recovered}}{\textit{Length of core run}} \times 100$$

RQD = Rock Quality Designation (%)

$$= \frac{\sum \textit{Axial lengths of core} > 100mm}{\textit{Length of core run}} \times 100$$

GEOLOGICAL BOUNDARIES

———————— = Observed Boundary (position known)

– – – – – – – – – – – – = Observed Boundary (position approximate)

– –?– –?– –?– – = Boundary (interpreted or inferred)

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METHOD OF SOIL DESCRIPTION USED ON BOREHOLE AND TEST PIT LOGS

▩	FILL	⁂	ORGANIC SOILS (OL, OH or Pt)	☰	CLAY (CL, CI or CH)
⬠	COUBLES or BOULDERS	×	SILT (ML or MH)	⁚	SAND (SP or SW)
○	GRAVEL (GP or GW)		Combinations of these basic symbols may be used to indicate mixed materials such as sandy clay		

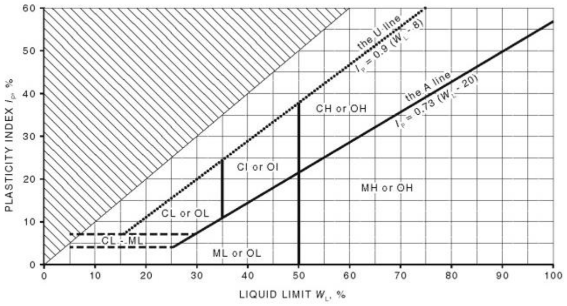
CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS 1726:2017, Section 6.1 – Soil description and classification.

PARTICLE SIZE CHARACTERISTICS

Fraction	Components	Sub Division	Size mm
Oversize	BOULDERS		>200
	COBBLES		63 to 200
Coarse grained soil	GRAVEL	Coarse	19 to 63
		Medium	6.7 to 19
		Fine	2.36 to 6.7
	SAND	Coarse	0.6 to 2.36
		Medium	0.21 to 0.6
		Fine	0.075 to 0.21
Fine grained soil	SILT		0.002 to 0.075
	CLAY		<0.002

PLASTICITY PROPERTIES



GROUP SYMBOLS

Major Divisions		Symbol	Description
COARSE GRAINED SOILS More than 65% of soil excluding oversize fraction is greater than 0.075mm	**GRAVEL** More than 50% of coarse fraction is >2.36mm	GW	Well graded gravel and gravel-sand mixtures, little or no fines.
		GP	Poorly graded gravel and gravel-sand mixtures, little or no fines.
		GM	Silty gravel, gravel-sand-silt mixtures.
		GC	Clayey gravel, gravel-sand-clay mixtures.
	SAND More than 50% of coarse fraction is <2.36 mm	SW	Well graded sand and gravelly sand, little or no fines.
		SP	Poorly graded sand and gravelly sand, little or no fines.
		SM	Silty sand, sand-silt mixtures.
		SC	Clayey sand, sandy-clay mixtures.
FINE GRAINED SOILS More than 35% of soil excluding oversized fraction is less than 0.075mm	Liquid Limit less < 50%	ML	Inorganic silts of low plasticity, very fine sands, rock flour, silty or clayey fine sands.
		CL, CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays.
		OL	Organic silts and organic silty clays of low plasticity.
	Liquid Limit > than 50%	MH	Inorganic silts of high plasticity.
		CH	Inorganic clays of high plasticity.
		OH	Organic clays of medium to high plasticity.
	Highly Organic soil	PT	Peat muck and other highly organic soils.

MOISTURE CONDITION

Symbol	Term	Description
D	Dry	Non- cohesive and free-running.
M	Moist	Soils feel cool, darkened in colour. Soil tends to stick together.
W	Wet	Soils feel cool, darkened in colour. Soil tends to stick together, free water forms when handling.

Moisture content of cohesive soils shall be described in relation to plastic limit (PL) or liquid limit (LL) for soils with higher moisture content as follows: Moist, dry of plastic limit (*w* < PL); Moist, near plastic limit (*w* ≈ PL); Moist, wet of plastic limit (*w* < PL); Wet, near liquid limit (*w* ≈ LL), Wet, wet of liquid limit (*w* > LL),

CONSISTENCY

Symbol	Term	Undrained Shear Strength (kPa)	SPT "N" #
VS	Very Soft	≤ 12	≤ 2
S	Soft	>12 to ≤ 25	>2 to ≤ 4
F	Firm	>25 to ≤ 50	>4 to 8
St	Stiff	>50 to ≤ 100	>8 to 15
VSt	Very Stiff	>100 to ≤ 200	>15 to 30
H	Hard	>200	>30
Fr	Friable	-	

DENSITY

Symbol	Term	Density Index %	SPT "N" #
VL	Very Loose	≤ 15	0 to 4
L	Loose	>15 to ≤ 35	4 to 10
MD	Medium Dense	>35 to ≤ 65	10 to 30
D	Dense	>65 to ≤ 85	30 to 50
VD	Very Dense	>85	Above 50

In the absence of test results, consistency and density may be assessed from correlations with the observed behaviour of the material.
SPT correlations are not stated in AS1726:2017, and may be subject to corrections for overburden pressure and equipment type.

MINOR COMPONENTS

Term	Assessment Guide	Proportion by Mass
Trace	Presence just detectable by feel or eye but soil properties little or no different to general properties of primary component	Coarse grained soils: ≤ 5% Fine grained soil: ≤ 15%
With	Presence easily detectable by feel or eye but soil properties little or no different to general properties of primary component	Coarse grained soils: 5 - 12% Fine grained soil: 15 - 30%
Prefix	Presence easily detectable by feel or eye in conjunction with the general properties of primary component	Coarse grained soils: >12% Fine grained soil: >30%

TERMS FOR ROCK MATERIAL STRENGTH AND WEATHERING

CLASSIFICATION AND INFERRED STRATIGRAPHY

Rock is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS1726 – 2017, Section 6.2 – Rock identification, description and classification.

ROCK MATERIAL STRENGTH CLASSIFICATION

Symbol	Term	Point Load Index, $Is_{(50)}$ (MPa) #	Field Guide
VL	Very Low	0.03 to 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30 mm can be broken by finger pressure.
L	Low	0.1 to 0.3	Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blows of pick point; has dull sound under hammer. A piece of core 150 mm long by 50 mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
M	Medium	0.3 to 1	Readily scored with a knife; a piece of core 150 mm long by 50 mm diameter can be broken by hand with difficulty.
H	High	1 to 3	A piece of core 150 mm long by 50 mm diameter cannot be broken by hand but can be broken with pick with a single firm blow; rock rings under hammer.
VH	Very High	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
EH	Extremely High	>10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

 # Rock Strength Test Results ▼ Point Load Strength Index, $Is_{(50)}$, Axial test (MPa)

● Point Load Strength Index, $Is_{(50)}$, Diametral test (MPa)

Relationship between rock strength test result ($Is_{(50)}$) and unconfined compressive strength (UCS) will vary with rock type and strength, and should be determined on a site-specific basis. However UCS is typically 20 x $Is_{(50)}$.

ROCK MATERIAL WEATHERING CLASSIFICATION

Symbol		Term	Field Guide
RS		Residual Soil	Soil developed on extremely weathered rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
XW		Extremely Weathered	Rock is weathered to such an extent that it has soil properties - i.e. it either disintegrates or can be remoulded, in water.
DW	HW	Distinctly Weathered	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores. In some environments it is convenient to subdivide into Highly Weathered and Moderately Weathered, with the degree of alteration typically less for MW.
	MW		
SW		Slightly Weathered	Rock slightly discoloured but shows little or no change of strength relative to fresh rock.
FR		Fresh	Rock shows no sign of decomposition or staining.

ABBREVIATIONS AND DESCRIPTIONS FOR ROCK MATERIAL AND DEFECTS

CLASSIFICATION AND INFERRED STRATIGRAPHY

Rock is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS1726 – 2017, Section 6.2 – Rock identification, description and classification.

ROCK MATERIAL DESCRIPTION

Layering

Term	Description
Massive	No layering apparent
Indistinct	Layering just visible; little effect on properties
Distinct	Layering (bedding, foliation, cleavage) distinct; rock breaks more easily parallel to layering

Structure

Term	Spacing (mm)
Thinly laminated	<6
Laminated	6 – 20
Very thinly bedded	20 – 60
Thinly bedded	60 – 200
Medium bedded	200 – 600
Thickly bedded	600 – 2,000
Very thickly bedded	> 2,000

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT TYPES

Defect Type	Abbr.	Description
Joint	JT	Surface of a fracture or parting, formed without displacement, across which the rock has little or no tensile strength. May be closed or filled by air, water or soil or rock substance, which acts as cement.
Bedding Parting	BP	Surface of fracture or parting, across which the rock has little or no tensile strength, parallel or sub-parallel to layering/ bedding. Bedding refers to the layering or stratification of a rock, indicating orientation during deposition, resulting in planar anisotropy in the rock material.
Foliation	FL	Repetitive planar structure parallel to the shear direction or perpendicular to the direction of higher pressure, especially in metamorphic rock, e.g. Schistosity (SH) and Gneissosity.
Contact	CO	The surface between two types or ages of rock.
Cleavage	CL	Cleavage planes appear as parallel, closely spaced and planar surfaces resulting from mechanical fracturing of rock through deformation or metamorphism, independent of bedding.
Sheared Surface	SSU	A near planar, curved or undulating surface which is usually smooth, polished or slickensided.
Sheared Seam/ Zone (Fault)	SS/SZ	Seam or zone with roughly parallel almost planar boundaries of rock substance cut by closely spaced (often <50 mm) parallel and usually smooth or slickensided joints or cleavage planes.
Crushed Seam/ Zone (Fault)	CS/CZ	Seam or zone composed of disoriented usually angular fragments of the host rock substance, with roughly parallel near-planar boundaries. The brecciated fragments may be of clay, silt, sand or gravel sizes or mixtures of these.
Extremely Weathered Seam/ Zone	XWS/ XWZ	Seam of soil substance, often with gradational boundaries, formed by weathering of the rock material in places.
Infilled Seam	IS	Seam of soil substance, usually clay or clayey, with very distinct roughly parallel boundaries, formed by soil migrating into joint or open cavity.
Schistocity	SH	The foliation in schist or other coarse grained crystalline rock due to the parallel arrangement of platy or prismatic mineral grains, such as mica.
Vein	VN	Distinct sheet-like body of minerals crystallised within rock through typically open-space filling or crack-seal growth.

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT SHAPE AND ROUGHNESS

Shape	Abbr.	Description	Roughness	Abbr.	Description
Planar	PR	Consistent orientation	Polished	POL	Shiny smooth surface
Curved	CU	Gradual change in orientation	Slickensided	SL	Grooved or striated surface, usually polished
Undulating	UN	Wavy surface	Smooth	SM	Smooth to touch. Few or no surface irregularities
Stepped	ST	One or more well defined steps	Rough	RO	Many small surface irregularities (amplitude generally <1mm). Feels like fine to coarse sandpaper
Irregular	IR	Many sharp changes in orientation	Very Rough	VR	Many large surface irregularities, amplitude generally >1mm. Feels like very coarse sandpaper

Orientation: **Vertical Boreholes –** The dip (inclination from horizontal) of the defect.
Inclined Boreholes – The inclination is measured as the acute angle to the core axis.

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT COATING

Coating	Abbr.	Description
Clean	CN	No visible coating or infilling
Stain	SN	No visible coating but surfaces are discoloured by staining, often limonite (orange-brown)
Veneer	VNR	A visible coating of soil or mineral substance, usually too thin to measure (< 1 mm); may be patchy

DEFECT APERTURE

Aperture	Abbr.	Description
Closed	-	Closed.
Open	OP	Without any infill material.
Infilled	-	Soil or rock i.e. clay, talc, pyrite, quartz, etc.

Appendix H – Chain of Custody and Sample Receipt Forms

Sheet 1 of 1

Site: 15 Hilwa Street & 890-898 Woodville Rd, Villawood

Project No: E25635

Laboratory:

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

Sample ID	Laboratory ID	Container Type	Sampling		Sample Matrix				Analysis																		
			Date	Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM^{A} /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM^{A} /TRH/BTEX/PAHs	HM^{A} /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	Excavated Natural Material (ENM) Suite	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride			TCLP HM^{B} / PAH
QTI_241010	1	J	10/10/24		X						X																

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

Job No: 363790

Date Received: 11/10/24
Time Received: 1600
Received By: KWu
Temp: [✓ Cool]/Ambient
Cooling: Ice/[✓ Icepack]
Security: [✓ Intact]/Broken/None

Comments

HM^{A}
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM^{B}
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (Envirolab):
Print Jerry Marshal	Print KWu
Signature	Signature KWu
Date 10/10/24	Date 11/10/24

Sampler's Comments:
- Please cc: Joel Heiringer

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

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - Envirolab

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	EI Australia
Attention	Jesney Marshal

Sample Login Details	
Your reference	E25635 - 15 Hilwa Street & 890-898 Woodville Rd
Envirolab Reference	363790
Date Sample Received	11/10/2024
Date Instructions Received	11/10/2024
Date Results Expected to be Reported	18/10/2024

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	15
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	Acid Extractable metalsin soil
QT1_241010	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Sheet 1 of 1

Site: 15 Hilwa Street, & 890-898 Woodville Rod, Villawood

Project No: E28635

Laboratory:

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

1

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^{A} /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^{A} /TRH/BTEX/PAHs	HM ^{A} /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	Excavated Natural Material (ENM) Suite	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride			TCLP HM ^{B} / PAH
QT_241017		S, P, VC	17/10/24			X					X																

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

ENVIROLAB GROUP

Job No: 364310

Date Received: 18/10/24

Time Received: 1500

Received By: DLuff

Temp: Cool/[✓ Ambient]

Cooling: Ice/Icepack

Security: Intact/Broken/[✓ None]

Comments

HM ^{A}
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM ^{B}
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (Envirolab): ELS SYD
Print Jessy Marshal	Print Danielle Luff
Signature	Signature DLuff
Date 18/10/24	Date 18/10/24 1500 12:10

Sampler's Comments:
- Please CC: Joel Heininger

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

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - Envirolab

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200   fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	EI Australia
Attention	Jesney Marshal

Sample Login Details

Your reference	E25635 -15 Hilda St&890-898 Woodville Rd,Villawood
Envirolab Reference	364310
Date Sample Received	18/10/2024
Date Instructions Received	18/10/2024
Date Results Expected to be Reported	25/10/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	20
Cooling Method	None
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200   fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	HM in water - dissolved
QY_241017	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info
Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Sheet 1 of 1

Site: 15 Hilwa Street & 890-898 Woodville Rd, Villawood

Project No: E25635

Laboratory:

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

SGS EHS Sydney COC
SE272333

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: SOIL	WATER	0.45 µm field filtered	OTHER	Analysis: HM ^A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^A /TRH/BTEX/PAHs	HM ^A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM^A /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	TCLP HM ^B / PAH
SS1	1	ZLB	10/10/24		X									X															
SS2	2				X									X															
SS3	3				X									X															
SS4	4				X									X															
SS5	5				X									X															
SS6	6				X									X															
SS7	7				X																								

Comments

HM ^A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM ^B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass botlle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print Jesny Marshal	Print Joel K
Signature	Signature
Date 10/10/24	Date 10/10/24 5:15pm

Sampler's Comments:
- Please CC: Joel Heininger

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

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - SGS

SAMPLE RECEIPT ADVICE

SE272333

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Jesny Marshal	Manager	Shane McDermott
Client	EI AUSTRALIA	Laboratory	SGS Alexandria Environmental
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009	Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	61 2 95160722	Telephone	+61 2 8594 0400
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499
Email	jesny.marshal@eiaustralia.com.au	Email	au.environmental.sydney@sgs.com
Project	**E25635 15 Hilwa Street & 890-898 Woodvil**	Samples Received	Thu 10/10/2024
Order Number	**E25635**	Report Due	Thu 17/10/2024
Samples	7	SGS Reference	**SE272333**

SUBMISSION DETAILS

This is to confirm that 7 samples were received on Thursday 10/10/2024. Results are expected to be ready by COB Thursday 17/10/2024. Please quote SGS reference SE272333 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	7 Soil	Type of documentation received	COC
Date documentation received	10/10/2024	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	15.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

SAMPLE RECEIPT ADVICE

SE272333

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilwa Street & 890-898 Woodvil

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil
001	SS1	3
002	SS2	3
003	SS3	3
004	SS4	3
005	SS5	3
006	SS6	3
007	SS7	3

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

Sheet 1 of 3

Site: 15 Hilwa Street & 890-898 Woodville Rd, Villawood

Project No: E25635

Laboratory:

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

Sample ID	Laboratory ID	Container Type	Sampling		Sample Matrix				Analysis																				
			Date	Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^{A} /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^{A} /TRH/BTEX/PAHs	HM ^{A} /TRH/BTEX	~~BTEX~~	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM ^{A} /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	TCLP HM ^{B} / PAH
BH101_0.1-0.2	1	J, ZLB	10/10/24		X				X																				
BH101_0.4-0.5		J																											
BH102_0.2-0.3	2	J, ZLB							X																				
BH102_0.5-06		J																											
BH103_0.1-0.2	3	J, ZLB							X																				
BH103_0.4-0.5		J																											
BH104_0.1-0.2	4	J, ZLB							X																				
BH104_0.4-0.5	5	J								X																			
BH105_0.2-0.3	6	J, ZLB							X																				
BH105_0.8-0.9		J, ~~ZLB~~																											
BH106_0.2-0.3	7	J, ZLB							X																				
BH106_0.7-0.8	8	J								X																			

SGS EHS Sydney COC
SE272334

Comments

HM ^{A}
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM ^{B}
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass botlle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print Jesny Marshal	Print Joel K
Signature	Signature
Date 10/10/24	Date 10/10/24 5.15 pm

Sampler's Comments:
- Please cc: Joel Heininger
- Please send QTL 241010 to Envirolab

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - SGS

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

Sheet 2 of 3

Site:
15 Hilwa Street & 890-898
Woodville Rd, Villawood

Project No:
E25635

Laboratory:

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

Sample ID	Laboratory ID	Container Type	Sampling		Sample Matrix				Analysis																				
			Date	Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^A /TRH/BTEX/PAHs	HM ^A /TRH/BTEX	~~BTEX~~ VOCs	VOCs /phenols	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM^A /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	TCLP HM ^B / PAH
BH107M_0.3-0.4	9	J, ZLB	10/10/24		X				X				X																
BH107M_0.8-0.9	10	J								X		X																	
BH108_0.2-0.3	11	J, ZLB							X																				
BH109M_0.2-0.3	12	J, ZLB							X				X																
BH109M_1.0-1.1	13	J								X		X																	
BH110_0.1-0.2	14	J, ZLB							X																				
BH110_0.4-0.5	15	J								X																			
BH111_0.1-0.2	16	J, ZLB							X																				
BH111_0.6-0.7	17	J								X																			
BH112_0.1-0.2	18	J, ZLB							X																				
BH112_0.4-0.5	19	J								X																			
BH113M_0.1-0.2	20	J, ZLB							X				X																

Comments

HM ^A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM ^B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):
Print Jessy Marshall
Signature Jess
Date 10/10/24

Received by (SGS):
Print Joel K
Signature
Date 10/10/24 5.15 pm

Sampler's Comments:

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - SGS

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

Sheet 3 of 3

Site: 15 Hilwastreet & 890 - 898 Woodville Rd, Villawood

Project No: E25635

Laboratory:

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

			Sampling		Sample Matrix				Analysis																			
Sample ID	Laboratory ID	Container Type	Date	Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^{A} /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^{A} /TRH/BTEX/PAHs	HM ^{A} /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM ^{A} /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	TCLP HM ^{B} / PAH
BH113M_0607	21	J	10/10/24		X					X			X																
QD1_241010	22	J			X						X																		
QR_241010	23	S,P,VC				X					X																		
QTS1	24 Lab prepared				X							X																	
QTB1	25 Lab prepared				X							X																	

Comments

HM ^{A}
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM ^{B}
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):
Print Jessy Marshal
Signature
Date 10/10/24

Received by (SGS):
Print Joel K
Signature
Date 10/10/24 5.15pm

Sampler's Comments:

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

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - SGS

SAMPLE RECEIPT ADVICE

SE272334

CLIENT DETAILS

Contact	Jesny Marshal
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	jesny.marshal@eiaustralia.com.au
Project	**E25635 15 Hilwa Street &890-898 Woodvill**
Order Number	**E25635**
Samples	25

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Thu 10/10/2024
Report Due	Thu 17/10/2024
SGS Reference	**SE272334**

SUBMISSION DETAILS

This is to confirm that 25 samples were received on Thursday 10/10/2024. Results are expected to be ready by COB Thursday 17/10/2024. Please quote SGS reference SE272334 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	24 Soil, 1 Water	Type of documentation received	COC
Date documentation received	10/10/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	15.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

QTL 241010 forwarded to Envirolab.
4 Soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

SAMPLE RECEIPT ADVICE

SE272334

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilwa Street &890-898 Woodvill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Phenolics in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH101_0.1-0.2	30	14	26	11	-	10	11	7
002	BH102_0.2-0.3	30	14	26	11	-	10	11	7
003	BH103_0.1-0.2	30	14	26	11	-	10	11	7
004	BH104_0.1-0.2	30	14	26	11	-	10	11	7
005	BH104_0.4-0.5	-	-	26	-	-	10	11	7
006	BH105_0.2-0.3	30	14	26	11	-	10	11	7
007	BH106_0.2-0.3	30	14	26	11	-	10	11	7
008	BH106_0.7-0.8	-	-	26	-	-	10	11	7
009	BH107M_0.3-0.4	30	14	26	11	1	10	79	7
010	BH107M_0.8-0.9	-	-	26	-	-	10	79	7
011	BH108_0.2-0.3	30	14	26	11	-	10	11	7
012	BH109M_0.2-0.3	30	14	26	11	1	10	79	7
013	BH109M_1.0-1.1	-	-	26	-	-	10	79	7
014	BH110_0.1-0.2	30	14	26	11	-	10	11	7
015	BH110_0.4-0.5	-	-	26	-	-	10	11	7
016	BH111_0.1-0.2	30	14	26	11	-	10	11	7
017	BH111_0.6-0.7	-	-	26	-	-	10	11	7
018	BH112_0.1-0.2	30	14	26	11	-	10	11	7
019	BH112_0.4-0.5	-	-	26	-	-	10	11	7
020	BH113M_0.1-0.2	30	14	26	11	1	10	79	7
021	BH113M_0.6-0.7	-	-	26	-	-	10	79	7
022	QD1_241010	-	-	-	-	-	10	11	7
024	QTS1	-	-	-	-	-	-	11	-

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE272334

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilwa Street &890-898 Woodvill

SUMMARY OF ANALYSIS

No.	Sample ID	VOC's in Soil
025	QTB1	11

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE272334

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilwa Street &890-898 Woodvill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
001	BH101_0.1-0.2	3	1	1	7
002	BH102_0.2-0.3	3	1	1	7
003	BH103_0.1-0.2	3	1	1	7
004	BH104_0.1-0.2	3	1	1	7
005	BH104_0.4-0.5	-	1	1	7
006	BH105_0.2-0.3	3	1	1	7
007	BH106_0.2-0.3	3	1	1	7
008	BH106_0.7-0.8	-	1	1	7
009	BH107M_0.3-0.4	3	1	1	7
010	BH107M_0.8-0.9	-	1	1	7
011	BH108_0.2-0.3	3	1	1	7
012	BH109M_0.2-0.3	3	1	1	7
013	BH109M_1.0-1.1	-	1	1	7
014	BH110_0.1-0.2	3	1	1	7
015	BH110_0.4-0.5	-	1	1	7
016	BH111_0.1-0.2	3	1	1	7
017	BH111_0.6-0.7	-	1	1	7
018	BH112_0.1-0.2	3	1	1	7
019	BH112_0.4-0.5	-	1	1	7
020	BH113M_0.1-0.2	3	1	1	7
021	BH113M_0.6-0.7	-	1	1	7
022	QD1_241010	-	1	1	7

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

CLIENT DETAILS

Client	EI AUSTRALIA	Project	E25635 15 Hilwa Street &890-898 Woodvill

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content
025	QTB1	1

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilwa Street &890-898 Woodvill

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
023	QR_241010	1	7	9	11	7

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

Yin, Emily (Alexandria)

From: AU.Environmental.Sydney, AU (Sydney)
Sent: Wednesday, 23 October 2024 2:25 PM
To: AU.SampleReceipt.Sydney, AU (Sydney)
Cc: AU.Environmental.Sydney, AU (Sydney)
Subject: FW: [EXTERNAL] RE: Report Job SE272334, your reference E25635 15 Hilwa Street & 890-898 Woodvill, order number E25635

FYA

SGS EHS Alexandria Laboratory
SE272334A COC
Received: 23-Oct-2024

Rita Azzi
Industries and Environment
Client Services Representative

SGS Australia Pty Ltd
Unit 16, 33 Maddox Street
Alexandria, NSW, 2015
Phone: +61 (0)2 8594 0400
Direct: +61 (0)2 8594 3309
E-mail: Rita.azzi@sgs.com
General E-mail : au.environmental.sydney@sgs.com
Web: www.au.sgs.com

Working Monday to friday : 10 to 6pm

From: Jesny Marshal - EIAustralia <jesny.marshal@eiaustralia.com.au>
Sent: Wednesday, October 23, 2024 1:34 PM
To: AU.Environmental.Sydney, AU (Sydney) <AU.Environmental.Sydney@SGS.com>
Cc: Joel Heininger - EIAustralia <joel.heininger@eiaustralia.com.au>
Subject: [EXTERNAL] RE: Report Job SE272334, your reference E25635 15 Hilwa Street &890-898 Woodvill, order number E25635

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

Good afternoon SGS,

Could I please request some additional analysis?

Sample ID	Analysis	Turnaround
BH106_0.2-0.3	pH / CEC	24 hr TAT
BH107M_0.3-0.4		
BH112_0.1-0.2		
BH113M_0.1-0.2		

Should you have any queries, please do not hesitate in contacting us.

Kind Regards,

SAMPLE RECEIPT ADVICE

SE272334A

CLIENT DETAILS

Contact	Jesny Marshal
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	jesny.marshal@eiaustralia.com.au
Project	**E25635 15 Hilwa Street &890-898 Woodvill**
Order Number	**E25635**
Samples	25

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Wed 23/10/2024
Report Due	Thu 24/10/2024
SGS Reference	**SE272334A**

SUBMISSION DETAILS

This is to confirm that 25 samples were received on Wednesday 23/10/2024. Results are expected to be ready by COB Thursday 24/10/2024. Please quote SGS reference SE272334A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	4 Soil	Type of documentation received	Email
Date documentation received	23/10/2024@1:34pm	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	15.4°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

SAMPLE RECEIPT ADVICE

SE272334A

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilwa Street &890-898 Woodvill

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	Moisture Content	pH in soil (1:5)
007	BH106_0.2-0.3	13	1	1
009	BH107M_0.3-0.4	13	1	1
018	BH112_0.1-0.2	13	1	1
020	BH113M_0.1-0.2	13	1	1

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

Sheet 1 of 1

Site: 15 Hilcoa Street & 890-898 Woodville Rd, Villawood

Project No: E25635

Laboratory:

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

			Sampling		Sample Matrix				Analysis																				
Sample ID	Laboratory ID	Container Type	Date	Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^A /TRH/BTEX/PAHs	HM ^A /TRH/BTEX	BTEX	VOCs /Total Phenols	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM ^A /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	TCLP HM ^B / PAH
BH107M	1	S, P, Vc	17/10/24			X				X			X											X					
BH109M	2	S, P, Vc				X				X			X											X					
QD_241017	3	S, P, Vc				X					X																		
QR_241017	4	S, P, Vc				X					X																		
GW-QTS1	5	Lab prepared				X						X																	
GW_QTB1	6	Lab prepared				X						X																	

SGS EHS Sydney COC
SE272743

Comments

HM ^A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM ^B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):
Print Jessy Marshal
Signature
Date 18/10/24

Received by (SGS):
Print
Signature
Date 18-10-24 1555

Sampler's Comments:
- Please cc: Joel Heininger
- Please send QT-241017 to Envirolab

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - SGS

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

SAMPLE RECEIPT ADVICE

SE272743

CLIENT DETAILS

Contact	Jesny Marshal
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	jesny.marshal@eiaustralia.com.au
Project	**E25635 15 Hilcoa Street & 890-898 Woodvi**
Order Number	**E25635**
Samples	6

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 18/10/2024
Report Due	Fri 25/10/2024
SGS Reference	**SE272743**

SUBMISSION DETAILS

This is to confirm that 6 samples were received on Friday 18/10/2024. Results are expected to be ready by COB Friday 25/10/2024. Please quote SGS reference SE272743 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	6 Water	Type of documentation received	COC
Date documentation received	18/10/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	4.9°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

QT_241017 Forwarded to Envirolab.

SAMPLE RECEIPT ADVICE

SE272743

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilcoa Street & 890-898 Woodvi

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Total Phenolics in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH107M	1	22	1	7	9	77	7
002	BH109M	1	22	1	7	9	77	7
003	QD_241017	1	-	-	7	9	11	7
004	QR_241017	1	-	-	7	9	11	7
005	GW_QTS1	-	-	-	-	-	11	-
006	GW_QTB1	-	-	-	-	-	11	-

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilcoa Street & 890-898 Woodvi

SUMMARY OF ANALYSIS

No.	Sample ID	Per- and Polyfluoroalkyl Substances (PFAS) in
001	BH107M	60
002	BH109M	60

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

Sheet 1 of 1

Site: 15 Hilwa St & 890-895 Woodville Rd, Villawood

Project No: E25635

Laboratory:

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

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^{A} /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^{A} /TRH/BTEX/PAHs	/TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM ^{A} /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	TCLP HM ^{B} / PAH
BH114_2.5-2.6	1	J	30/10	AM	X						X																	X	
BH11~~4~~5_2.4-2.5	2	J	30/10	AM	X						X																	X	
BH116_2.5-2.6	3	J	30/10	AM	X						X																	X	

SGS EHS Sydney COC
SE273394

Comments

HM ^{A}
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM ^{B}
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
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, Tefton sealed glass jar
S = solvent washed, acid rinsed glass botlle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

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

Report with EI Waste Classification Table ☐

Sampler's Name (EI):
Print Sean Nolan
Signature
Date 30/10/24

Received by (SGS):
Print
Signature
Date 31/10/24 @ 1:35

Sampler's Comments:

eiaustralia
Contamination | Remediation | Geotechnical

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

COC June 2021 FORM v.5 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au, joel, jesny, sean

SAMPLE RECEIPT ADVICE

SE273394

CLIENT DETAILS

Contact	Joel Heininger
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	joel.heininger@eiaustralia.com.au
Project	**E25635 15 Hilwa St & 890-895 Woodville R**
Order Number	**E25635**
Samples	3

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Thu 31/10/2024
Report Due	Tue 5/11/2024
SGS Reference	**SE273394**

SUBMISSION DETAILS

This is to confirm that 3 samples were received on Thursday 31/10/2024. Results are expected to be ready by COB Tuesday 5/11/2024. Please quote SGS reference SE273394 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	3 Soil	Type of documentation received	COC
Date documentation received	31/10/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	13.5°C
Sample container provider	SGS	Turnaround time requested	Three Days
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

SAMPLE RECEIPT ADVICE

CLIENT DETAILS

Client EI AUSTRALIA

Project E25635 15 Hilwa St & 890-895 Woodville R

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH114_2.5-2.6	1	1	10	11	7
002	BH115_2.4-2.5	1	1	10	11	7
003	BH115_2.5-2.6	1	1	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 .

Appendix I – Laboratory Analytical Reports

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CERTIFICATE OF ANALYSIS 363790

Client Details

Client	EI Australia
Attention	Jesney Marshal
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E25635 - 15 Hilwa Street & 890-898 Woodville Rd**
Number of Samples	1 Soil
Date samples received	11/10/2024
Date completed instructions received	11/10/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	18/10/2024
Date of Issue	16/10/2024

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Tabitha Roberts, Senior Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		363790-1
Your Reference	UNITS	QT1_241010
Date Sampled		10/10/2024
Type of sample		Soil
Date extracted	-	14/10/2024
Date analysed	-	16/10/2024
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	117

svTRH (C10-C40) in Soil		
Our Reference		363790-1
Your Reference	UNITS	QT1_241010
Date Sampled		10/10/2024
Type of sample		Soil
Date extracted	-	14/10/2024
Date analysed	-	15/10/2024
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	85

Acid Extractable metals in soil		
Our Reference		363790-1
Your Reference	UNITS	QT1_241010
Date Sampled		10/10/2024
Type of sample		Soil
Date prepared	-	14/10/2024
Date analysed	-	14/10/2024
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	16
Copper	mg/kg	67
Lead	mg/kg	3
Mercury	mg/kg	<0.1
Nickel	mg/kg	100
Zinc	mg/kg	42

Moisture		
Our Reference		363790-1
Your Reference	UNITS	QT1_241010
Date Sampled		10/10/2024
Type of sample		Soil
Date prepared	-	14/10/2024
Date analysed	-	15/10/2024
Moisture	%	11

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			14/10/2024	[NT]	[NT]	[NT]	[NT]	14/10/2024	[NT]
Date analysed	-			16/10/2024	[NT]	[NT]	[NT]	[NT]	16/10/2024	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	109	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	109	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	108	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	108	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			14/10/2024	[NT]	[NT]	[NT]	[NT]	14/10/2024	[NT]
Date analysed	-			14/10/2024	[NT]	[NT]	[NT]	[NT]	14/10/2024	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	103	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	97	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	103	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	97	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	90	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			14/10/2024	[NT]	[NT]	[NT]	[NT]	14/10/2024	[NT]
Date analysed	-			14/10/2024	[NT]	[NT]	[NT]	[NT]	14/10/2024	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	116	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	104	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

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CERTIFICATE OF ANALYSIS 364310

Client Details

Client	EI Australia
Attention	Jesney Marshal
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E25635 -15 Hilda St&890-898 Woodville Rd,Villawood**
Number of Samples	1 Water
Date samples received	18/10/2024
Date completed instructions received	18/10/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	25/10/2024
Date of Issue	23/10/2024

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Dragana Tomas, Senior Chemist
Loren Bardwell, Development Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water		
Our Reference		364310-1
Your Reference	UNITS	QY_241017
Date Sampled		17/10/2024
Type of sample		Water
Date extracted	-	21/10/2024
Date analysed	-	21/10/2024
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	105
Surrogate Toluene-d8	%	99
Surrogate 4-Bromofluorobenzene	%	93

svTRH (C10-C40) in Water		
Our Reference		364310-1
Your Reference	UNITS	QY_241017
Date Sampled		17/10/2024
Type of sample		Water
Date extracted	-	21/10/2024
Date analysed	-	22/10/2024
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	<50
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	<50
Surrogate o-Terphenyl	%	85

HM in water - dissolved		
Our Reference		364310-1
Your Reference	UNITS	QY_241017
Date Sampled		17/10/2024
Type of sample		Water
Date prepared	-	21/10/2024
Date analysed	-	21/10/2024
Arsenic-Dissolved	µg/L	23
Cadmium-Dissolved	µg/L	0.3
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	37
Zinc-Dissolved	µg/L	100

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Salt forms (e.g. FeO, PbO, ZnO) are determined stoichiometrically from the base metal concentration.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			21/10/2024	[NT]	[NT]	[NT]	[NT]	21/10/2024	[NT]
Date analysed	-			21/10/2024	[NT]	[NT]	[NT]	[NT]	21/10/2024	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	108	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	104	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	106	[NT]	[NT]	[NT]	[NT]	107	[NT]
Surrogate Toluene-d8	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	94	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			21/10/2024	[NT]	[NT]	[NT]	[NT]	21/10/2024	[NT]
Date analysed	-			22/10/2024	[NT]	[NT]	[NT]	[NT]	22/10/2024	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	88	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	114	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	88	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	114	[NT]
Surrogate o-Terphenyl	%		Org-020	98	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	[NT]
Date prepared	-			21/10/2024	[NT]	[NT]	[NT]	[NT]	21/10/2024	[NT]
Date analysed	-			21/10/2024	[NT]	[NT]	[NT]	[NT]	21/10/2024	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	87	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jesny Marshal
Client	EI AUSTRALIA
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Project	**E25635 15 Hilwa Street & 890-898 Woodvil**
Order Number	**E25635**
Samples	7

LABORATORY DETAILS

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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE272333 R0**
Date Received	10/10/2024
Date Reported	17/10/2024

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Yusuf KUTHPUDIN
Asbestos Analyst

Fibre Identification in soil [AS4964/AN602] Tested: 14/10/2024

PARAMETER	UOM	LOR	SS1 SOIL - 10/10/2024 SE272333.001	SS2 SOIL - 10/10/2024 SE272333.002	SS3 SOIL - 10/10/2024 SE272333.003	SS4 SOIL - 10/10/2024 SE272333.004	SS5 SOIL - 10/10/2024 SE272333.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00

PARAMETER	UOM	LOR	SS6 SOIL - 10/10/2024 SE272333.006	SS7 SOIL - 10/10/2024 SE272333.007
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01
Date Analysed*	No unit	-	16/10/2024 00:00	16/10/2024 00:00

METHOD	METHODOLOGY SUMMARY
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic \`clues\`, which provide a reasonable degree of certainty, dispersion staining is a mandatory \`clue\` for positive identification. If sufficient \`clues\` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

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

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

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

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

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

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

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

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE272333 R0**
Date Received	10 Oct 2024
Date Reported	17 Oct 2024

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Yusuf KUTHPUDIN
Asbestos Analyst

ANALYTICAL REPORT

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE272333.001	SS1	Soil	101g Sand, Soil, Rocks, Plant Matter	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272333.002	SS2	Soil	92g Sand, Soil, Rocks, Plant Matter	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272333.003	SS3	Soil	130g Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272333.004	SS4	Soil	44g Sand, Soil, Rocks, Plant Matter	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272333.005	SS5	Soil	108g Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272333.006	SS6	Soil	88g Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272333.007	SS7	Soil	115g Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
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FOOTNOTES

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

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

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

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

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

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

ANALYTICAL REPORT

Accreditation No. 2562

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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE272334 R0**
Date Received	10/10/2024
Date Reported	17/10/2024

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

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Ly Kim HA Organic Section Head	**Shane MCDERMOTT** Laboratory Manager	**Teresa NGUYEN** Organic Chemist	**Yusuf KUTHPUDIN** Asbestos Analyst

VOC's in Soil [AN433] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH104_0.4-0.5 SOIL - 10/10/2024 SE272334.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	-	-	-
Chloromethane	mg/kg	1	-	-	-	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	-	-	-
Bromomethane	mg/kg	1	-	-	-	-	-
Chloroethane	mg/kg	1	-	-	-	-	-
Trichlorofluoromethane	mg/kg	1	-	-	-	-	-
Acetone (2-propanone)	mg/kg	10	-	-	-	-	-
Iodomethane	mg/kg	5	-	-	-	-	-
1,1-dichloroethene	mg/kg	0.1	-	-	-	-	-
Acrylonitrile	mg/kg	0.1	-	-	-	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	-	-	-
Allyl chloride	mg/kg	0.1	-	-	-	-	-
Carbon disulfide	mg/kg	0.5	-	-	-	-	-
trans-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
1,1-dichloroethane	mg/kg	0.1	-	-	-	-	-
Vinyl acetate*	mg/kg	10	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	-
Bromochloromethane	mg/kg	0.1	-	-	-	-	-
Chloroform (THM)	mg/kg	0.1	-	-	-	-	-
2,2-dichloropropane	mg/kg	0.1	-	-	-	-	-
1,2-dichloroethane	mg/kg	0.1	-	-	-	-	-
1,1,1-trichloroethane	mg/kg	0.1	-	-	-	-	-
1,1-dichloropropene	mg/kg	0.1	-	-	-	-	-
Carbon tetrachloride	mg/kg	0.1	-	-	-	-	-
Dibromomethane	mg/kg	0.1	-	-	-	-	-
1,2-dichloropropane	mg/kg	0.1	-	-	-	-	-
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	-	-	-	-	-
2-nitropropane	mg/kg	10	-	-	-	-	-
Bromodichloromethane (THM)	mg/kg	0.1	-	-	-	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	-
1,1,2-trichloroethane	mg/kg	0.1	-	-	-	-	-
1,3-dichloropropane	mg/kg	0.1	-	-	-	-	-
Dibromochloromethane (THM)	mg/kg	0.1	-	-	-	-	-
2-hexanone (MBK)	mg/kg	5	-	-	-	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	-
Chlorobenzene	mg/kg	0.1	-	-	-	-	-
Bromoform (THM)	mg/kg	0.1	-	-	-	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	-
1,2,3-trichloropropane	mg/kg	0.1	-	-	-	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	-	-	-
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	-	-	-
Bromobenzene	mg/kg	0.1	-	-	-	-	-

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH104_0.4-0.5 SOIL - 10/10/2024 SE272334.005
n-propylbenzene	mg/kg	0.1	-	-	-	-	-
2-chlorotoluene	mg/kg	0.1	-	-	-	-	-
4-chlorotoluene	mg/kg	0.1	-	-	-	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	-	-	-
tert-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	-	-	-
sec-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,3-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
1,4-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
p-isopropyltoluene	mg/kg	0.1	-	-	-	-	-
1,2-dichlorobenzene	mg/kg	0.1	-	-	-	-	-
n-butylbenzene	mg/kg	0.1	-	-	-	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	-	-	-	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	-	-	-
Total VOC*	mg/kg	24	-	-	-	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	-	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	-

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH106_0.7-0.8 SOIL - 10/10/2024 SE272334.008	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH107M_0.8-0.9 SOIL - 10/10/2024 SE272334.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	-	<1	<1
Chloromethane	mg/kg	1	-	-	-	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromomethane	mg/kg	1	-	-	-	<1	<1
Chloroethane	mg/kg	1	-	-	-	<1	<1
Trichlorofluoromethane	mg/kg	1	-	-	-	<1	<1
Acetone (2-propanone)	mg/kg	10	-	-	-	<10	<10
Iodomethane	mg/kg	5	-	-	-	<5	<5
1,1-dichloroethene	mg/kg	0.1	-	-	-	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	-	-	-	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	-	<0.5	<0.5
Allyl chloride	mg/kg	0.1	-	-	-	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	-	-	-	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	-	-	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
Vinyl acetate*	mg/kg	10	-	-	-	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	-	-	-	<0.1	<0.1
Chloroform (THM)	mg/kg	0.1	-	-	-	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	-	-	-	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	-	-	-	<0.1	<0.1
Dibromomethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	-	-	-	<0.1	<0.1
2-nitropropane	mg/kg	10	-	-	-	<10	<10
Bromodichloromethane (THM)	mg/kg	0.1	-	-	-	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	-	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	-	-	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
Dibromochloromethane (THM)	mg/kg	0.1	-	-	-	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	-	-	-	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	-	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromoform (THM)	mg/kg	0.1	-	-	-	<0.1	<0.1
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	-	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	-	<1	<1
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	-	<0.1	<0.1
Bromobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH106_0.7-0.8 SOIL - 10/10/2024 SE272334.008	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH107M_0.8-0.9 SOIL - 10/10/2024 SE272334.010
n-propylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	-	-	-	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	-	-	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	-	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	-	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	<1.8	<1.8

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH109M_1.0-1.1 SOIL - 10/10/2024 SE272334.013	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014	BH110_0.4-0.5 SOIL - 10/10/2024 SE272334.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	<1	-	-
Chloromethane	mg/kg	1	-	<1	<1	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	<0.1	-	-
Bromomethane	mg/kg	1	-	<1	<1	-	-
Chloroethane	mg/kg	1	-	<1	<1	-	-
Trichlorofluoromethane	mg/kg	1	-	<1	<1	-	-
Acetone (2-propanone)	mg/kg	10	-	<10	<10	-	-
Iodomethane	mg/kg	5	-	<5	<5	-	-
1,1-dichloroethene	mg/kg	0.1	-	<0.1	<0.1	-	-
Acrylonitrile	mg/kg	0.1	-	<0.1	<0.1	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	<0.5	-	-
Allyl chloride	mg/kg	0.1	-	<0.1	<0.1	-	-
Carbon disulfide	mg/kg	0.5	-	<0.5	<0.5	-	-
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	<0.1	-	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	<0.1	-	-
1,1-dichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	-
Vinyl acetate*	mg/kg	10	-	<10	<10	-	-
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	<0.1	-	-
Bromochloromethane	mg/kg	0.1	-	<0.1	<0.1	-	-
Chloroform (THM)	mg/kg	0.1	-	<0.1	<0.1	-	-
2,2-dichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2-dichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	-
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	-
1,1-dichloropropene	mg/kg	0.1	-	<0.1	<0.1	-	-
Carbon tetrachloride	mg/kg	0.1	-	<0.1	<0.1	-	-
Dibromomethane	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2-dichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	-
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	-	<0.1	<0.1	-	-
2-nitropropane	mg/kg	10	-	<10	<10	-	-
Bromodichloromethane (THM)	mg/kg	0.1	-	<0.1	<0.1	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	<1	-	-
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	<0.1	-	-
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	-
1,3-dichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	-
Dibromochloromethane (THM)	mg/kg	0.1	-	<0.1	<0.1	-	-
2-hexanone (MBK)	mg/kg	5	-	<5	<5	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	<0.1	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	<0.1	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	<0.1	-	-
Chlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
Bromoform (THM)	mg/kg	0.1	-	<0.1	<0.1	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	<0.1	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	<1	-	-
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	<0.1	-	-
Bromobenzene	mg/kg	0.1	-	<0.1	<0.1	-	-

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH109M_1.0-1.1 SOIL - 10/10/2024 SE272334.013	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014	BH110_0.4-0.5 SOIL - 10/10/2024 SE272334.015
n-propylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
2-chlorotoluene	mg/kg	0.1	-	<0.1	<0.1	-	-
4-chlorotoluene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
tert-butylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
sec-butylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
p-isopropyltoluene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
n-butylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	<0.1	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	-
Total VOC*	mg/kg	24	-	<24	<24	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	<3.0	<3.0	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	<1.8	<1.8	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	<1.8	<1.8	-	-

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH111_0.6-0.7 SOIL - 10/10/2024 SE272334.017	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH112_0.4-0.5 SOIL - 10/10/2024 SE272334.019	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<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
Acetone (2-propanone)	mg/kg	10	-	-	-	-	<10
Iodomethane	mg/kg	5	-	-	-	-	<5
1,1-dichloroethene	mg/kg	0.1	-	-	-	-	<0.1
Acrylonitrile	mg/kg	0.1	-	-	-	-	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	-	-	<0.5
Allyl chloride	mg/kg	0.1	-	-	-	-	<0.1
Carbon disulfide	mg/kg	0.5	-	-	-	-	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	<0.1
1,1-dichloroethane	mg/kg	0.1	-	-	-	-	<0.1
Vinyl acetate*	mg/kg	10	-	-	-	-	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	-	-	-	<0.1
Bromochloromethane	mg/kg	0.1	-	-	-	-	<0.1
Chloroform (THM)	mg/kg	0.1	-	-	-	-	<0.1
2,2-dichloropropane	mg/kg	0.1	-	-	-	-	<0.1
1,2-dichloroethane	mg/kg	0.1	-	-	-	-	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	-	-	-	<0.1
1,1-dichloropropene	mg/kg	0.1	-	-	-	-	<0.1
Carbon tetrachloride	mg/kg	0.1	-	-	-	-	<0.1
Dibromomethane	mg/kg	0.1	-	-	-	-	<0.1
1,2-dichloropropane	mg/kg	0.1	-	-	-	-	<0.1
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	-	-	-	-	<0.1
2-nitropropane	mg/kg	10	-	-	-	-	<10
Bromodichloromethane (THM)	mg/kg	0.1	-	-	-	-	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	-	-	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	-	-	-	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	-	-	-	<0.1
1,3-dichloropropane	mg/kg	0.1	-	-	-	-	<0.1
Dibromochloromethane (THM)	mg/kg	0.1	-	-	-	-	<0.1
2-hexanone (MBK)	mg/kg	5	-	-	-	-	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	-	-	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	-	-	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	<0.1
Chlorobenzene	mg/kg	0.1	-	-	-	-	<0.1
Bromoform (THM)	mg/kg	0.1	-	-	-	-	<0.1
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	-	-	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	-	-	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	-	-	-	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	-	-	<1
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	-	-	<0.1
Bromobenzene	mg/kg	0.1	-	-	-	-	<0.1

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH111_0.6-0.7 SOIL - 10/10/2024 SE272334.017	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH112_0.4-0.5 SOIL - 10/10/2024 SE272334.019	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
n-propylbenzene	mg/kg	0.1	-	-	-	-	<0.1
2-chlorotoluene	mg/kg	0.1	-	-	-	-	<0.1
4-chlorotoluene	mg/kg	0.1	-	-	-	-	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	-	-	<0.1
tert-butylbenzene	mg/kg	0.1	-	-	-	-	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	-	-	<0.1
sec-butylbenzene	mg/kg	0.1	-	-	-	-	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	-	-	-	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	-	-	-	<0.1
p-isopropyltoluene	mg/kg	0.1	-	-	-	-	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	-	-	-	<0.1
n-butylbenzene	mg/kg	0.1	-	-	-	-	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	-	-	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	-	-	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	-	-	-	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	-	-	<0.1
Total VOC*	mg/kg	24	-	-	-	-	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	-	-	-	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	-	-	-	<1.8

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH113M_0.6-0.7 SOIL - 10/10/2024 SE272334.021	QD1_241010 SOIL - 10/10/2024 SE272334.022	QTS1 SOIL - 10/10/2024 SE272334.024	QTB1 SOIL - 10/10/2024 SE272334.025
Benzene	mg/kg	0.1	<0.1	<0.1	[94%]	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	[98%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	[99%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	[98%]	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	[98%]	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	-	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	-	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	[96%]	<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	-	-	-
Acetone (2-propanone)	mg/kg	10	<10	-	-	-
Iodomethane	mg/kg	5	<5	-	-	-
1,1-dichloroethene	mg/kg	0.1	<0.1	-	-	-
Acrylonitrile	mg/kg	0.1	<0.1	-	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	-	-
Allyl chloride	mg/kg	0.1	<0.1	-	-	-
Carbon disulfide	mg/kg	0.5	<0.5	-	-	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	-	-
1,1-dichloroethane	mg/kg	0.1	<0.1	-	-	-
Vinyl acetate*	mg/kg	10	<10	-	-	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-
Bromochloromethane	mg/kg	0.1	<0.1	-	-	-
Chloroform (THM)	mg/kg	0.1	<0.1	-	-	-
2,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-
1,2-dichloroethane	mg/kg	0.1	<0.1	-	-	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	-	-
1,1-dichloropropene	mg/kg	0.1	<0.1	-	-	-
Carbon tetrachloride	mg/kg	0.1	<0.1	-	-	-
Dibromomethane	mg/kg	0.1	<0.1	-	-	-
1,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	<0.1	-	-	-
2-nitropropane	mg/kg	10	<10	-	-	-
Bromodichloromethane (THM)	mg/kg	0.1	<0.1	-	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	-	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	-	-
1,3-dichloropropane	mg/kg	0.1	<0.1	-	-	-
Dibromochloromethane (THM)	mg/kg	0.1	<0.1	-	-	-
2-hexanone (MBK)	mg/kg	5	<5	-	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-
Chlorobenzene	mg/kg	0.1	<0.1	-	-	-
Bromoform (THM)	mg/kg	0.1	<0.1	-	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	-	-
Bromobenzene	mg/kg	0.1	<0.1	-	-	-

VOC's in Soil [AN433] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH113M_0.6-0.7 SOIL - 10/10/2024 SE272334.021	QD1_241010 SOIL - 10/10/2024 SE272334.022	QTS1 SOIL - 10/10/2024 SE272334.024	QTB1 SOIL - 10/10/2024 SE272334.025
n-propylbenzene	mg/kg	0.1	<0.1	-	-	-
2-chlorotoluene	mg/kg	0.1	<0.1	-	-	-
4-chlorotoluene	mg/kg	0.1	<0.1	-	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-
tert-butylbenzene	mg/kg	0.1	<0.1	-	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-
sec-butylbenzene	mg/kg	0.1	<0.1	-	-	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-
p-isopropyltoluene	mg/kg	0.1	<0.1	-	-	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-
n-butylbenzene	mg/kg	0.1	<0.1	-	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-
Total VOC*	mg/kg	24	<24	-	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	-	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH104_0.4-0.5 SOIL - 10/10/2024 SE272334.005
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	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH106_0.7-0.8 SOIL - 10/10/2024 SE272334.008	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH107M_0.8-0.9 SOIL - 10/10/2024 SE272334.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH109M_1.0-1.1 SOIL - 10/10/2024 SE272334.013	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014	BH110_0.4-0.5 SOIL - 10/10/2024 SE272334.015
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH111_0.6-0.7 SOIL - 10/10/2024 SE272334.017	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH112_0.4-0.5 SOIL - 10/10/2024 SE272334.019	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH113M_0.6-0.7 SOIL - 10/10/2024 SE272334.021	QD1_241010 SOIL - 10/10/2024 SE272334.022
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH104_0.4-0.5 SOIL - 10/10/2024 SE272334.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	49	<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	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH106_0.7-0.8 SOIL - 10/10/2024 SE272334.008	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH107M_0.8-0.9 SOIL - 10/10/2024 SE272334.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH109M_1.0-1.1 SOIL - 10/10/2024 SE272334.013	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014	BH110_0.4-0.5 SOIL - 10/10/2024 SE272334.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	54	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	160	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	140	<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	130	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	220	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	210	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	350	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH111_0.6-0.7 SOIL - 10/10/2024 SE272334.017	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH112_0.4-0.5 SOIL - 10/10/2024 SE272334.019	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	53	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	210	<45	<45	<45	79
TRH C37-C40	mg/kg	100	160	<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	170	<90	<90	<90	91
TRH >C34-C40 (F4)	mg/kg	120	250	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	260	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	420	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH113M_0.6-0.7 SOIL - 10/10/2024 SE272334.021	QD1_241010 SOIL - 10/10/2024 SE272334.022
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	87
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420]   Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH104_0.4-0.5 SOIL - 10/10/2024 SE272334.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH106_0.7-0.8 SOIL - 10/10/2024 SE272334.008	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH107M_0.8-0.9 SOIL - 10/10/2024 SE272334.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH109M_1.0-1.1 SOIL - 10/10/2024 SE272334.013	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014	BH110_0.4-0.5 SOIL - 10/10/2024 SE272334.015
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH111_0.6-0.7 SOIL - 10/10/2024 SE272334.017	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH112_0.4-0.5 SOIL - 10/10/2024 SE272334.019	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	**0.1**	<0.1	**0.1**
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH113M_0.6-0.7 SOIL - 10/10/2024 SE272334.021
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006
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 (gamma BHC)	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
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014
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 (gamma BHC)	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
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006
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 SOIL - 10/10/2024 SE272334.007	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014
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_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006
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 SOIL - 10/10/2024 SE272334.007	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014
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_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1

Total Phenolics in Soil [AN295] Tested: 15/10/2024

			BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
PARAMETER	**UOM**	**LOR**			
Total Phenols	mg/kg	0.5	<0.5	<0.5	<0.5

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH104_0.4-0.5 SOIL - 10/10/2024 SE272334.005
Arsenic, As	mg/kg	1	6	2	3	2	4
Cadmium, Cd	mg/kg	0.3	<0.3	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	15	6.9	11	4.7	16
Copper, Cu	mg/kg	0.5	17	9.0	21	14	2.7
Lead, Pb	mg/kg	1	55	13	41	30	17
Nickel, Ni	mg/kg	0.5	4.1	4.1	3.2	7.5	1.7
Zinc, Zn	mg/kg	2	59	33	37	40	8.6

PARAMETER	UOM	LOR	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH106_0.7-0.8 SOIL - 10/10/2024 SE272334.008	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH107M_0.8-0.9 SOIL - 10/10/2024 SE272334.010
Arsenic, As	mg/kg	1	<1	1	5	2	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	1.7	10	23	8.2	16
Copper, Cu	mg/kg	0.5	2.8	58	12	53	13
Lead, Pb	mg/kg	1	2	1	13	2	13
Nickel, Ni	mg/kg	0.5	1.1	100	6.6	100	2.2
Zinc, Zn	mg/kg	2	3.6	38	13	49	16

PARAMETER	UOM	LOR	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH109M_1.0-1.1 SOIL - 10/10/2024 SE272334.013	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014	BH110_0.4-0.5 SOIL - 10/10/2024 SE272334.015
Arsenic, As	mg/kg	1	2	2	7	4	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.3	13	19	17	7.6
Copper, Cu	mg/kg	0.5	53	58	15	39	9.7
Lead, Pb	mg/kg	1	3	7	14	20	9
Nickel, Ni	mg/kg	0.5	78	92	3.4	54	2.0
Zinc, Zn	mg/kg	2	40	40	13	44	6.2

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH111_0.6-0.7 SOIL - 10/10/2024 SE272334.017	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH112_0.4-0.5 SOIL - 10/10/2024 SE272334.019	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Arsenic, As	mg/kg	1	3	20	2	4	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	18	12	38	5.1	73
Copper, Cu	mg/kg	0.5	55	16	47	11	35
Lead, Pb	mg/kg	1	4	13	4	8	5
Nickel, Ni	mg/kg	0.5	58	6.7	80	0.5	81
Zinc, Zn	mg/kg	2	37	13	51	6.1	60

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 14/10/2024 (continued)

PARAMETER	UOM	LOR	BH113M_0.6-0.7 SOIL - 10/10/2024 SE272334.021	QD1_241010 SOIL - 10/10/2024 SE272334.022
Arsenic, As	mg/kg	1	**12**	**1**
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	**11**	**8.6**
Copper, Cu	mg/kg	0.5	**13**	**42**
Lead, Pb	mg/kg	1	**8**	**4**
Nickel, Ni	mg/kg	0.5	**1.6**	**82**
Zinc, Zn	mg/kg	2	**12**	**45**

Mercury in Soil [AN312] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH104_0.4-0.5 SOIL - 10/10/2024 SE272334.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH106_0.7-0.8 SOIL - 10/10/2024 SE272334.008	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH107M_0.8-0.9 SOIL - 10/10/2024 SE272334.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH109M_1.0-1.1 SOIL - 10/10/2024 SE272334.013	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014	BH110_0.4-0.5 SOIL - 10/10/2024 SE272334.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH111_0.6-0.7 SOIL - 10/10/2024 SE272334.017	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH112_0.4-0.5 SOIL - 10/10/2024 SE272334.019	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH113M_0.6-0.7 SOIL - 10/10/2024 SE272334.021	QD1_241010 SOIL - 10/10/2024 SE272334.022
Mercury	mg/kg	0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 14/10/2024

			BH101_0.1-0.2	BH102_0.2-0.3	BH103_0.1-0.2	BH104_0.1-0.2	BH104_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			10/10/2024	10/10/2024	10/10/2024	10/10/2024	10/10/2024
PARAMETER	**UOM**	**LOR**	**SE272334.001**	**SE272334.002**	**SE272334.003**	**SE272334.004**	**SE272334.005**
% Moisture	%w/w	1	15.1	14.0	13.7	9.4	8.2

			BH105_0.2-0.3	BH106_0.2-0.3	BH106_0.7-0.8	BH107M_0.3-0.4	BH107M_0.8-0.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			10/10/2024	10/10/2024	10/10/2024	10/10/2024	10/10/2024
PARAMETER	**UOM**	**LOR**	**SE272334.006**	**SE272334.007**	**SE272334.008**	**SE272334.009**	**SE272334.010**
% Moisture	%w/w	1	18.6	10.3	16.5	5.3	23.1

			BH108_0.2-0.3	BH109M_0.2-0.3	BH109M_1.0-1.1	BH110_0.1-0.2	BH110_0.4-0.5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			10/10/2024	10/10/2024	10/10/2024	10/10/2024	10/10/2024
PARAMETER	**UOM**	**LOR**	**SE272334.011**	**SE272334.012**	**SE272334.013**	**SE272334.014**	**SE272334.015**
% Moisture	%w/w	1	9.4	6.9	20.1	7.4	16.5

			BH111_0.1-0.2	BH111_0.6-0.7	BH112_0.1-0.2	BH112_0.4-0.5	BH113M_0.1-0.2
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			10/10/2024	10/10/2024	10/10/2024	10/10/2024	10/10/2024
PARAMETER	**UOM**	**LOR**	**SE272334.016**	**SE272334.017**	**SE272334.018**	**SE272334.019**	**SE272334.020**
% Moisture	%w/w	1	5.5	19.2	5.6	19.0	9.4

			BH113M_0.6-0.7	QD1_241010	QTB1
			SOIL	SOIL	SOIL
			-	-	-
			10/10/2024	10/10/2024	10/10/2024
PARAMETER	**UOM**	**LOR**	**SE272334.021**	**SE272334.022**	**SE272334.025**
% Moisture	%w/w	1	19.6	10.0	<1.0

Fibre Identification in soil [AS4964/AN602] Tested: 14/10/2024

PARAMETER	UOM	LOR	BH101_0.1-0.2 SOIL - 10/10/2024 SE272334.001	BH102_0.2-0.3 SOIL - 10/10/2024 SE272334.002	BH103_0.1-0.2 SOIL - 10/10/2024 SE272334.003	BH104_0.1-0.2 SOIL - 10/10/2024 SE272334.004	BH105_0.2-0.3 SOIL - 10/10/2024 SE272334.006
Date Analysed*	No unit	-	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334.007	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334.009	BH108_0.2-0.3 SOIL - 10/10/2024 SE272334.011	BH109M_0.2-0.3 SOIL - 10/10/2024 SE272334.012	BH110_0.1-0.2 SOIL - 10/10/2024 SE272334.014
Date Analysed*	No unit	-	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH111_0.1-0.2 SOIL - 10/10/2024 SE272334.016	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334.018	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334.020
Date Analysed*	No unit	-	16/10/2024 00:00	16/10/2024 00:00	16/10/2024 00:00
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

VOCs in Water [AN433] Tested: 15/10/2024

PARAMETER	UOM	LOR	QR_241010 WATER - 10/10/2024 SE272334.023
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 (VOC)*	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 15/10/2024

PARAMETER	UOM	LOR	QR_241010 WATER - 10/10/2024 SE272334.023
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: 14/10/2024

PARAMETER	UOM	LOR	QR_241010 WATER - 10/10/2024 SE272334.023
TRH C10-C14	µg/L	50	<50
TRH C15-C28	µg/L	200	<200
TRH C29-C36	µg/L	200	<200
TRH C37-C40	µg/L	200	<200
TRH >C10-C16	µg/L	60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60
TRH >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C40	µg/L	320	<320

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 15/10/2024

PARAMETER	UOM	LOR	QR_241010 WATER - 10/10/2024 SE272334.023
Arsenic	µg/L	1	<1
Cadmium	µg/L	0.1	<0.1
Chromium	µg/L	1	<1
Copper	µg/L	1	<1
Lead	µg/L	1	<1
Nickel	µg/L	1	<1
Zinc	µg/L	5	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 14/10/2024

			QR_241010 WATER - 10/10/2024
PARAMETER	**UOM**	**LOR**	**SE272334.023**
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 AAS or ICP as per USEPA Method 200.8.
AN295	For Soil, a 1:10 NaOH extraction is made and analysed after 16 hours. The soil extract or water sample is distilled in a phosphoric acid stream. Phenolic compounds in the distillate react with a reagent stream of potassium hexacyanoferrate(III) and 4-Amino-2,3-dimethyl-3-pryazolin-5-one in an alkaline medium to form a coloured complex which is analysed spectrophotometrically onboard a continuous flow analyser.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken . This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	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/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic \`clues\`, which provide a reasonable degree of certainty, dispersion staining is a mandatory \`clue\` for positive identification. If sufficient \`clues\` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

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

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

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

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

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

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

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ANALYTICAL REPORT

Accreditation No. 2562

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Project	**E25635 15 Hilwa Street &890-898 Woodvill**
Order Number	**E25635**
Samples	13

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SGS Reference	**SE272334 R0**
Date Received	10 Oct 2024
Date Reported	17 Oct 2024

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Yusuf KUTHPUDIN
Asbestos Analyst

ANALYTICAL REPORT

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE272334.001	BH101_0.1-0.2	Soil	139g Clay, Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272334.002	BH102_0.2-0.3	Soil	171g Clay, Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Synthetic Mineral Fibres Detected Organic Fibres Detected	<0.01
SE272334.003	BH103_0.1-0.2	Soil	111g Clay, Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE272334.004	BH104_0.1-0.2	Soil	166g Clay, Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.006	BH105_0.2-0.3	Soil	142g Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.007	BH106_0.2-0.3	Soil	148g Clay, Sand, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.009	BH107M_0.3-0.4	Soil	149g Sand, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.011	BH108_0.2-0.3	Soil	189g Sand, Rocks, Bitumen	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.012	BH109M_0.2-0.3	Soil	116g Clay, Sand, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.014	BH110_0.1-0.2	Soil	138g Clay, Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.016	BH111_0.1-0.2	Soil	131g Clay, Sand, Soil, Rocks, Bitumen	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.018	BH112_0.1-0.2	Soil	77g Clay, Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE272334.020	BH113M_0.1-0.2	Soil	153g Clay, Sand, Soil, Rocks	10 Oct 2024	16 Oct 2024	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

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

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

ANALYTICAL REPORT

Accreditation No. 2562

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Project	**E25635 15 Hilwa Street &890-898 Woodvill**
Order Number	**E25635**
Samples	25

LABORATORY DETAILS

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SGS Reference	**SE272334A R0**
Date Received	23/10/2024
Date Reported	24/10/2024

COMMENTS

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

SIGNATORIES

Bennet LO	**Shane MCDERMOTT**	**Ying Ying ZHANG**
Senior Chemist	Laboratory Manager	Laboratory Technician

Moisture Content [AN002] Tested: 23/10/2024

PARAMETER	UOM	LOR	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334A.007	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334A.009	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334A.018	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334A.020
% Moisture	%w/w	1	9.8	10.5	6.4	9.5

pH in soil (1:5) [AN101] Tested: 24/10/2024

			BH106_0.2-0.3 SOIL - 10/10/2024	BH107M_0.3-0.4 SOIL - 10/10/2024	BH112_0.1-0.2 SOIL - 10/10/2024	BH113M_0.1-0.2 SOIL - 10/10/2024
PARAMETER	**UOM**	**LOR**	**SE272334A.007**	**SE272334A.009**	**SE272334A.018**	**SE272334A.020**
pH	pH Units	0.1	8.8	9.2	8.8	9.3

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 24/10/2024

PARAMETER	UOM	LOR	BH106_0.2-0.3 SOIL - 10/10/2024 SE272334A.007	BH107M_0.3-0.4 SOIL - 10/10/2024 SE272334A.009	BH112_0.1-0.2 SOIL - 10/10/2024 SE272334A.018	BH113M_0.1-0.2 SOIL - 10/10/2024 SE272334A.020
Exchangeable Calcium, Ca	mg/kg	2	4300	7000	4100	4900
Exchangeable Calcium, Ca	meq/100g	0.01	22	35	20	25
Exchangeable Calcium Percentage*	%	0.1	66.8	87.3	66.8	71.2
Exchangeable Potassium, K	mg/kg	2	140	530	140	150
Exchangeable Potassium, K	meq/100g	0.01	0.37	1.4	0.35	0.38
Exchangeable Potassium Percentage*	%	0.1	1.1	3.4	1.1	1.1
Exchangeable Magnesium, Mg	mg/kg	2	1100	84	1000	740
Exchangeable Magnesium, Mg	meq/100g	0.02	9.2	0.68	8.5	6.0
Exchangeable Magnesium Percentage*	%	0.1	28.2	1.7	27.7	17.5
Exchangeable Sodium, Na	mg/kg	2	290	690	300	810
Exchangeable Sodium, Na	meq/100g	0.01	1.3	3.0	1.3	3.5
Exchangeable Sodium Percentage*	%	0.1	3.9	7.6	4.3	10.3
Cation Exchange Capacity	meq/100g	0.02	33	40	31	35

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.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-

FOOTNOTES

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

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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.

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ANALYTICAL REPORT

Accreditation No. 2562

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Project	**E25635 15 Hilcoa Street & 890-898 Woodvi**
Order Number	**E25635**
Samples	6

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SGS Reference	**SE272743 R0**
Date Received	18/10/2024
Date Reported	25/10/2024

COMMENTS

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

SIGNATORIES

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Chemist

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Senior Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
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Teresa NGUYEN
Organic Chemist

Ying Ying ZHANG
Laboratory Technician

VOCs in Water [AN433] Tested: 23/10/2024

PARAMETER	UOM	LOR	BH107M WATER - 17/10/2024 SE272743.001	BH109M WATER - 17/10/2024 SE272743.002	QD_241017 WATER - 17/10/2024 SE272743.003	QR_241017 WATER - 17/10/2024 SE272743.004	GW_QTS1 WATER - 17/10/2024 SE272743.005
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[101%]
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[110%]
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[98%]
m/p-xylene	µg/L	1	<1	<1	<1	<1	[98%]
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[98%]
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	-
Total BTEX	µg/L	3	<3	<3	<3	<3	-
Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[96%]
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	-	-	-
Chloromethane	µg/L	5	<5	<5	-	-	-
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	-	-	-
Bromomethane	µg/L	10	<10	<10	-	-	-
Chloroethane	µg/L	5	<5	<5	-	-	-
Trichlorofluoromethane	µg/L	1	<1	<1	-	-	-
Acetone (2-propanone)	µg/L	10	<10	<10	-	-	-
Iodomethane	µg/L	5	<5	<5	-	-	-
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
Acrylonitrile	µg/L	0.5	<0.5	<0.5	-	-	-
Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	-	-	-
Allyl chloride	µg/L	2	<2	<2	-	-	-
Carbon disulfide	µg/L	2	<2	<2	-	-	-
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
MtBE (Methyl-tert-butyl ether)	µg/L	0.5	<1↑	<1↑	-	-	-
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
Vinyl acetate*	µg/L	10	<10	<10	-	-	-
MEK (2-butanone)	µg/L	10	<10	<10	-	-	-
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
Bromochloromethane	µg/L	0.5	<0.5	<0.5	-	-	-
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	-	-	-
Dibromomethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	-	-	-
2-nitropropane	µg/L	100	<100	<100	-	-	-
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	-	-	-
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
2-hexanone (MBK)	µg/L	5	<5	<5	-	-	-
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
Chlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	-	-	-
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	-	-	-

VOCs in Water [AN433] Tested: 23/10/2024 (continued)

PARAMETER	UOM	LOR	BH107M WATER - 17/10/2024 SE272743.001	BH109M WATER - 17/10/2024 SE272743.002	QD_241017 WATER - 17/10/2024 SE272743.003	QR_241017 WATER - 17/10/2024 SE272743.004	GW_QTS1 WATER - 17/10/2024 SE272743.005
Bromobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
n-propylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-	-
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-	-
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	-	-	-
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
n-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Total VOC	µg/L	10	<10	<10	-	-	-

VOCs in Water [AN433] Tested: 23/10/2024 (continued)

PARAMETER	UOM	LOR	GW_QTB1 WATER - 17/10/2024 SE272743.006
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 (VOC)*	µg/L	0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	-
Chloromethane	µg/L	5	-
Vinyl chloride (Chloroethene)	µg/L	0.3	-
Bromomethane	µg/L	10	-
Chloroethane	µg/L	5	-
Trichlorofluoromethane	µg/L	1	-
Acetone (2-propanone)	µg/L	10	-
Iodomethane	µg/L	5	-
1,1-dichloroethene	µg/L	0.5	-
Acrylonitrile	µg/L	0.5	-
Dichloromethane (Methylene chloride)	µg/L	5	-
Allyl chloride	µg/L	2	-
Carbon disulfide	µg/L	2	-
trans-1,2-dichloroethene	µg/L	0.5	-
MtBE (Methyl-tert-butyl ether)	µg/L	0.5	-
1,1-dichloroethane	µg/L	0.5	-
Vinyl acetate*	µg/L	10	-
MEK (2-butanone)	µg/L	10	-
cis-1,2-dichloroethene	µg/L	0.5	-
Bromochloromethane	µg/L	0.5	-
Chloroform (THM)	µg/L	0.5	-
2,2-dichloropropane	µg/L	0.5	-
1,2-dichloroethane	µg/L	0.5	-
1,1,1-trichloroethane	µg/L	0.5	-
1,1-dichloropropene	µg/L	0.5	-
Carbon tetrachloride	µg/L	0.5	-
Dibromomethane	µg/L	0.5	-
1,2-dichloropropane	µg/L	0.5	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	-
2-nitropropane	µg/L	100	-
Bromodichloromethane (THM)	µg/L	0.5	-
MIBK (4-methyl-2-pentanone)	µg/L	5	-
cis-1,3-dichloropropene	µg/L	0.5	-
trans-1,3-dichloropropene	µg/L	0.5	-
1,1,2-trichloroethane	µg/L	0.5	-
1,3-dichloropropane	µg/L	0.5	-
Dibromochloromethane (THM)	µg/L	0.5	-
2-hexanone (MBK)	µg/L	5	-
1,2-dibromoethane (EDB)	µg/L	0.5	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	-
1,1,1,2-tetrachloroethane	µg/L	0.5	-
Chlorobenzene	µg/L	0.5	-
Bromoform (THM)	µg/L	0.5	-
Styrene (Vinyl benzene)	µg/L	0.5	-
1,1,2,2-tetrachloroethane	µg/L	0.5	-
1,2,3-trichloropropane	µg/L	0.5	-
trans-1,4-dichloro-2-butene	µg/L	1	-
Isopropylbenzene (Cumene)	µg/L	0.5	-

VOCs in Water [AN433] Tested: 23/10/2024 (continued)

PARAMETER	UOM	LOR	GW_QTB1 WATER - 17/10/2024 SE272743.006
Bromobenzene	µg/L	0.5	-
n-propylbenzene	µg/L	0.5	-
2-chlorotoluene	µg/L	0.5	-
4-chlorotoluene	µg/L	0.5	-
1,3,5-trimethylbenzene	µg/L	0.5	-
tert-butylbenzene	µg/L	0.5	-
1,2,4-trimethylbenzene	µg/L	0.5	-
sec-butylbenzene	µg/L	0.5	-
1,3-dichlorobenzene	µg/L	0.5	-
1,4-dichlorobenzene	µg/L	0.3	-
p-isopropyltoluene	µg/L	0.5	-
1,2-dichlorobenzene	µg/L	0.5	-
n-butylbenzene	µg/L	0.5	-
1,2-dibromo-3-chloropropane	µg/L	0.5	-
1,2,4-trichlorobenzene	µg/L	0.5	-
Hexachlorobutadiene	µg/L	0.5	-
1,2,3-trichlorobenzene	µg/L	0.5	-
Total VOC	µg/L	10	-

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 23/10/2024

			BH107M	BH109M	QD_241017	QR_241017
			WATER	WATER	WATER	WATER
			-	-	-	-
			17/10/2024	17/10/2024	17/10/2024	17/10/2024
PARAMETER	**UOM**	**LOR**	**SE272743.001**	**SE272743.002**	**SE272743.003**	**SE272743.004**
TRH C6-C9	µg/L	40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 21/10/2024

PARAMETER	UOM	LOR	BH107M WATER - 17/10/2024 SE272743.001	BH109M WATER - 17/10/2024 SE272743.002	QD_241017 WATER - 17/10/2024 SE272743.003	QR_241017 WATER - 17/10/2024 SE272743.004
TRH C10-C14	µg/L	50	**77**	**69**	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	**97**	**84**	<60	**93**
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	**97**	**84**	<60	**93**
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	**400**	<320	<320	<320

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 21/10/2024

			BH107M WATER - 17/10/2024	BH109M WATER - 17/10/2024
PARAMETER	UOM	LOR	SE272743.001	SE272743.002
Naphthalene	µg/L	0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1

Total Phenolics in Water [AN295] Tested: 21/10/2024

			BH107M WATER - 17/10/2024	BH109M WATER - 17/10/2024
PARAMETER	**UOM**	**LOR**	**SE272743.001**	**SE272743.002**
Total Phenols	mg/L	0.05	<0.05	<0.05

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 23/10/2024

			BH107M	BH109M	QD_241017	QR_241017
			WATER	WATER	WATER	WATER
			-	-	-	-
			17/10/2024	17/10/2024	17/10/2024	17/10/2024
PARAMETER	**UOM**	**LOR**	**SE272743.001**	**SE272743.002**	**SE272743.003**	**SE272743.004**
Arsenic	µg/L	1	20	20	26	<1
Cadmium	µg/L	0.1	0.8	0.2	0.3	<0.1
Chromium	µg/L	1	<1	<1	<1	<1
Copper	µg/L	1	3	<1	<1	<1
Lead	µg/L	1	<1	<1	<1	<1
Nickel	µg/L	1	32	27	29	<1
Zinc	µg/L	5	45	63	81	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 21/10/2024

			BH107M WATER - 17/10/2024	BH109M WATER - 17/10/2024	QD_241017 WATER - 17/10/2024	QR_241017 WATER - 17/10/2024
PARAMETER	**UOM**	**LOR**	**SE272743.001**	**SE272743.002**	**SE272743.003**	**SE272743.004**
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples [AN404] Tested: 21/10/2024

PARAMETER	UOM	LOR	BH107M WATER - 17/10/2024 SE272743.001	BH109M WATER - 17/10/2024 SE272743.002
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.05	<0.05
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.01	<0.01
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.01	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.01	<0.01
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.01	<0.01
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.01	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.01	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.01	<0.01
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.01	<0.01
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.01	<0.01
Perfluoropropane sulfonic acid (PFPrS)	µg/L	0.01	<0.01	<0.01
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01
Perfluorononane sulfonic acid (PFNS)	µg/L	0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.01	<0.01
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	µg/L	0.01	<0.01	<0.01
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	µg/L	0.01	<0.01	<0.01
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	µg/L	0.01	<0.01	<0.01
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2	µg/L	0.01	<0.01	<0.01
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.01	<0.01
N-Methylperfluoroctane sulfonamide (N-MeFOSA)	µg/L	0.01	<0.01	<0.01
N-Ethylperfluoroctane sulfonamide (N-EtFOSA)	µg/L	0.01	<0.01	<0.01
N-Methylperfluorooctanesulfonamidoacetic acid	µg/L	0.05	<0.05	<0.05
N-Ethylperfluorooctanesulfonamidoacetic acid	µg/L	0.05	<0.05	<0.05
2-(N-Ethylperfluorooctane sulfonamido)-ethanol	µg/L	0.05	<0.05	<0.05
2-(N-Methylperfluorooctane sulfonamido)-ethanol	µg/L	0.05	<0.05	<0.05
Sum of PFOS and PFHxS	µg/L	0.01	<0.01	<0.01
Sum of enHealth PFAS (PFHxS+PFOS+PFOA)	µg/L	0.01	<0.01	<0.01
Sum of US EPA PFAS (PFOS+PFOA)	µg/L	0.01	<0.01	<0.01
Sum of PFAS A	µg/L	0.01	<0.01	<0.01
Sum of PFAS B	µg/L	0.01	<0.01	<0.01
Sum of PFAS C	µg/L	0.01	<0.01	<0.01
Sum of Positive PFAS	µg/L	0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN295	The water sample or extract of sample is distilled in a phosphoric acid stream. Phenolic compounds in the distillate react with a reagent stream of potassium hexacyanoferrate(III) and 4-Amino-2,3-dimethyl-3-pryazolin-5-one in an alkaline medium to form a coloured complex which is analysed spectrophotometrically onboard a continuous flow analyser.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoveerable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN404	This method covers the analysis of per- and polyfluoroalkyl substances (PFAS) in aqueous, solid and biosolid samples and solvent extracts. After spiking with isotopically labelled quantification surrogates and sample extracts are analysed by liquid chromatography/mass spectrometry (LC-MS/MS). PFAS concentrations are determined by isotope dilution quantification. PFOS and PFHXS are determined as the total of linear and branched isomers.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
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.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

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

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

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

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

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

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

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

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

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS | LABORATORY DETAILS

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Project	**E25635 15 Hilwa St & 890-895 Woodville R**	SGS Reference	**SE273394 R0**
Order Number	**E25635**	Date Received	31/10/2024
Samples	3	Date Reported	5/11/2024

COMMENTS

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

SIGNATORIES

Shane

Akheeqar BENIAMEEN	**Bennet LO**	**Shane MCDERMOTT**
Chemist	Senior Chemist	Laboratory Manager

VOC's in Soil [AN433] Tested: 31/10/2024

			BH114_2.5-2.6 SOIL - 30/10/2024	BH115_2.4-2.5 SOIL - 30/10/2024	BH115_2.5-2.6 SOIL - 30/10/2024
PARAMETER	**UOM**	**LOR**	**SE273394.001**	**SE273394.002**	**SE273394.003**
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 31/10/2024

PARAMETER	UOM	LOR	BH114_2.5-2.6 SOIL - 30/10/2024 SE273394.001	BH115_2.4-2.5 SOIL - 30/10/2024 SE273394.002	BH115_2.5-2.6 SOIL - 30/10/2024 SE273394.003
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: 31/10/2024

PARAMETER	UOM	LOR	BH114_2.5-2.6 SOIL - 30/10/2024 SE273394.001	BH115_2.4-2.5 SOIL - 30/10/2024 SE273394.002	BH115_2.5-2.6 SOIL - 30/10/2024 SE273394.003
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

Moisture Content [AN002] Tested: 31/10/2024

PARAMETER	UOM	LOR	BH114_2.5-2.6 SOIL - 30/10/2024 SE273394.001	BH115_2.4-2.5 SOIL - 30/10/2024 SE273394.002	BH115_2.5-2.6 SOIL - 30/10/2024 SE273394.003
% Moisture	%w/w	1	18.0	17.7	19.1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 31/10/2024

PARAMETER	UOM	LOR	BH114_2.5-2.6 SOIL - 30/10/2024 SE273394.001	BH115_2.4-2.5 SOIL - 30/10/2024 SE273394.002	BH115_2.5-2.6 SOIL - 30/10/2024 SE273394.003
Lead, Pb	mg/kg	1	19	14	18

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken . This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

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

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

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

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

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

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

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

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

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

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

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or

Appendix J – Laboratory QA/QC Policies and DQOS

STATEMENT OF QA/QC PERFORMANCE

SE272334 R0

CLIENT DETAILS

Contact	Jesny Marshal
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	jesny.marshal@eiaustralia.com.au
Project	**E25635 15 Hilwa Street &890-898 Woodvill**
Order Number	**E25635**
Samples	25

LABORATORY DETAILS

Manager	Shane McDermott
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	**SE272334 R0**
Date Received	10 Oct 2024
Date Reported	17 Oct 2024

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

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

Surrogate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	6 items
	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	1 item

SAMPLE SUMMARY

Sample counts by matrix	24 Soil, 1 Water	Type of documentation received	COC
Date documentation received	10/10/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	15.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

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

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

Fibre Identification in soil

Method: ME-(AU)-[ENV]AS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326638	10 Oct 2024	10 Oct 2024	10 Oct 2025	14 Oct 2024	10 Oct 2025	17 Oct 2024

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_241010	SE272334.023	LB326532	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	15 Oct 2024

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326566	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	16 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326567	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	17 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326567	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	17 Oct 2024
QD1_241010	SE272334.022	LB326567	10 Oct 2024	10 Oct 2024	07 Nov 2024	14 Oct 2024	07 Nov 2024	17 Oct 2024

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024

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

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

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

Moisture Content (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH111_0.1-0.2	SE272334.016	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326552	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326553	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326553	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
QD1_241010	SE272334.022	LB326553	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024
QTB1	SE272334.025	LB326553	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	19 Oct 2024	15 Oct 2024

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	15 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
QD1_241010	SE272334.022	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
QD1_241010	SE272334.022	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
QD1_241010	SE272334.022	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	15 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024
QD1_241010	SE272334.022	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024

Total Phenolics in Soil

Method: ME-(AU)-[ENV]AN295

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH107M_0.3-0.4	SE272334.009	LB326731	10 Oct 2024	10 Oct 2024	24 Oct 2024	15 Oct 2024	24 Oct 2024	15 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326731	10 Oct 2024	10 Oct 2024	24 Oct 2024	15 Oct 2024	24 Oct 2024	15 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326731	10 Oct 2024	10 Oct 2024	24 Oct 2024	15 Oct 2024	24 Oct 2024	15 Oct 2024

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_0.1-0.2	SE272334.001	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024

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

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

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

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH105_0.2-0.3	SE272334.006	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326559	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326560	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326560	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024
QD1_241010	SE272334.022	LB326560	10 Oct 2024	10 Oct 2024	08 Apr 2025	14 Oct 2024	08 Apr 2025	16 Oct 2024

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_241010	SE272334.023	LB326753	10 Oct 2024	10 Oct 2024	08 Apr 2025	15 Oct 2024	08 Apr 2025	17 Oct 2024

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326537	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024
QD1_241010	SE272334.022	LB326538	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	23 Nov 2024	16 Oct 2024

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_241010	SE272334.023	LB326528	10 Oct 2024	10 Oct 2024	17 Oct 2024	14 Oct 2024	23 Nov 2024	17 Oct 2024

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.1-0.2	SE272334.001	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024

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

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

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

VOC's in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH106_0.7-0.8	SE272334.008	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
QD1_241010	SE272334.022	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
QTS1	SE272334.024	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
QTB1	SE272334.025	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR_241010	SE272334.023	LB326770	10 Oct 2024	10 Oct 2024	24 Oct 2024	15 Oct 2024	24 Oct 2024	16 Oct 2024

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_0.1-0.2	SE272334.001	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH102_0.2-0.3	SE272334.002	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH103_0.1-0.2	SE272334.003	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH104_0.1-0.2	SE272334.004	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH104_0.4-0.5	SE272334.005	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH105_0.2-0.3	SE272334.006	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH106_0.2-0.3	SE272334.007	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH106_0.7-0.8	SE272334.008	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH107M_0.3-0.4	SE272334.009	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH107M_0.8-0.9	SE272334.010	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH108_0.2-0.3	SE272334.011	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH109M_0.2-0.3	SE272334.012	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH109M_1.0-1.1	SE272334.013	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH110_0.1-0.2	SE272334.014	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH110_0.4-0.5	SE272334.015	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH111_0.1-0.2	SE272334.016	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH111_0.6-0.7	SE272334.017	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH112_0.1-0.2	SE272334.018	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH112_0.4-0.5	SE272334.019	LB326545	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH113M_0.1-0.2	SE272334.020	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
BH113M_0.6-0.7	SE272334.021	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
QD1_241010	SE272334.022	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	16 Oct 2024
QTS1	SE272334.024	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	17 Oct 2024
QTB1	SE272334.025	LB326546	10 Oct 2024	10 Oct 2024	24 Oct 2024	14 Oct 2024	24 Oct 2024	17 Oct 2024

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR_241010	SE272334.023	LB326770	10 Oct 2024	10 Oct 2024	24 Oct 2024	15 Oct 2024	24 Oct 2024	16 Oct 2024

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	100
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	92
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	93
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	99
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	102
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	105
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	96
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	113
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	114
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	113
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	125
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	113
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	94

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	85
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	85
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	93
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	88
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	88
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	87
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	93
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	85
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	91
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	96
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	80
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	92
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	95
d14-p-terphenyl (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	96
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	96
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	101
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	97
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	97
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	95
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	106
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	95
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	101
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	106
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	92
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	100
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.1-0.2	SE272334.001	%	70 - 130%	85
	BH102_0.2-0.3	SE272334.002	%	70 - 130%	85
	BH103_0.1-0.2	SE272334.003	%	70 - 130%	93
	BH104_0.1-0.2	SE272334.004	%	70 - 130%	88
	BH104_0.4-0.5	SE272334.005	%	70 - 130%	86
	BH105_0.2-0.3	SE272334.006	%	70 - 130%	88
	BH106_0.2-0.3	SE272334.007	%	70 - 130%	87
	BH106_0.7-0.8	SE272334.008	%	70 - 130%	69 †
	BH107M_0.3-0.4	SE272334.009	%	70 - 130%	93
	BH107M_0.8-0.9	SE272334.010	%	70 - 130%	89
	BH108_0.2-0.3	SE272334.011	%	70 - 130%	85
	BH109M_0.2-0.3	SE272334.012	%	70 - 130%	91
	BH109M_1.0-1.1	SE272334.013	%	70 - 130%	92
	BH110_0.1-0.2	SE272334.014	%	70 - 130%	96
	BH110_0.4-0.5	SE272334.015	%	70 - 130%	102
	BH111_0.1-0.2	SE272334.016	%	70 - 130%	80
	BH111_0.6-0.7	SE272334.017	%	70 - 130%	89

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH112_0.1-0.2	SE272334.018	%	70 - 130%	92
	BH112_0.4-0.5	SE272334.019	%	70 - 130%	85
	BH113M_0.1-0.2	SE272334.020	%	70 - 130%	95
	BH113M_0.6-0.7	SE272334.021	%	70 - 130%	95
d14-p-terphenyl (Surrogate)	BH101_0.1-0.2	SE272334.001	%	70 - 130%	96
	BH102_0.2-0.3	SE272334.002	%	70 - 130%	96
	BH103_0.1-0.2	SE272334.003	%	70 - 130%	101
	BH104_0.1-0.2	SE272334.004	%	70 - 130%	97
	BH104_0.4-0.5	SE272334.005	%	70 - 130%	100
	BH105_0.2-0.3	SE272334.006	%	70 - 130%	97
	BH106_0.2-0.3	SE272334.007	%	70 - 130%	95
	BH106_0.7-0.8	SE272334.008	%	70 - 130%	83
	BH107M_0.3-0.4	SE272334.009	%	70 - 130%	106
	BH107M_0.8-0.9	SE272334.010	%	70 - 130%	98
	BH108_0.2-0.3	SE272334.011	%	70 - 130%	95
	BH109M_0.2-0.3	SE272334.012	%	70 - 130%	101
	BH109M_1.0-1.1	SE272334.013	%	70 - 130%	105
	BH110_0.1-0.2	SE272334.014	%	70 - 130%	106
	BH110_0.4-0.5	SE272334.015	%	70 - 130%	113
	BH111_0.1-0.2	SE272334.016	%	70 - 130%	92
	BH111_0.6-0.7	SE272334.017	%	70 - 130%	101
	BH112_0.1-0.2	SE272334.018	%	70 - 130%	100
	BH112_0.4-0.5	SE272334.019	%	70 - 130%	98
	BH113M_0.1-0.2	SE272334.020	%	70 - 130%	96
	BH113M_0.6-0.7	SE272334.021	%	70 - 130%	95
d5-nitrobenzene (Surrogate)	BH101_0.1-0.2	SE272334.001	%	70 - 130%	86
	BH102_0.2-0.3	SE272334.002	%	70 - 130%	88
	BH103_0.1-0.2	SE272334.003	%	70 - 130%	92
	BH104_0.1-0.2	SE272334.004	%	70 - 130%	89
	BH104_0.4-0.5	SE272334.005	%	70 - 130%	88
	BH105_0.2-0.3	SE272334.006	%	70 - 130%	89
	BH106_0.2-0.3	SE272334.007	%	70 - 130%	87
	BH106_0.7-0.8	SE272334.008	%	70 - 130%	71
	BH107M_0.3-0.4	SE272334.009	%	70 - 130%	92
	BH107M_0.8-0.9	SE272334.010	%	70 - 130%	91
	BH108_0.2-0.3	SE272334.011	%	70 - 130%	83
	BH109M_0.2-0.3	SE272334.012	%	70 - 130%	89
	BH109M_1.0-1.1	SE272334.013	%	70 - 130%	93
	BH110_0.1-0.2	SE272334.014	%	70 - 130%	97
	BH110_0.4-0.5	SE272334.015	%	70 - 130%	103
	BH111_0.1-0.2	SE272334.016	%	70 - 130%	80
	BH111_0.6-0.7	SE272334.017	%	70 - 130%	91
	BH112_0.1-0.2	SE272334.018	%	70 - 130%	92
	BH112_0.4-0.5	SE272334.019	%	70 - 130%	91
	BH113M_0.1-0.2	SE272334.020	%	70 - 130%	100
	BH113M_0.6-0.7	SE272334.021	%	70 - 130%	101

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	98
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	90
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	91
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	97
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	99
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	102
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	93
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	111
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	112
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	111
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	123
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	110

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

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

PCBs in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	91

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	88
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	84
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	88
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	76
	BH104_0.4-0.5	SE272334.005	%	60 - 130%	86
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	85
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	95
	BH106_0.7-0.8	SE272334.008	%	60 - 130%	82
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	81
	BH107M_0.8-0.9	SE272334.010	%	60 - 130%	75
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	82
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	86
	BH109M_1.0-1.1	SE272334.013	%	60 - 130%	88
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	87
	BH110_0.4-0.5	SE272334.015	%	60 - 130%	89
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	89
	BH111_0.6-0.7	SE272334.017	%	60 - 130%	83
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	96
	BH112_0.4-0.5	SE272334.019	%	60 - 130%	90
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	101
	BH113M_0.6-0.7	SE272334.021	%	60 - 130%	100
	QD1_241010	SE272334.022	%	60 - 130%	85
	QTS1	SE272334.024	%	60 - 130%	94
	QTB1	SE272334.025	%	60 - 130%	88
d4-1,2-dichloroethane (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	89
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	85
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	98
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	70
	BH104_0.4-0.5	SE272334.005	%	60 - 130%	97
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	74
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	100
	BH106_0.7-0.8	SE272334.008	%	60 - 130%	87
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	89
	BH107M_0.8-0.9	SE272334.010	%	60 - 130%	86
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	90
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	94
	BH109M_1.0-1.1	SE272334.013	%	60 - 130%	103
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	92
	BH110_0.4-0.5	SE272334.015	%	60 - 130%	92
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	90
	BH111_0.6-0.7	SE272334.017	%	60 - 130%	90
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	99
	BH112_0.4-0.5	SE272334.019	%	60 - 130%	102
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	106
	BH113M_0.6-0.7	SE272334.021	%	60 - 130%	105
	QD1_241010	SE272334.022	%	60 - 130%	74
	QTS1	SE272334.024	%	60 - 130%	93
	QTB1	SE272334.025	%	60 - 130%	81
d8-toluene (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	92
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	87
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	103
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	76
	BH104_0.4-0.5	SE272334.005	%	60 - 130%	101
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	81
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	109
	BH106_0.7-0.8	SE272334.008	%	60 - 130%	94
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	80

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

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

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH107M_0.8-0.9	SE272334.010	%	60 - 130%	81
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	96
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	91
	BH109M_1.0-1.1	SE272334.013	%	60 - 130%	97
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	95
	BH110_0.4-0.5	SE272334.015	%	60 - 130%	100
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	96
	BH111_0.6-0.7	SE272334.017	%	60 - 130%	98
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	107
	BH112_0.4-0.5	SE272334.019	%	60 - 130%	109
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	104
	BH113M_0.6-0.7	SE272334.021	%	60 - 130%	101
	QD1_241010	SE272334.022	%	60 - 130%	79
	QTS1	SE272334.024	%	60 - 130%	100
	QTB1	SE272334.025	%	60 - 130%	89

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR_241010	SE272334.023	%	40 - 130%	91
d4-1,2-dichloroethane (Surrogate)	QR_241010	SE272334.023	%	40 - 130%	77
d8-toluene (Surrogate)	QR_241010	SE272334.023	%	40 - 130%	91

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	88
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	84
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	88
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	76
	BH104_0.4-0.5	SE272334.005	%	60 - 130%	86
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	85
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	95
	BH106_0.7-0.8	SE272334.008	%	60 - 130%	82
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	81
	BH107M_0.8-0.9	SE272334.010	%	60 - 130%	75
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	82
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	86
	BH109M_1.0-1.1	SE272334.013	%	60 - 130%	88
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	87
	BH110_0.4-0.5	SE272334.015	%	60 - 130%	89
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	89
	BH111_0.6-0.7	SE272334.017	%	60 - 130%	83
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	96
	BH112_0.4-0.5	SE272334.019	%	60 - 130%	90
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	101
	BH113M_0.6-0.7	SE272334.021	%	60 - 130%	100
	QD1_241010	SE272334.022	%	60 - 130%	85
d4-1,2-dichloroethane (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	89
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	85
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	98
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	70
	BH104_0.4-0.5	SE272334.005	%	60 - 130%	97
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	74
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	100
	BH106_0.7-0.8	SE272334.008	%	60 - 130%	87
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	89
	BH107M_0.8-0.9	SE272334.010	%	60 - 130%	86
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	90
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	94
	BH109M_1.0-1.1	SE272334.013	%	60 - 130%	103
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	92
	BH110_0.4-0.5	SE272334.015	%	60 - 130%	92
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	90

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

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

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	BH111_0.6-0.7	SE272334.017	%	60 - 130%	90
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	99
	BH112_0.4-0.5	SE272334.019	%	60 - 130%	102
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	106
	BH113M_0.6-0.7	SE272334.021	%	60 - 130%	105
	QD1_241010	SE272334.022	%	60 - 130%	74
d8-toluene (Surrogate)	BH101_0.1-0.2	SE272334.001	%	60 - 130%	92
	BH102_0.2-0.3	SE272334.002	%	60 - 130%	87
	BH103_0.1-0.2	SE272334.003	%	60 - 130%	103
	BH104_0.1-0.2	SE272334.004	%	60 - 130%	76
	BH104_0.4-0.5	SE272334.005	%	60 - 130%	101
	BH105_0.2-0.3	SE272334.006	%	60 - 130%	81
	BH106_0.2-0.3	SE272334.007	%	60 - 130%	109
	BH106_0.7-0.8	SE272334.008	%	60 - 130%	94
	BH107M_0.3-0.4	SE272334.009	%	60 - 130%	80
	BH107M_0.8-0.9	SE272334.010	%	60 - 130%	81
	BH108_0.2-0.3	SE272334.011	%	60 - 130%	96
	BH109M_0.2-0.3	SE272334.012	%	60 - 130%	91
	BH109M_1.0-1.1	SE272334.013	%	60 - 130%	97
	BH110_0.1-0.2	SE272334.014	%	60 - 130%	95
	BH110_0.4-0.5	SE272334.015	%	60 - 130%	100
	BH111_0.1-0.2	SE272334.016	%	60 - 130%	96
	BH111_0.6-0.7	SE272334.017	%	60 - 130%	98
	BH112_0.1-0.2	SE272334.018	%	60 - 130%	107
	BH112_0.4-0.5	SE272334.019	%	60 - 130%	109
	BH113M_0.1-0.2	SE272334.020	%	60 - 130%	104
	BH113M_0.6-0.7	SE272334.021	%	60 - 130%	101
	QD1_241010	SE272334.022	%	60 - 130%	79

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR_241010	SE272334.023	%	40 - 130%	91
d4-1,2-dichloroethane (Surrogate)	QR_241010	SE272334.023	%	60 - 130%	77
d8-toluene (Surrogate)	QR_241010	SE272334.023	%	40 - 130%	91

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(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB326532.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB326566.001	Mercury	mg/kg	0.05	<0.05
LB326567.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB326537.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		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
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	96
LB326538.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		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
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	84

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

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

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB326537.001		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	94
		d14-p-terphenyl (Surrogate)	%	-	110
LB326538.001		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	94
		d14-p-terphenyl (Surrogate)	%	-	93

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB326537.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	96
		2-fluorobiphenyl (Surrogate)	%	-	94
		d14-p-terphenyl (Surrogate)	%	-	110
LB326538.001		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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB326538.001		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	96
		2-fluorobiphenyl (Surrogate)	%	-	94
		d14-p-terphenyl (Surrogate)	%	-	93

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB326537.001		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	TCMX (Surrogate)	%	-	93
LB326538.001		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	TCMX (Surrogate)	%	-	81

Total Phenolics in Soil

Method: ME-(AU)-[ENV]AN295

Sample Number	Parameter	Units	LOR	Result
LB326731.001	Total Phenols	mg/kg	0.5	<0.5

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

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

Sample Number	Parameter	Units	LOR	Result
LB326559.001	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
LB326560.001	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
LB326753.001	Arsenic	μg/L	1	<1
	Cadmium	μg/L	0.1	<0.1
	Chromium	μg/L	1	<1
	Copper	μg/L	1	<1

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

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

Trace Metals (Dissolved) in Water by ICPMS (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB326753.001	Lead	µg/L	1	<1
	Nickel	µg/L	1	<1
	Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB326537.001	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
LB326538.001	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
LB326528.001	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	Result
LB326545.001	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
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Iodomethane	mg/kg	5	<5
		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
		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

METHOD BLANKS

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

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

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB326545.001	Halogenated 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 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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		o-xylene	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
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate*	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	105
		d8-toluene (Surrogate)	%	-	111
		Bromofluorobenzene (Surrogate)	%	-	102
	Totals	Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total BTEX*	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform (THM)	mg/kg	0.1	<0.1
		Bromodichloromethane (THM)	mg/kg	0.1	<0.1
		Dibromochloromethane (THM)	mg/kg	0.1	<0.1
		Bromoform (THM)	mg/kg	0.1	<0.1
LB326546.001	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
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Iodomethane	mg/kg	5	<5
		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

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

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

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB326546.001	Halogenated Aliphatics	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
		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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		o-xylene	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
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate*	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
		d8-toluene (Surrogate)	%	-	95
		Bromofluorobenzene (Surrogate)	%	-	95
	Totals	Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total BTEX*	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform (THM)	mg/kg	0.1	<0.1
		Bromodichloromethane (THM)	mg/kg	0.1	<0.1
		Dibromochloromethane (THM)	mg/kg	0.1	<0.1
		Bromoform (THM)	mg/kg	0.1	<0.1

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB326770.001	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5

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

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

VOCs in Water (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB326770.001	Monocyclic Aromatic Hydrocarbons	m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
	Polycyclic VOCs	Naphthalene (VOC)*	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
		d8-toluene (Surrogate)	%	-	102
		Bromofluorobenzene (Surrogate)	%	-	84

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB326545.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	105
LB326546.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB326770.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
		d8-toluene (Surrogate)	%	-	102
		Bromofluorobenzene (Surrogate)	%	-	84

DUPLICATES

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

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

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

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

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

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.010	LB326566.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE272334.019	LB326566.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE272334.022	LB326567.023	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE272387.010	LB326567.014	Mercury	mg/kg	0.05	0.0376310691	0.0874780010	110	55

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.010	LB326552.011	% Moisture	%w/w	1	23.1	17.7	35	27
SE272334.019	LB326552.021	% Moisture	%w/w	1	19.0	16.8	36	12
SE272334.022	LB326553.021	% Moisture	%w/w	1	10.0	9.0	41	11
SE272387.010	LB326553.011	% Moisture	%w/w	1	2.4285714285	3.7837837837	62	44

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.011	LB326537.026		Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	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
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	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
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDE*	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
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endrin ketone	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
			Total OC VIC EPA	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.15	30	12
SE272334.020	LB326538.025		Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	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
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	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
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDE*	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
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	0	200	0

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

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

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

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

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

OC Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.020	LB326538.025		p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endrin ketone	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
			Total OC VIC EPA	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.1488472272	30	6
SE272387.010	LB326538.014		Alpha BHC	mg/kg	0.1	0	0	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	0	0	200	0
			Beta BHC	mg/kg	0.1	0	0	200	0
			Lindane (gamma BHC)	mg/kg	0.1	0	0	200	0
			Delta BHC	mg/kg	0.1	0	0	200	0
			Heptachlor	mg/kg	0.1	0	0	200	0
			Aldrin	mg/kg	0.1	0	0	200	0
			Isodrin	mg/kg	0.1	0	0	200	0
			Heptachlor epoxide	mg/kg	0.1	0	0	200	0
			Gamma Chlordane	mg/kg	0.1	0	0	200	0
			Alpha Chlordane	mg/kg	0.1	0	0	200	0
			Alpha Endosulfan	mg/kg	0.2	0	0	200	0
			o,p'-DDE*	mg/kg	0.1	0	0	200	0
			p,p'-DDE	mg/kg	0.1	0	0	200	0
			Dieldrin	mg/kg	0.2	0	0	200	0
			Endrin	mg/kg	0.2	0	0	200	0
			Beta Endosulfan	mg/kg	0.2	0	0	200	0
			o,p'-DDD*	mg/kg	0.1	0	0	200	0
			p,p'-DDD	mg/kg	0.1	0	0	200	0
			Endrin aldehyde	mg/kg	0.1	0	0	200	0
			Endosulfan sulphate	mg/kg	0.1	0	0	200	0
			o,p'-DDT*	mg/kg	0.1	0	0	200	0
			p,p'-DDT	mg/kg	0.1	0	0	200	0
			Endrin ketone	mg/kg	0.1	0	0	200	0
			Methoxychlor	mg/kg	0.1	0	0	200	0
			Mirex	mg/kg	0.1	0	0	200	0
			trans-Nonachlor	mg/kg	0.1	0	0	200	0
			Total CLP OC Pesticides	mg/kg	1	0	0	200	0
			Total OC VIC EPA	mg/kg	1	0	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.1607597511	0.1623900050	30	1

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.011	LB326537.026		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.0092684534	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0	200	0
			Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0.0008623131	200	0
			Ethion	mg/kg	0.2	<0.2	0.0032183094	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0.0002783743	200	0
			Malathion	mg/kg	0.2	<0.2	0.0051193038	200	0
			Methidathion	mg/kg	0.5	<0.5	0.0033787493	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.0003392523	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4508758151	30	6
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5102609750	30	7
SE272334.018	LB326537.027		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0

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

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

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

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

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

OP Pesticides in Soil (continued) Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.018	LB326537.027		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.0207921114	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0	200	0
			Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0.0023665639	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0.0006409324	200	0
			Malathion	mg/kg	0.2	<0.2	0.0089494344	200	0
			Methidathion	mg/kg	0.5	<0.5	0.0017970689	200	0
			Parathion-ethyl (Parathion)	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	0.4467201684	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5195264556	30	4
SE272334.020	LB326538.025		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.0084780678	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0	200	0
			Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0.0023495975	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0.0009178634	200	0
			Malathion	mg/kg	0.2	<0.2	0.0043558125	200	0
			Methidathion	mg/kg	0.5	<0.5	0.0007483209	200	0
			Parathion-ethyl (Parathion)	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	0.4653112161	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4660736408	30	3
SE272387.010	LB326538.014		Azinphos-methyl (Guthion)	mg/kg	0.2	0	0.0003953680	200	0
			Bromophos Ethyl	mg/kg	0.2	0	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	0	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	0.0081574569	0	200	0
			Dichlorvos	mg/kg	0.5	0	0	200	0
			Dimethoate	mg/kg	0.5	0	0.0055718291	200	0
			Ethion	mg/kg	0.2	0	0	200	0
			Fenitrothion	mg/kg	0.2	0.0002590778	0	200	0
			Malathion	mg/kg	0.2	0	0.0192493202	200	0
			Methidathion	mg/kg	0.5	0.0013450809	0.0017044996	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	0	0	200	0
			Total OP Pesticides*	mg/kg	1.7	0	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4598794205	0.4711524283	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4664572811	0.4801220994	30	3

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.011	LB326537.026		Naphthalene	mg/kg	0.1	<0.1	0.0010123673	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0.0008645520	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0.0010476215	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0.0002821617	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0.0108056471	200	0
			Anthracene	mg/kg	0.1	<0.1	0.0017744235	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.0078161452	200	0
			Pyrene	mg/kg	0.1	<0.1	0.0112525812	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0055559588	200	0
			Chrysene	mg/kg	0.1	<0.1	0.0074308869	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.0085076955	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.0074328962	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.0055466666	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.0022781451	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.0008098295	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.0056408549	200	0

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

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.011	LB326537.026		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	0.121	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	0.242	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4557945123	30	9
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4508758151	30	6
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5102609750	30	7
SE272334.018	LB326537.027		Naphthalene	mg/kg	0.1	<0.1	0.0117490718	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0.0762672017	159	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0.0714135535	167	0
			Acenaphthylene	mg/kg	0.1	<0.1	0.0015656769	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0.0024796156	200	0
			Fluorene	mg/kg	0.1	<0.1	0.0100263049	200	0
			Phenanthrene	mg/kg	0.1	0.1	0.1000349373	122	16
			Anthracene	mg/kg	0.1	<0.1	0.0044547655	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.0132019185	200	0
			Pyrene	mg/kg	0.1	<0.1	0.0153717672	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0325644128	200	0
			Chrysene	mg/kg	0.1	<0.1	0.0445226670	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.0320224826	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.0029605954	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.0040731843	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.0035855559	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.0025681294	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.0137556851	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	0.121	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	0.242	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	0.1000349373	122	16
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4548432699	30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4467201684	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5195264556	30	4
SE272334.020	LB326538.025		Naphthalene	mg/kg	0.1	<0.1	0.0206852989	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0.0544126486	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0.0583844192	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0.0117155493	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0.0040411864	200	0
			Fluorene	mg/kg	0.1	<0.1	0.0088630641	200	0
			Phenanthrene	mg/kg	0.1	0.1	0.1231653607	112	3
			Anthracene	mg/kg	0.1	<0.1	0.0097733962	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.0360646916	200	0
			Pyrene	mg/kg	0.1	<0.1	0.0500514307	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0075787749	200	0
			Chrysene	mg/kg	0.1	<0.1	0.0437585843	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.0518826861	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.0038502451	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.0125522311	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.0116341260	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.0054364274	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.0283896261	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	0.121	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	0.242	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	0.1231653607	112	3
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4857576201	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4653112161	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4660736408	30	3
SE272387.010	LB326538.014		Naphthalene	mg/kg	0.1	0.0517700800	0.0723587504	191	0
			2-methylnaphthalene	mg/kg	0.1	0.0532387857	0.0425998664	200	0
			1-methylnaphthalene	mg/kg	0.1	0.0699194961	0.0497239944	197	0
			Acenaphthylene	mg/kg	0.1	0.2895100586	0.2735910652	66	6

DUPLICATES

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

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272387.010	LB326538.014		Acenaphthene	mg/kg	0.1	0.0358098064	0.0240982779	200	0
			Fluorene	mg/kg	0.1	0.1491845125	0.1158075054	105	25
			Phenanthrene	mg/kg	0.1	1.4913203561	1.7560070693	36	16
			Anthracene	mg/kg	0.1	0.3747313330	0.4317308707	55	14
			Fluoranthene	mg/kg	0.1	2.0378250409	3.1201978714	34	42 ②
			Pyrene	mg/kg	0.1	1.7991462933	2.7572824695	34	42 ②
			Benzo(a)anthracene	mg/kg	0.1	0.8837064258	1.2972102288	39	38
			Chrysene	mg/kg	0.1	0.8932569600	1.2847583744	39	36
			Benzo(b&j)fluoranthene	mg/kg	0.1	1.1094026055	1.5494732069	38	33
			Benzo(k)fluoranthene	mg/kg	0.1	0.4303791228	0.6218545902	49	36
			Benzo(a)pyrene	mg/kg	0.1	1.0069181358	1.4496779034	38	36
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.6232572143	0.8708180052	43	33
			Dibenzo(ah)anthracene	mg/kg	0.1	0.1289888419	0.1734392521	96	29
			Benzo(ghi)perylene	mg/kg	0.1	0.5885485000	0.8585997745	44	37
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	1.4553995691	2.0784863401	21	35 ②
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	1.4553995691	2.0784863401	21	35 ②
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	1.4553995691	2.0784863401	27	35 ②
			Total PAH (18)	mg/kg	0.8	11.8061754010	16.5604481875	31	34 ②
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4682380582	0.4885077052	30	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4598794205	0.4711524283	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4664572811	0.4801220994	30	3

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.011	LB326537.028		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0.1457517505	30	13
SE272334.018	LB326537.029		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0.1689524972	30	2
SE272334.020	LB326538.026		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0.1448990610	30	6
SE272387.010	LB326538.014		Arochlor 1016	mg/kg	0.2	0	0	200	0
			Arochlor 1221	mg/kg	0.2	0	0	200	0
			Arochlor 1232	mg/kg	0.2	0	0	200	0
			Arochlor 1242	mg/kg	0.2	0	0	200	0

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

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

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

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

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

PCBs in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272387.010	LB326538.014		Arochlor 1248	mg/kg	0.2	0	0	200	0
			Arochlor 1254	mg/kg	0.2	0	0	200	0
			Arochlor 1260	mg/kg	0.2	0	0	200	0
			Arochlor 1262	mg/kg	0.2	0	0	200	0
			Arochlor 1268	mg/kg	0.2	0	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	0	0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.1570895920	0.1587132188	30	1

Total Phenolics in Soil

Method: ME-(AU)-[ENV]AN295

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272142.015	LB326731.014	Total Phenols	mg/kg	0.5	<0.5	<0.5	200	0
SE272334.020	LB326731.022	Total Phenols	mg/kg	0.5	<0.5	<0.5	200	0

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.010	LB326559.014	Arsenic, As	mg/kg	1	8	10	42	19
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	16	16	33	0
		Copper, Cu	mg/kg	0.5	13	13	34	5
		Nickel, Ni	mg/kg	0.5	2.2	1.9	55	16
		Lead, Pb	mg/kg	1	13	16	37	19
		Zinc, Zn	mg/kg	2	16	17	42	8
SE272334.019	LB326559.024	Arsenic, As	mg/kg	1	4	6	52	45
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	5.1	5.4	39	6
		Copper, Cu	mg/kg	0.5	11	14	34	29
		Nickel, Ni	mg/kg	0.5	0.5	1.0	95	60
		Lead, Pb	mg/kg	1	8	11	41	33
		Zinc, Zn	mg/kg	2	6.1	8.6	57	34
SE272334.022	LB326560.023	Arsenic, As	mg/kg	1	1	2	82	55
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	8.6	11	35	23
		Copper, Cu	mg/kg	0.5	42	48	31	13
		Nickel, Ni	mg/kg	0.5	82	84	31	2
		Lead, Pb	mg/kg	1	4	8	46	63 †
		Zinc, Zn	mg/kg	2	45	49	34	7
SE272387.010	LB326560.014	Arsenic, As	mg/kg	1	4.7093704245	4.2231908823	52	11
		Cadmium, Cd	mg/kg	0.3	0.1870424597	0.1360791596	200	0
		Chromium, Cr	mg/kg	0.5	24.169472913	29.6527685294	32	20
		Copper, Cu	mg/kg	0.5	24.078513909	16.745057352	32	36 †
		Nickel, Ni	mg/kg	0.5	22.438262567	23.236377773	32	3
		Lead, Pb	mg/kg	1	30.459370424	94.364964285	30	17
		Zinc, Zn	mg/kg	2	15.479502196	11.597829831	32	3

Trace Metals (Dissolved) in Water by ICPMS

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272439.002	LB326753.013	Arsenic	μg/L	1	2	2	70	1
		Cadmium	μg/L	0.1	<0.1	<0.1	200	0
		Chromium	μg/L	1	<1	<1	169	0
		Copper	μg/L	1	<1	<1	200	0
		Lead	μg/L	1	<1	<1	200	0
		Nickel	μg/L	1	<1	<1	168	0
		Zinc	μg/L	5	<5	9	90	53

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.011	LB326537.026	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	75	108	50
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0

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

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

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

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.011	LB326537.026		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	194	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE272334.018	LB326537.027		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE272334.020	LB326538.025		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	135	0
			TRH C29-C36	mg/kg	45	79	60	94	27
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	187	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	91	<90	137	1
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE272387.010	LB326538.014		TRH C10-C14	mg/kg	20	8.2177558897	6.1286362896	200	0
			TRH C15-C28	mg/kg	45	38.3579573184	93.451350991	80	6
			TRH C29-C36	mg/kg	45	08.147655175	14.044397119	71	5
			TRH C37-C40	mg/kg	100	9.228744250	76.191786089	168	0
			TRH C10-C36 Total	mg/kg	110	96.505612493	07.495748110	84	5
			TRH >C10-C40 Total (F bands)	mg/kg	210	51.321413254	81.414141414	127	29
		TRH F Bands	TRH >C10-C16	mg/kg	25	11.085377937	8.2446721978	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	0	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	51.321413254	58.338287708	88	5
			TRH >C34-C40 (F4)	mg/kg	120	11.412810387	23.075853705	132	3

TRH (Total Recoverable Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272301.005	LB326528.028		TRH C10-C14	µg/L	50	<50	<50	168	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	176	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	176	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.010	LB326545.014	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 Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
			Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

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

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

VOC's in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.010	LB326545.014	Halogenated Aliphatics	Iodomethane	mg/kg	5	<5	<5	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
			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
			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
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
			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
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene (VOC)*	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	-	8.6	10.1	50	17
			d8-toluene (Surrogate)	mg/kg	-	8.1	10.0	50	21
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	9.4	50	23
		Totals	Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0
			Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	200	0

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

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

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

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

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

VOC's in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.010	LB326545.014	Totals	Total VOC*	mg/kg	24	<24	<24	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
		Trihalomethanes	Chloroform (THM)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane (THM)	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromochloromethane (THM)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform (THM)	mg/kg	0.1	<0.1	<0.1	200	0
SE272334.019	LB326545.024	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.2	8.7	50	16
			d8-toluene (Surrogate)	mg/kg	-	10.9	9.5	50	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	8.5	50	6
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE272334.022	LB326546.027	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.4	8.5	50	14
			d8-toluene (Surrogate)	mg/kg	-	7.9	9.2	50	15
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	9.5	50	12
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE272387.010	LB326546.015	Monocyclic Aromatic	Benzene	mg/kg	0.1	0	0	200	0
			Toluene	mg/kg	0.1	0.0624839859	0.0617917238	191	0
			Ethylbenzene	mg/kg	0.1	0.0014659063	0.0013128327	200	0
			m/p-xylene	mg/kg	0.2	0.0079541366	0.0055673641	200	0
			o-xylene	mg/kg	0.1	0.0047508309	0.0033361427	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	0.0206046555	0.0176939906	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8623241764	8.8812719361	50	0
			d8-toluene (Surrogate)	mg/kg	-	9.5323145211	9.6084031070	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.0998828687	9.9640883939	50	1
		Totals	Total BTEX*	mg/kg	0.6	0	0	200	0
			Total Xylenes*	mg/kg	0.3	0.0127049675	0.0089035069	200	0

VOCs in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272301.001	LB326770.026	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	8.7	30	12
			d8-toluene (Surrogate)	µg/L	-	10.3	8.0	30	25
			Bromofluorobenzene (Surrogate)	µg/L	-	8.8	8.8	30	0
		Totals	Total BTEX	µg/L	3	<3	<3	200	0
	LB326770.027	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	8.9	30	9
			d8-toluene (Surrogate)	µg/L	-	10.3	8.1	30	24
			Bromofluorobenzene (Surrogate)	µg/L	-	8.8	8.2	30	7

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

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

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

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

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

VOCs in Water (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272301.001	LB326770.027	Totals	Total BTEX	µg/L	3	<3	<3	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334.010	LB326545.014		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	-	8.6	10.1	50	17
			d8-toluene (Surrogate)	mg/kg	-	8.1	10.0	50	21
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	9.4	50	23
		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
SE272334.019	LB326545.024		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.2	8.7	50	16
			d8-toluene (Surrogate)	mg/kg	-	10.9	9.5	50	13
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	8.5	50	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE272334.022	LB326546.027		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.4	8.5	50	14
			d8-toluene (Surrogate)	mg/kg	-	7.9	9.2	50	15
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.5	9.5	50	12
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE272387.010	LB326546.015		TRH C6-C10	mg/kg	25	7.3823293865	7.0999654015	200	0
			TRH C6-C9	mg/kg	20	6.9020686412	6.6347932584	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8623241764	8.8812719361	50	0
			d8-toluene (Surrogate)	mg/kg	-	9.5323145211	9.6084031070	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.0998828687	9.9640883939	50	1
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	7.3823293865	7.0999654015	200	0

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272301.001	LB326770.026		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	8.7	30	12
			d8-toluene (Surrogate)	µg/L	-	10.3	8.0	30	25
			Bromofluorobenzene (Surrogate)	µg/L	-	8.8	8.8	30	0
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
	LB326770.027		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	8.9	30	9
			d8-toluene (Surrogate)	µg/L	-	10.3	8.1	30	24
			Bromofluorobenzene (Surrogate)	µg/L	-	8.8	8.2	30	7
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326566.002	Mercury	mg/kg	0.05	0.20	0.2	80 - 120	99
LB326567.002	Mercury	mg/kg	0.05	0.21	0.2	80 - 120	107

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326537.002		Delta BHC	mg/kg	0.1	0.1	0.2	60 - 140	64
		Heptachlor	mg/kg	0.1	0.1	0.2	60 - 140	64
		Aldrin	mg/kg	0.1	0.1	0.2	60 - 140	63
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	61
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	61
		p,p'-DDT	mg/kg	0.1	0.1	0.2	60 - 140	65
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	90
LB326538.002		Delta BHC	mg/kg	0.1	0.1	0.2	60 - 140	73
		Heptachlor	mg/kg	0.1	0.1	0.2	60 - 140	74
		Aldrin	mg/kg	0.1	0.1	0.2	60 - 140	73
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	69
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	68
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	76
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	91

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326537.002		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	83
		Diazinon (Dimpylate)	mg/kg	0.5	1.7	2	60 - 140	86
		Dichlorvos	mg/kg	0.5	1.4	2	60 - 140	71
		Ethion	mg/kg	0.2	1.8	2	60 - 140	91
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	70 - 130	86
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	105
LB326538.002		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.6	2	60 - 140	80
		Diazinon (Dimpylate)	mg/kg	0.5	1.7	2	60 - 140	84
		Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	75
		Ethion	mg/kg	0.2	1.6	2	60 - 140	82
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	70 - 130	88

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326537.002		Naphthalene	mg/kg	0.1	3.7	4	60 - 140	93
		Acenaphthylene	mg/kg	0.1	3.6	4	60 - 140	89
		Acenaphthene	mg/kg	0.1	3.7	4	60 - 140	93
		Phenanthrene	mg/kg	0.1	3.9	4	60 - 140	99
		Anthracene	mg/kg	0.1	4.0	4	60 - 140	101
		Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	95
		Pyrene	mg/kg	0.1	4.2	4	60 - 140	106
		Benzo(a)pyrene	mg/kg	0.1	4.2	4	60 - 140	105
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	70 - 130	86
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	70 - 130	86
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	105
LB326538.002		Naphthalene	mg/kg	0.1	4.1	4	60 - 140	103
		Acenaphthylene	mg/kg	0.1	4.1	4	60 - 140	102
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	98
		Phenanthrene	mg/kg	0.1	3.9	4	60 - 140	98
		Anthracene	mg/kg	0.1	4.1	4	60 - 140	101
		Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	95
		Pyrene	mg/kg	0.1	4.1	4	60 - 140	102
		Benzo(a)pyrene	mg/kg	0.1	4.9	4	60 - 140	122
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	93
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	70 - 130	88

PCBs in Soil

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

Sample Number	Parameter	Units	LOR

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

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

PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326537.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	73
LB326538.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	90

Total Phenolics in Soil — Method: ME-(AU)-[ENV]AN295

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326731.002	Total Phenols	mg/kg	0.5	20	20	80 - 120	102

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 %
LB326559.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	108
	Cadmium, Cd	mg/kg	0.3	4.8	4.81	70 - 130	100
	Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	100
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	105
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	99	89.9	80 - 120	110
	Zinc, Zn	mg/kg	2	290	273	80 - 120	107
LB326560.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	103
	Cadmium, Cd	mg/kg	0.3	4.2	4.81	70 - 130	88
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	102
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	104
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	99
	Lead, Pb	mg/kg	1	89	89.9	80 - 120	99
	Zinc, Zn	mg/kg	2	290	273	80 - 120	106

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326753.002	Arsenic	µg/L	1	20	20	80 - 120	102
	Cadmium	µg/L	0.1	20	20	80 - 120	101
	Chromium	µg/L	1	20	20	80 - 120	100
	Copper	µg/L	1	20	20	80 - 120	100
	Lead	µg/L	1	21	20	80 - 120	104
	Nickel	µg/L	1	19	20	80 - 120	96
	Zinc	µg/L	5	23	20	80 - 120	114

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326537.002		TRH C10-C14	mg/kg	20	43	40	60 - 140	107
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	102
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	90
	TRH F Bands	TRH >C10-C16	mg/kg	25	44	40	60 - 140	110
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	95
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	92
LB326538.002		TRH C10-C14	mg/kg	20	45	40	60 - 140	114
		TRH C15-C28	mg/kg	45	48	40	60 - 140	119
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	90
	TRH F Bands	TRH >C10-C16	mg/kg	25	46	40	60 - 140	114
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	107
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	92

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326528.002		TRH C10-C14	µg/L	50	1000	1200	60 - 140	84
		TRH C15-C28	µg/L	200	1200	1200	60 - 140	104
		TRH C29-C36	µg/L	200	1200	1200	60 - 140	101
	TRH F Bands	TRH >C10-C16	µg/L	60	1100	1200	60 - 140	93
		TRH >C16-C34 (F3)	µg/L	500	1300	1200	60 - 140	107
		TRH >C34-C40 (F4)	µg/L	500	610	600	60 - 140	101

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

Sample Number	Parameter	Units	LOR

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

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

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326545.002	Halogenated Aliphatics	1,1-dichloroethene	mg/kg	0.1	3.3	5	60 - 140	65
		1,2-dichloroethane	mg/kg	0.1	4.4	5	60 - 140	88
		Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	5.0	5	60 - 140	100
	Halogenated	Chlorobenzene	mg/kg	0.1	4.6	5	60 - 140	92
	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.3	5	60 - 140	86
		Toluene	mg/kg	0.1	4.6	5	60 - 140	92
		Ethylbenzene	mg/kg	0.1	4.5	5	60 - 140	90
		m/p-xylene	mg/kg	0.2	8.7	10	60 - 140	87
		o-xylene	mg/kg	0.1	4.4	5	60 - 140	87
	Trihalomethan	Chloroform (THM)	mg/kg	0.1	4.3	5	60 - 140	86
LB326546.002	Halogenated Aliphatics	1,1-dichloroethene	mg/kg	0.1	3.4	5	60 - 140	67
		1,2-dichloroethane	mg/kg	0.1	5.6	5	60 - 140	112
		Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	5.2	5	60 - 140	104
	Halogenated	Chlorobenzene	mg/kg	0.1	5.1	5	60 - 140	102
	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.7	5	60 - 140	93
		Toluene	mg/kg	0.1	5.2	5	60 - 140	104
		Ethylbenzene	mg/kg	0.1	5.0	5	60 - 140	100
		m/p-xylene	mg/kg	0.2	9.8	10	60 - 140	98
		o-xylene	mg/kg	0.1	5.1	5	60 - 140	102
	Trihalomethan	Chloroform (THM)	mg/kg	0.1	5.2	5	60 - 140	103

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326770.002	Monocyclic Aromatic	Benzene	µg/L	0.5	48	45.45	60 - 140	105
		Toluene	µg/L	0.5	53	45.45	60 - 140	116
		Ethylbenzene	µg/L	0.5	48	45.45	60 - 140	105
		m/p-xylene	µg/L	1	95	90.9	60 - 140	104
		o-xylene	µg/L	0.5	47	45.45	60 - 140	104
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	10	60 - 140	97
		d8-toluene (Surrogate)	µg/L	-	10	10	70 - 130	105
		Bromofluorobenzene (Surrogate)	µg/L	-	11	10	70 - 130	108

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326545.002		TRH C6-C10	mg/kg	25	77	92.5	60 - 140	83
		TRH C6-C9	mg/kg	20	70	80	60 - 140	87
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	51	62.5	60 - 140	81
LB326546.002		TRH C6-C10	mg/kg	25	79	92.5	60 - 140	85
		TRH C6-C9	mg/kg	20	69	80	60 - 140	86
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	54	62.5	60 - 140	86

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB326770.002		TRH C6-C10	µg/L	50	1000	946.63	60 - 140	105
		TRH C6-C9	µg/L	40	890	818.71	60 - 140	108
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.7	10	60 - 140	97
		d8-toluene (Surrogate)	µg/L	-	10	10	70 - 130	105
		Bromofluorobenzene (Surrogate)	µg/L	-	11	10	70 - 130	108
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	710	639.67	60 - 140	110

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

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

Mercury (dissolved) in Water

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.023	LB326532.004	Mercury	mg/L	0.0001	0.0019	<0.0001	0.008	101

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326566.004	Mercury	mg/kg	0.05	0.24	<0.05	0.2	101
SE272387.001	LB326567.004	Mercury	mg/kg	0.05	0.23	0.04673567293	0.2	93

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326537.004		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	77
			Heptachlor	mg/kg	0.1	0.1	<0.1	0.2	70
			Aldrin	mg/kg	0.1	0.1	<0.1	0.2	68
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			o,p'-DDE*	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	74
			Endrin	mg/kg	0.2	<0.2	<0.2	0.2	64
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.1	<0.1	0.2	63
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	<1	<1	-	-
			Total OC VIC EPA	mg/kg	1	<1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	-	98
SE272387.001	LB326538.004		Alpha BHC	mg/kg	0.1	<0.1	0	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	-	-
			Beta BHC	mg/kg	0.1	<0.1	0	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	0	-	-
			Delta BHC	mg/kg	0.1	0.2	0	0.2	85
			Heptachlor	mg/kg	0.1	0.2	0	0.2	80
			Aldrin	mg/kg	0.1	0.2	0	0.2	76
			Isodrin	mg/kg	0.1	<0.1	0	-	-
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	0	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	0	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	-	-
			o,p'-DDE*	mg/kg	0.1	<0.1	0	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	0	-	-
			Dieldrin	mg/kg	0.2	<0.2	0	0.2	76
			Endrin	mg/kg	0.2	<0.2	0	0.2	73
			Beta Endosulfan	mg/kg	0.2	<0.2	0	-	-
			o,p'-DDD*	mg/kg	0.1	<0.1	0	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	0	-	-

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

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

OC Pesticides in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272387.001	LB326538.004		Endrin aldehyde	mg/kg	0.1	<0.1	0	-	-
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	-	-
			o,p'-DDT*	mg/kg	0.1	<0.1	0	-	-
			p,p'-DDT	mg/kg	0.1	0.2	0	0.2	80
			Endrin ketone	mg/kg	0.1	<0.1	0	-	-
			Methoxychlor	mg/kg	0.1	<0.1	0	-	-
			Mirex	mg/kg	0.1	<0.1	0	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	0	-	-
			Total CLP OC Pesticides	mg/kg	1	<1	0	-	-
			Total OC VIC EPA	mg/kg	1	<1	0	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15346623733	-	101

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326537.004		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	<0.2	2	89
			Diazinon (Dimpylate)	mg/kg	0.5	1.8	<0.5	2	84
			Dichlorvos	mg/kg	0.5	1.5	<0.5	2	75
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	2.1	<0.2	2	102
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.2	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	93
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	108
SE272387.001	LB326538.004		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0.00190274589	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	0.00719407430	2	96
			Diazinon (Dimpylate)	mg/kg	0.5	2.0	0.00355670233	2	97
			Dichlorvos	mg/kg	0.5	1.5	0	2	74
			Dimethoate	mg/kg	0.5	<0.5	0.01609593365	-	-
			Ethion	mg/kg	0.2	2.2	0	2	111
			Fenitrothion	mg/kg	0.2	<0.2	0.00099557446	-	-
			Malathion	mg/kg	0.2	<0.2	0.00040575404	-	-
			Methidathion	mg/kg	0.5	<0.5	0.00074479854	-	-
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.00162879200	-	-
			Total OP Pesticides*	mg/kg	1.7	7.6	0	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.46098903071	-	104
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.45754281192	-	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326537.004		Naphthalene	mg/kg	0.1	3.8	<0.1	4	94
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	3.7	<0.1	4	92
			Acenaphthene	mg/kg	0.1	3.7	<0.1	4	94
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.0	<0.1	4	100
			Anthracene	mg/kg	0.1	4.0	<0.1	4	101
			Fluoranthene	mg/kg	0.1	4.0	<0.1	4	98
			Pyrene	mg/kg	0.1	4.2	<0.1	4	104
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.2	<0.1	4	105
			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	-	-

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

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

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326537.004		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.3	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.3	<0.3	-	-
			Total PAH (18)	mg/kg	0.8	32	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	-	91
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	93
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	108
SE272387.001	LB326538.004		Naphthalene	mg/kg	0.1	5.0	0.01049911859	4	125
			2-methylnaphthalene	mg/kg	0.1	<0.1	0.00622510025	-	-
			1-methylnaphthalene	mg/kg	0.1	0.1	0.00711572569	-	-
			Acenaphthylene	mg/kg	0.1	4.9	0.04822934193	4	122
			Acenaphthene	mg/kg	0.1	4.7	0.00675748149	4	117
			Fluorene	mg/kg	0.1	<0.1	0.01142882393	-	-
			Phenanthrene	mg/kg	0.1	5.3	0.19117778269	4	128
			Anthracene	mg/kg	0.1	4.8	0.05557563894	4	119
			Fluoranthene	mg/kg	0.1	6.4	0.56743434615	4	146 ⑤
			Pyrene	mg/kg	0.1	6.9	0.57439412684	4	158 ⑤
			Benzo(a)anthracene	mg/kg	0.1	1.2	0.28675359472	-	-
			Chrysene	mg/kg	0.1	1.3	0.34873189244	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	1.5	0.49245357229	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.6	0.19261179695	-	-
			Benzo(a)pyrene	mg/kg	0.1	6.6	0.43595587677	4	154 ⑤
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.7	0.29683541017	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	0.2	0.05798652042	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0.8	0.29630402452	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	7.2	0.56927167336	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	7.2	0.61927167336	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	7.2	0.66927167336	-	-
			Total PAH (18)	mg/kg	0.8	51	3.68265242360	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.46418550408	-	102
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.46098903071	-	104
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.45754281192	-	96

PCBs in Soil Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326537.004		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1260	mg/kg	0.2	0.4	<0.2	0.4	95
			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	TCMX (Surrogate)	mg/kg	-	0	0	-	96
SE272387.001	LB326538.004		Arochlor 1016	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1260	mg/kg	0.2	0.4	0	0.4	93
			Arochlor 1262	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	0	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	0	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0.14951324484	-	99

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

QC Sample	Sample Number	Parameter	Units	LOR

MATRIX SPIKES

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

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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%
SE272334.001	LB326559.004		Arsenic, As	mg/kg	1	53	6	50	94
			Cadmium, Cd	mg/kg	0.3	45	<0.3	50	90
			Chromium, Cr	mg/kg	0.5	66	15	50	103
			Copper, Cu	mg/kg	0.5	64	17	50	93
			Nickel, Ni	mg/kg	0.5	52	4.1	50	96
			Lead, Pb	mg/kg	1	95	55	50	79
			Zinc, Zn	mg/kg	2	100	59	50	87
SE272387.001	LB326560.004		Arsenic, As	mg/kg	1	50	7.58913109020	50	84
			Cadmium, Cd	mg/kg	0.3	42	0.09748371924	50	83
			Chromium, Cr	mg/kg	0.5	61	16.65652978774	50	88
			Copper, Cu	mg/kg	0.5	58	14.43889290882	50	87
			Nickel, Ni	mg/kg	0.5	48	3.46184937288	50	88
			Lead, Pb	mg/kg	1	100	30.33694524843	50	40 †
			Zinc, Zn	mg/kg	2	110	75.26025687409	50	71

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326537.004		TRH C10-C14	mg/kg	20	50	<20	40	106
			TRH C15-C28	mg/kg	45	97	49	40	120
			TRH C29-C36	mg/kg	45	73	<45	40	109
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	220	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	53	<25	40	108
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	53	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	120	<90	40	124
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
SE272387.001	LB326538.004		TRH C10-C14	mg/kg	20	53	6.58307001544	40	116
			TRH C15-C28	mg/kg	45	110	59.28106937034	40	126
			TRH C29-C36	mg/kg	45	120	73.64210460214	40	116
			TRH C37-C40	mg/kg	100	<100	24.42847315584	-	-
			TRH C10-C36 Total	mg/kg	110	280	32.9231739724	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	220	10.1042424865	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	55	9.04419744417	40	116
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	55	0	-	-
			TRH >C16-C34 (F3)	mg/kg	90	160	10.1042424865	40	135
			TRH >C34-C40 (F4)	mg/kg	120	<120	44.72608659661	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326545.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.2	<0.1	5	84
			Toluene	mg/kg	0.1	4.8	<0.1	5	96
			Ethylbenzene	mg/kg	0.1	5.3	<0.1	5	106
			m/p-xylene	mg/kg	0.2	10	<0.2	10	100
			o-xylene	mg/kg	0.1	5.0	<0.1	5	100
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.8	8.9	-	78
			d8-toluene (Surrogate)	mg/kg	-	8.2	9.2	-	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	8.8	-	97
		Totals	Total BTEX*	mg/kg	0.6	29	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	15	<0.3	-	-
SE272387.001	LB326546.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	5.1	0.00383173260	5	101
			Toluene	mg/kg	0.1	5.3	0.01796321381	5	106
			Ethylbenzene	mg/kg	0.1	5.5	0.01688248257	5	109
			m/p-xylene	mg/kg	0.2	11	0.03825315098	10	105
			o-xylene	mg/kg	0.1	5.5	0.01866530236	5	110
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	0.00633433390	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.7	8.39715469096	-	107
			d8-toluene (Surrogate)	mg/kg	-	11.4	9.11869973412	-	114
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.6	9.02037738019	-	106
		Totals	Total BTEX*	mg/kg	0.6	32	0	-	-
			Total Xylenes*	mg/kg	0.3	16	0.05691845335	-	-

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VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE272226.001	LB326770.028	Monocyclic Aromatic	Benzene	μg/L	0.5	0	45.45	98
			Toluene	μg/L	0.5	0.09043695153	45.45	97
			Ethylbenzene	μg/L	0.5	0.00883142117	45.45	97
			m/p-xylene	μg/L	1	0.03135398542	90.9	97
			o-xylene	μg/L	0.5	0.01567699271	45.45	97
		Polycyclic	Naphthalene (VOC)*	μg/L	0.5	0.01501594149	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	μg/L	-	7.68494550190	-	84
			d8-toluene (Surrogate)	μg/L	-	9.15322758617	-	92
			Bromofluorobenzene (Surrogate)	μg/L	-	9.17976225112	-	100
		Totals	Total BTEX	μg/L	3	0	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272334.001	LB326545.004		TRH C6-C10	mg/kg	25	88	<25	92.5	93
			TRH C6-C9	mg/kg	20	80	<20	80	99
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.8	8.9	-	78
			d8-toluene (Surrogate)	mg/kg	-	8.2	9.2	-	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	8.8	-	97
		VPH F Bands	Benzene (F0)	mg/kg	0.1	4.2	<0.1	-	-
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	58	<25	62.5	91
SE272387.001	LB326546.005		TRH C6-C10	mg/kg	25	97	1.17674331726	92.5	103
			TRH C6-C9	mg/kg	20	85	0.73025481242	80	105
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.7	8.39715469096	-	107
			d8-toluene (Surrogate)	mg/kg	-	11.4	9.11869973412	-	114
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.6	9.02037738019	-	106
		VPH F Bands	Benzene (F0)	mg/kg	0.1	5.1	0	-	-
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	65	1.17674331726	62.5	102

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE272226.001	LB326770.028		TRH C6-C10	μg/L	50	0	946.63	98
			TRH C6-C9	μg/L	40	0	818.71	100
		Surrogates	d4-1,2-dichloroethane (Surrogate)	μg/L	-	7.68494550190	-	84
			d8-toluene (Surrogate)	μg/L	-	9.15322758617	-	92
			Bromofluorobenzene (Surrogate)	μg/L	-	9.17976225112	-	100
		VPH F Bands	Benzene (F0)	μg/L	0.5	0	-	-
			TRH C6-C10 minus BTEX (F1)	μg/L	50	0	639.67	104

MATRIX SPIKE DUPLICATES

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

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

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

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

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

QC Sample	Sample Number	Parameter	Units	LOR

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

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

STATEMENT OF QA/QC PERFORMANCE

SE272334A R0

CLIENT DETAILS

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Project	**E25635 15 Hilwa Street &890-898 Woodvill**
Order Number	**E25635**
Samples	25

LABORATORY DETAILS

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SGS Reference	**SE272334A R0**
Date Received	23 Oct 2024
Date Reported	24 Oct 2024

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

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

Extraction Date	pH in soil (1:5)	4 items

SAMPLE SUMMARY

Sample counts by matrix	4 Soil	Type of documentation received	Email
Date documentation received	23/10/2024@1:34pr	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	15.4°C
Sample container provider	SGS	Turnaround time requested	Next Day
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME 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

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH106_0.2-0.3	SE272334A.007	LB327738	10 Oct 2024	23 Oct 2024	07 Nov 2024	24 Oct 2024	07 Nov 2024	24 Oct 2024
BH107M_0.3-0.4	SE272334A.009	LB327738	10 Oct 2024	23 Oct 2024	07 Nov 2024	24 Oct 2024	07 Nov 2024	24 Oct 2024
BH112_0.1-0.2	SE272334A.018	LB327738	10 Oct 2024	23 Oct 2024	07 Nov 2024	24 Oct 2024	07 Nov 2024	24 Oct 2024
BH113M_0.1-0.2	SE272334A.020	LB327738	10 Oct 2024	23 Oct 2024	07 Nov 2024	24 Oct 2024	07 Nov 2024	24 Oct 2024

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH106_0.2-0.3	SE272334A.007	LB327701	10 Oct 2024	23 Oct 2024	24 Oct 2024	23 Oct 2024	28 Oct 2024	24 Oct 2024
BH107M_0.3-0.4	SE272334A.009	LB327701	10 Oct 2024	23 Oct 2024	24 Oct 2024	23 Oct 2024	28 Oct 2024	24 Oct 2024
BH112_0.1-0.2	SE272334A.018	LB327701	10 Oct 2024	23 Oct 2024	24 Oct 2024	23 Oct 2024	28 Oct 2024	24 Oct 2024
BH113M_0.1-0.2	SE272334A.020	LB327701	10 Oct 2024	23 Oct 2024	24 Oct 2024	23 Oct 2024	28 Oct 2024	24 Oct 2024

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH106_0.2-0.3	SE272334A.007	LB327770	10 Oct 2024	23 Oct 2024	17 Oct 2024	24 Oct 2024†	25 Oct 2024	24 Oct 2024
BH107M_0.3-0.4	SE272334A.009	LB327770	10 Oct 2024	23 Oct 2024	17 Oct 2024	24 Oct 2024†	25 Oct 2024	24 Oct 2024
BH112_0.1-0.2	SE272334A.018	LB327770	10 Oct 2024	23 Oct 2024	17 Oct 2024	24 Oct 2024†	25 Oct 2024	24 Oct 2024
BH113M_0.1-0.2	SE272334A.020	LB327770	10 Oct 2024	23 Oct 2024	17 Oct 2024	24 Oct 2024†	25 Oct 2024	24 Oct 2024

SURROGATES

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

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

No surrogates were required for this job.

METHOD BLANKS

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

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

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result
LB327738.001	Exchangeable Sodium, Na	mg/kg	2	-0.136
	Exchangeable Potassium, K	mg/kg	2	-0.1292
	Exchangeable Calcium, Ca	mg/kg	2	-0.2767
	Exchangeable Magnesium, Mg	mg/kg	2	-0.0727

DUPLICATES

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

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

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

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

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

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272334A.020	LB327701.017	% Moisture	%w/w	1	9.5	9.5	41	0
SE272937.001	LB327701.009	% Moisture	%w/w	1	3.1203566121	4.0235525024	58	25

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272898.012	LB327770.016	pH	pH Units	0.1	7.5349	7.5613	31	0
SE272915.001	LB327770.017	pH	pH Units	0.1	8.0158	8.3401	31	4

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

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

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327738.002	Exchangeable Sodium, Na	meq/100g	0.01	0.18	0.188	80 - 120	94
	Exchangeable Potassium, K	meq/100g	0.01	0.13	0.141	80 - 120	90
	Exchangeable Calcium, Ca	meq/100g	0.01	1.9	2.17	80 - 120	89
	Exchangeable Magnesium, Mg	meq/100g	0.02	1.3	1.53	80 - 120	87

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327770.003	pH	pH Units	0.1	7.5	7.415	98 - 102	101

MATRIX SPIKES

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

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

No matrix spikes were required for this job.

MATRIX SPIKE DUPLICATES

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

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

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

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

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

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

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

STATEMENT OF QA/QC PERFORMANCE

SE272743 R0

CLIENT DETAILS

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Project	**E25635 15 Hilcoa Street & 890-898 Woodvi**
Order Number	**E25635**
Samples	6

LABORATORY DETAILS

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SGS Reference	**SE272743 R0**
Date Received	18 Oct 2024
Date Reported	25 Oct 2024

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

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

SAMPLE SUMMARY

Sample counts by matrix	6 Water	Type of documentation received	COC
Date documentation received	18/10/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	4.9°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

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

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

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
BH107M	SE272743.001	LB327361	17 Oct 2024	18 Oct 2024	14 Nov 2024	21 Oct 2024	14 Nov 2024	24 Oct 2024
BH109M	SE272743.002	LB327361	17 Oct 2024	18 Oct 2024	14 Nov 2024	21 Oct 2024	14 Nov 2024	24 Oct 2024
QD_241017	SE272743.003	LB327361	17 Oct 2024	18 Oct 2024	14 Nov 2024	21 Oct 2024	14 Nov 2024	24 Oct 2024
QR_241017	SE272743.004	LB327361	17 Oct 2024	18 Oct 2024	14 Nov 2024	21 Oct 2024	14 Nov 2024	24 Oct 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH107M	SE272743.001	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	24 Oct 2024
BH109M	SE272743.002	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	24 Oct 2024
QD_241017	SE272743.003	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	25 Oct 2024
QR_241017	SE272743.004	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	25 Oct 2024

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples

Method: ME-(AU)-[ENV]AN404

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH107M	SE272743.001	LB327347	17 Oct 2024	18 Oct 2024	14 Nov 2024	21 Oct 2024	18 Nov 2024	22 Oct 2024
BH109M	SE272743.002	LB327347	17 Oct 2024	18 Oct 2024	14 Nov 2024	21 Oct 2024	18 Nov 2024	22 Oct 2024

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN295

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH107M	SE272743.001	LB327304	17 Oct 2024	18 Oct 2024	31 Oct 2024	21 Oct 2024	31 Oct 2024	21 Oct 2024
BH109M	SE272743.002	LB327304	17 Oct 2024	18 Oct 2024	31 Oct 2024	21 Oct 2024	31 Oct 2024	21 Oct 2024

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
BH107M	SE272743.001	LB327614	17 Oct 2024	18 Oct 2024	15 Apr 2025	23 Oct 2024	15 Apr 2025	24 Oct 2024
BH109M	SE272743.002	LB327614	17 Oct 2024	18 Oct 2024	15 Apr 2025	23 Oct 2024	15 Apr 2025	24 Oct 2024
QD_241017	SE272743.003	LB327614	17 Oct 2024	18 Oct 2024	15 Apr 2025	23 Oct 2024	15 Apr 2025	24 Oct 2024
QR_241017	SE272743.004	LB327614	17 Oct 2024	18 Oct 2024	15 Apr 2025	23 Oct 2024	15 Apr 2025	24 Oct 2024

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
BH107M	SE272743.001	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	24 Oct 2024
BH109M	SE272743.002	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	24 Oct 2024
QD_241017	SE272743.003	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	24 Oct 2024
QR_241017	SE272743.004	LB327305	17 Oct 2024	18 Oct 2024	24 Oct 2024	21 Oct 2024	30 Nov 2024	24 Oct 2024

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH107M	SE272743.001	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
BH109M	SE272743.002	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
QD_241017	SE272743.003	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
QR_241017	SE272743.004	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
GW_QTS1	SE272743.005	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
GW_QTB1	SE272743.006	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH107M	SE272743.001	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
BH109M	SE272743.002	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
QD_241017	SE272743.003	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
QR_241017	SE272743.004	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
GW_QTS1	SE272743.005	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024
GW_QTB1	SE272743.006	LB327582	17 Oct 2024	18 Oct 2024	31 Oct 2024	23 Oct 2024	31 Oct 2024	24 Oct 2024

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH107M	SE272743.001	%	40 - 130%	88
	BH109M	SE272743.002	%	40 - 130%	92
d14-p-terphenyl (Surrogate)	BH107M	SE272743.001	%	40 - 130%	81
	BH109M	SE272743.002	%	40 - 130%	83
d5-nitrobenzene (Surrogate)	BH107M	SE272743.001	%	40 - 130%	94
	BH109M	SE272743.002	%	40 - 130%	100

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples

Method: ME-(AU)-[ENV]AN404

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
(13C2_PFTeDA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	10 - 150%	52
	BH109M	SE272743.002	%	10 - 150%	49
(13C2-4:2 FTS) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 300%	88
	BH109M	SE272743.002	%	40 - 300%	90
(13C2-6:2 FTS) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 300%	86
	BH109M	SE272743.002	%	40 - 300%	81
(13C2-8:2 FTS) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 300%	64
	BH109M	SE272743.002	%	40 - 300%	65
(13C2-PFDoA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	10 - 150%	48
	BH109M	SE272743.002	%	10 - 150%	49
(13C3-PFBS) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	88
	BH109M	SE272743.002	%	40 - 150%	84
(13C3-PFHxS) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	90
	BH109M	SE272743.002	%	40 - 150%	86
(13C4_PFOA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	87
	BH109M	SE272743.002	%	40 - 150%	89
(13C4-PFBA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	5 - 150%	93
	BH109M	SE272743.002	%	5 - 150%	90
(13C4-PFHpA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	96
	BH109M	SE272743.002	%	40 - 150%	91
(13C5-PFHxA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	95
	BH109M	SE272743.002	%	40 - 150%	93
(13C5-PFPeA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	35 - 150%	98
	BH109M	SE272743.002	%	35 - 150%	94
(13C6-PFDA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	66
	BH109M	SE272743.002	%	40 - 150%	64
(13C7-PFUdA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	30 - 150%	54
	BH109M	SE272743.002	%	30 - 150%	51
(13C8-PFOS) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	67
	BH109M	SE272743.002	%	40 - 150%	71
(13C8-PFOSA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	20 - 150%	65
	BH109M	SE272743.002	%	20 - 150%	66
(13C9-PFNA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	40 - 150%	90
	BH109M	SE272743.002	%	40 - 150%	97
(D3-N-MeFOSA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	10 - 150%	43
	BH109M	SE272743.002	%	10 - 150%	45
(D3-N-MeFOSAA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	30 - 170%	44
	BH109M	SE272743.002	%	30 - 170%	47
(D5-N-EtFOSA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	10 - 150%	47
	BH109M	SE272743.002	%	10 - 150%	42
(D5-N-EtFOSAA) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	20 - 150%	53
	BH109M	SE272743.002	%	20 - 150%	58
(D7-N-MeFOSE) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	10 - 150%	47
	BH109M	SE272743.002	%	10 - 150%	45
(D9-N-EtFOSE) Isotopically Labelled Internal Recovery Standard	BH107M	SE272743.001	%	10 - 150%	47
	BH109M	SE272743.002	%	10 - 150%	45

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH107M	SE272743.001	%	40 - 130%	84
	BH109M	SE272743.002	%	40 - 130%	85
	QD_241017	SE272743.003	%	40 - 130%	75
	QR_241017	SE272743.004	%	40 - 130%	83

SURROGATES

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

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

VOCs in Water (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GW_QTS1	SE272743.005	%	40 - 130%	96
	GW_QTB1	SE272743.006	%	40 - 130%	81
d4-1,2-dichloroethane (Surrogate)	BH107M	SE272743.001	%	40 - 130%	93
	BH109M	SE272743.002	%	40 - 130%	91
	QD_241017	SE272743.003	%	40 - 130%	88
	QR_241017	SE272743.004	%	40 - 130%	89
	GW_QTS1	SE272743.005	%	40 - 130%	93
	GW_QTB1	SE272743.006	%	40 - 130%	85
d8-toluene (Surrogate)	BH107M	SE272743.001	%	40 - 130%	89
	BH109M	SE272743.002	%	40 - 130%	90
	QD_241017	SE272743.003	%	40 - 130%	95
	QR_241017	SE272743.004	%	40 - 130%	88
	GW_QTS1	SE272743.005	%	40 - 130%	89
	GW_QTB1	SE272743.006	%	40 - 130%	93

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH107M	SE272743.001	%	40 - 130%	84
	BH109M	SE272743.002	%	40 - 130%	85
	QD_241017	SE272743.003	%	40 - 130%	75
	QR_241017	SE272743.004	%	40 - 130%	83
d4-1,2-dichloroethane (Surrogate)	BH107M	SE272743.001	%	60 - 130%	93
	BH109M	SE272743.002	%	60 - 130%	91
	QD_241017	SE272743.003	%	60 - 130%	88
	QR_241017	SE272743.004	%	60 - 130%	89
d8-toluene (Surrogate)	BH107M	SE272743.001	%	40 - 130%	89
	BH109M	SE272743.002	%	40 - 130%	90
	QD_241017	SE272743.003	%	40 - 130%	95
	QR_241017	SE272743.004	%	40 - 130%	88

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(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB327361.001	Mercury	mg/L	0.0001	<0.0001

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result
LB327305.001		Naphthalene	µg/L	0.1	<0.1
		2-methylnaphthalene	µg/L	0.1	<0.1
		1-methylnaphthalene	µg/L	0.1	<0.1
		Acenaphthylene	µg/L	0.1	<0.1
		Acenaphthene	µg/L	0.1	<0.1
		Fluorene	µg/L	0.1	<0.1
		Phenanthrene	µg/L	0.1	<0.1
		Anthracene	µg/L	0.1	<0.1
		Fluoranthene	µg/L	0.1	<0.1
		Pyrene	µg/L	0.1	<0.1
		Benzo(a)anthracene	µg/L	0.1	<0.1
		Chrysene	µg/L	0.1	<0.1
		Benzo(a)pyrene	µg/L	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
		Dibenzo(ah)anthracene	µg/L	0.1	<0.1
		Benzo(ghi)perylene	µg/L	0.1	<0.1
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	82
		2-fluorobiphenyl (Surrogate)	%	-	76
		d14-p-terphenyl (Surrogate)	%	-	80

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples

Method: ME-(AU)-[ENV]AN404

Sample Number	Parameter	Units	LOR	Result
LB327347.001	Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.05
	Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.01
	Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.01
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.01
	Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01
	Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.01
	Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.01
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.01
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.01
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.01
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.01
	Perfluoropropane sulfonic acid (PFPrS)	µg/L	0.01	<0.01
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.01
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.01
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.01
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01
	Perfluorononane sulfonic acid (PFNS)	µg/L	0.01	<0.01
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.01
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	µg/L	0.01	<0.01
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	µg/L	0.01	<0.01
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	µg/L	0.01	<0.01
	1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	µg/L	0.01	<0.01
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.01
	N-Methylperfluoroctane sulfonamide (N-MeFOSA)	µg/L	0.01	<0.01
	N-Ethylperfluoroctane sulfonamide (N-EtFOSA)	µg/L	0.01	<0.01
	N-Methylperfluorooctanesulfonamidoacetic acid (N_MeFOSAA)	µg/L	0.05	<0.05
	N-Ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	µg/L	0.05	<0.05
	2-(N-Methylperfluorooctane sulfonamido)-ethanol (N-MeFOSE)	µg/L	0.05	<0.05
	2-(N-Ethylperfluorooctane sulfonamido)-ethanol (N-EtFOSE)	µg/L	0.05	<0.05

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN295

Sample Number	Parameter	Units	LOR

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

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

Total Phenolics in Water (continued)

Method: ME-(AU)-[ENV]AN295

Sample Number	Parameter	Units	LOR	Result
LB327304.001	Total Phenols	mg/L	0.05	<0.05

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number	Parameter	Units	LOR	Result
LB327614.001	Arsenic	µg/L	1	<1
	Cadmium	µg/L	0.1	<0.1
	Chromium	µg/L	1	<1
	Copper	µg/L	1	<1
	Lead	µg/L	1	<1
	Nickel	µg/L	1	<1
	Zinc	µg/L	5	<5
LB327614.025	Arsenic	µg/L	1	<1
	Cadmium	µg/L	0.1	<0.1
	Chromium	µg/L	1	<1
	Copper	µg/L	1	<1
	Lead	µg/L	1	<1
	Nickel	µg/L	1	<1
	Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB327305.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB327582.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		1,1-dichloroethene	µg/L	0.5	<0.5
		Iodomethane	µg/L	5	<5
		Dichloromethane (Methylene chloride)	µg/L	5	<5
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		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

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

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

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB327582.001	Halogenated Aliphatics	1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5
		2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		Styrene (Vinyl benzene)	µg/L	0.5	<0.5
		o-xylene	µg/L	0.5	<0.5
		Isopropylbenzene (Cumene)	µg/L	0.5	<0.5
		n-propylbenzene	µg/L	0.5	<0.5
		1,3,5-trimethylbenzene	µg/L	0.5	<0.5
		tert-butylbenzene	µg/L	0.5	<0.5
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	0.5	<1
		Vinyl acetate*	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5
	Polycyclic VOCs	Naphthalene (VOC)*	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	91
		d8-toluene (Surrogate)	%	-	85
		Bromofluorobenzene (Surrogate)	%	-	97
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5

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

Sample Number		Parameter	Units	LOR	Result
LB327582.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	91
		d8-toluene (Surrogate)	%	-	85
		Bromofluorobenzene (Surrogate)	%	-	97

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

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272741.001	LB327305.023		Naphthalene	µg/L	0.1	0.0083677408	0.0084566288	200	0
			2-methylnaphthalene	µg/L	0.1	0.0011960115	0.0020806166	200	0
			1-methylnaphthalene	µg/L	0.1	0.0012144371	0.0014640199	200	0
			Acenaphthylene	µg/L	0.1	0.0018893407	0.0028471601	200	0
			Acenaphthene	µg/L	0.1	0.0014131182	0.0023031573	200	0
			Fluorene	µg/L	0.1	0.0007269182	0.0009206130	200	0
			Phenanthrene	µg/L	0.1	0.0065269531	0.0082423026	200	0
			Anthracene	µg/L	0.1	0.0027663381	0.0079568888	200	0
			Fluoranthene	µg/L	0.1	0.0051586379	0.0081475297	200	0
			Pyrene	µg/L	0.1	0.0104011547	0.0128121117	200	0
			Benzo(a)anthracene	µg/L	0.1	0.0138156758	0.0151127553	200	0
			Chrysene	µg/L	0.1	0.0022234152	0.0038886937	200	0
			Benzo(b&j)fluoranthene	µg/L	0.1	0.0019994978	0.0041846460	200	0
			Benzo(k)fluoranthene	µg/L	0.1	0.0011747564	0.0036128574	200	0
			Benzo(a)pyrene	µg/L	0.1	0	0.0043895106	200	0
			Indeno(1,2,3-cd)pyrene	µg/L	0.1	0	0.0009994143	200	0
			Dibenzo(ah)anthracene	µg/L	0.1	0.0001377020	0	200	0
			Benzo(ghi)perylene	µg/L	0.1	3.5219697268	4.5472641037	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.4052232875	0.3442393316	30	16
			2-fluorobiphenyl (Surrogate)	µg/L	-	0.3472172779	0.2999460181	30	15
			d14-p-terphenyl (Surrogate)	µg/L	-	0.4034579282	0.3845143683	30	5

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN295

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272741.001	LB327304.014		Total Phenols	mg/L	0.05	<0.05	<0.05	200	0
SE272755.001	LB327304.021		Total Phenols	mg/L	0.05	<0.05	<0.05	200	0

Trace Metals (Dissolved) in Water by ICPMS

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272754.002	LB327614.014		Arsenic	µg/L	1	0.463	0.443	200	0
			Cadmium	µg/L	0.1	0.045	0.061	200	0
			Chromium	µg/L	1	0.688	0.692	160	0
			Copper	µg/L	1	0.782	0.653	154	0
			Lead	µg/L	1	1.598	1.614	77	1
			Nickel	µg/L	1	3.63	3.728	42	3
			Zinc	µg/L	5	36.169	37.928	28	5
SE272757.004	LB327614.028		Arsenic	µg/L	1	0.434	0.366	200	0
			Cadmium	µg/L	0.1	0.047	0.032	200	0
			Chromium	µg/L	1	0.529	0.433	200	0
			Copper	µg/L	1	4.319	3.953	39	9
			Lead	µg/L	1	5.249	4.866	35	8
			Nickel	µg/L	1	1.706	1.59	76	7
			Zinc	µg/L	5	20.464	18.503	41	10
SE272890.002	LB327614.035		Arsenic	µg/L	1	0.581	0.618	182	0
			Cadmium	µg/L	0.1	0.004	0.01	200	0
			Chromium	µg/L	1	1.919	1.876	68	2
			Copper	µg/L	1	3.128	3.013	48	4
			Lead	µg/L	1	0.14	0.094	200	0
			Nickel	µg/L	1	0.653	0.632	171	0
			Zinc	µg/L	5	10.394	10.084	64	3

TRH (Total Recoverable Hydrocarbons) in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272741.001	LB327305.023		TRH C10-C14	µg/L	50	0	0	200	0
			TRH C15-C28	µg/L	200	0	0	200	0
			TRH C29-C36	µg/L	200	0	0	200	0
			TRH C37-C40	µg/L	200	0	0	200	0
			TRH C10-C40	µg/L	320	0	0	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	0	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	-0.0468477247	0	200	0
			TRH >C16-C34 (F3)	µg/L	500	0	0	200	0

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

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

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

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

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

TRH (Total Recoverable Hydrocarbons) in Water (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272741.001	LB327305.023	TRH F Bands	TRH >C34-C40 (F4)	µg/L	500	0	0	200	0
SE272757.005	LB327305.022		TRH C10-C14	µg/L	50	24.875	24.275	200	0
			TRH C15-C28	µg/L	200	116.025	136.075	189	0
			TRH C29-C36	µg/L	200	16.9	19.175	200	0
			TRH C37-C40	µg/L	200	6.325	6.375	200	0
			TRH C10-C40	µg/L	320	164.125	185.9	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	110.95	129.35	80	15
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	110.95	129.35	80	15
			TRH >C16-C34 (F3)	µg/L	500	36.7	41.475	200	0
			TRH >C34-C40 (F4)	µg/L	500	12.15	12	200	0

VOCs in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272694.002	LB327582.023	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
			Chloromethane	µg/L	5	<5	<5	200	0
			Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	200	0
			Bromomethane	µg/L	10	<10	<10	200	0
			Chloroethane	µg/L	5	<5	<5	200	0
			Trichlorofluoromethane	µg/L	1	<1	<1	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Iodomethane	µg/L	5	<5	<5	200	0
			Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	200	0
			Allyl chloride	µg/L	2	<2	<2	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Bromochloromethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	200	0
			Dibromomethane	µg/L	0.5	<0.5	<0.5	200	0
			Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	200	0

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

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

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

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

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

VOCs in Water (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272694.002	LB327582.023	Monocyclic Aromatic	o-xylene	µg/L	0.5	<0.5	<0.5	200	0
			Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	200	0
			n-propylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			tert-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			sec-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	200	0
			n-butylbenzene	µg/L	0.5	<0.5	<0.5	200	0
		Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
			2-nitropropane	µg/L	100	<100	<100	200	0
		Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10	<10	200	0
			MtBE (Methyl-tert-butyl ether)	µg/L	0.5	<0.5	<0.5	200	0
			Vinyl acetate*	µg/L	10	<10	<10	200	0
			MEK (2-butanone)	µg/L	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.2	8.9	30	3
			d8-toluene (Surrogate)	µg/L	-	9.3	8.6	30	8
			Bromofluorobenzene (Surrogate)	µg/L	-	8.1	7.9	30	2
		Totals	Total BTEX	µg/L	3	<3	<3	200	0
			Total VOC	µg/L	10	<10	<10	200	0
		Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0
SE272710.001	LB327582.026	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.2	9.3	30	12
			d8-toluene (Surrogate)	µg/L	-	9.3	9.6	30	3
			Bromofluorobenzene (Surrogate)	µg/L	-	8.1	8.1	30	0
		Totals	Total BTEX	µg/L	3	<3	<3	200	0

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE272694.002	LB327582.025		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.2	8.9	30	3
			d8-toluene (Surrogate)	µg/L	-	9.3	8.6	30	8
			Bromofluorobenzene (Surrogate)	µg/L	-	8.1	7.9	30	2
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
SE272710.001	LB327582.028		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.2	9.3	30	12
			d8-toluene (Surrogate)	µg/L	-	9.3	9.6	30	3
			Bromofluorobenzene (Surrogate)	µg/L	-	8.1	8.1	30	0
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327305.002		Naphthalene	µg/L	0.1	27	40	60 - 140	68
		Acenaphthylene	µg/L	0.1	29	40	60 - 140	72
		Acenaphthene	µg/L	0.1	29	40	60 - 140	74
		Phenanthrene	µg/L	0.1	29	40	60 - 140	72
		Anthracene	µg/L	0.1	29	40	60 - 140	72
		Fluoranthene	µg/L	0.1	28	40	60 - 140	71
		Pyrene	µg/L	0.1	28	40	60 - 140	70
		Benzo(a)pyrene	µg/L	0.1	29	40	60 - 140	73
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.4	0.5	40 - 130	78
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	76
		d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	80

Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous Samples

Method: ME-(AU)-[ENV]AN404

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327347.002		Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.17	0.2	40 - 160	86
		Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.19	0.2	40 - 160	97
		Perfluorononanoic acid (PFNA)	µg/L	0.01	0.21	0.2	40 - 160	105
		Perfluorodecanoic acid (PFDA)	µg/L	0.01	0.21	0.2	40 - 160	103
		Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	0.19	0.2	40 - 160	97
		Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	0.23	0.2	40 - 160	113
		Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.22	0.2	40 - 160	108
		Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	0.19	0.2	40 - 160	93

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN295

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327304.002		Total Phenols	mg/L	0.05	0.21	0.2	80 - 120	103

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327614.002		Arsenic	µg/L	1	22	20	80 - 120	108
		Cadmium	µg/L	0.1	22	20	80 - 120	110
		Chromium	µg/L	1	22	20	80 - 120	108
		Copper	µg/L	1	21	20	80 - 120	105
		Lead	µg/L	1	21	20	80 - 120	107
		Nickel	µg/L	1	21	20	80 - 120	106
		Zinc	µg/L	5	23	20	80 - 120	116
LB327614.026		Arsenic	µg/L	1	21	20	80 - 120	105
		Cadmium	µg/L	0.1	21	20	80 - 120	107
		Chromium	µg/L	1	20	20	80 - 120	102
		Copper	µg/L	1	20	20	80 - 120	99
		Lead	µg/L	1	21	20	80 - 120	103
		Nickel	µg/L	1	20	20	80 - 120	100
		Zinc	µg/L	5	22	20	80 - 120	112

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327305.002		TRH C10-C14	µg/L	50	1200	1200	60 - 140	96
		TRH C15-C28	µg/L	200	1200	1200	60 - 140	103
		TRH C29-C36	µg/L	200	1300	1200	60 - 140	105
	TRH F Bands	TRH >C10-C16	µg/L	60	1200	1200	60 - 140	102
		TRH >C16-C34 (F3)	µg/L	500	1300	1200	60 - 140	104
		TRH >C34-C40 (F4)	µg/L	500	630	600	60 - 140	104

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327582.002	Halogenated Aliphatics	1,1-dichloroethene	µg/L	0.5	55	45.45	60 - 140	122
		1,2-dichloroethane	µg/L	0.5	54	45.45	60 - 140	119
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	63	45.45	60 - 140	138
	Halogenated Monocyclic Aromatic	Chlorobenzene	µg/L	0.5	59	45.45	60 - 140	130
		Benzene	µg/L	0.5	50	45.45	60 - 140	111
		Toluene	µg/L	0.5	58	45.45	60 - 140	127

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

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

VOCs in Water (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327582.002	Monocyclic Aromatic	Ethylbenzene	µg/L	0.5	59	45.45	60 - 140	131
		m/p-xylene	µg/L	1	110	90.9	60 - 140	121
		o-xylene	µg/L	0.5	55	45.45	60 - 140	121
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.6	10	60 - 140	86
		d8-toluene (Surrogate)	µg/L	-	8.5	10	70 - 130	85
		Bromofluorobenzene (Surrogate)	µg/L	-	10.8	10	70 - 130	108
	Trihalomethan	Chloroform (THM)	µg/L	0.5	54	45.45	60 - 140	120

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB327582.002		TRH C6-C10	µg/L	50	880	946.63	60 - 140	93
		TRH C6-C9	µg/L	40	700	818.71	60 - 140	85
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.6	10	60 - 140	86
		d8-toluene (Surrogate)	µg/L	-	8.5	10	70 - 130	85
		Bromofluorobenzene (Surrogate)	µg/L	-	10.8	10	70 - 130	108
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	550	639.67	60 - 140	86

MATRIX SPIKES

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

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

Mercury (dissolved) in Water

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272694.001	LB327361.004	Mercury	mg/L	0.0001	0.0018	<0.0001	0.008	92

Total Phenolics in Water

Method: ME-(AU)-[ENV]AN295

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272523.001	LB327304.004	Total Phenols	mg/L	0.05	0.21	<0.05	0.2	104

Trace Metals (Dissolved) in Water by ICPMS

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE272760.007	LB327614.030	Arsenic	μg/L	1	22	-0.038	20	111
		Cadmium	μg/L	0.1	22	0.01	20	112
		Chromium	μg/L	1	22	-0.042	20	109
		Copper	μg/L	1	21	0.005	20	107
		Lead	μg/L	1	22	0	20	108
		Nickel	μg/L	1	21	-0.094	20	107
		Zinc	μg/L	5	24	0.013	20	120

VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE272743.003	LB327582.025	Monocyclic Aromatic	Benzene	μg/L	0.5	<0.5	45.45	116
			Toluene	μg/L	0.5	<0.5	45.45	122
			Ethylbenzene	μg/L	0.5	<0.5	45.45	113
			m/p-xylene	μg/L	1	<1	90.9	111
			o-xylene	μg/L	0.5	<0.5	45.45	111
		Polycyclic	Naphthalene (VOC)*	μg/L	0.5	<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	μg/L	-	8.8	-	89
			d8-toluene (Surrogate)	μg/L	-	9.5	-	90
			Bromofluorobenzene (Surrogate)	μg/L	-	7.5	-	95
		Totals	Total BTEX	μg/L	3	<3	-	-

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE272743.003	LB327582.027		TRH C6-C10	μg/L	50	<50	946.63	94
			TRH C6-C9	μg/L	40	<40	818.71	102
		Surrogates	d4-1,2-dichloroethane (Surrogate)	μg/L	-	8.8	-	89
			d8-toluene (Surrogate)	μg/L	-	9.5	-	90
			Bromofluorobenzene (Surrogate)	μg/L	-	7.5	-	95
		VPH F Bands	Benzene (F0)	μg/L	0.5	<0.5	-	-
			TRH C6-C10 minus BTEX (F1)	μg/L	50	<50	639.67	90

MATRIX SPIKE DUPLICATES

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

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

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

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

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

No matrix spike duplicates were required for this job.

FOOTNOTES

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

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

STATEMENT OF QA/QC PERFORMANCE

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Joel Heininger	Manager	Shane McDermott
Client	EI AUSTRALIA	Laboratory	SGS Alexandria Environmental
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009	Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	61 2 95160722	Telephone	+61 2 8594 0400
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499
Email	joel.heininger@eiaustralia.com.au	Email	au.environmental.sydney@sgs.com
Project	**E25635 15 Hilwa St & 890-895 Woodville R**	SGS Reference	**SE273394 R0**
Order Number	**E25635**	Date Received	31 Oct 2024
Samples	3	Date Reported	05 Nov 2024

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

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

Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	3 items

SAMPLE SUMMARY

Sample counts by matrix	3 Soil	Type of documentation received	COC
Date documentation received	31/10/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	13.5°C
Sample container provider	SGS	Turnaround time requested	Three Days
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME 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

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH114_2.5-2.6	SE273394.001	LB328526	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	05 Nov 2024	04 Nov 2024
BH115_2.4-2.5	SE273394.002	LB328526	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	05 Nov 2024	04 Nov 2024
BH115_2.5-2.6	SE273394.003	LB328526	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	05 Nov 2024	04 Nov 2024

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
BH114_2.5-2.6	SE273394.001	LB328513	30 Oct 2024	31 Oct 2024	28 Apr 2025	31 Oct 2024	28 Apr 2025	04 Nov 2024
BH115_2.4-2.5	SE273394.002	LB328513	30 Oct 2024	31 Oct 2024	28 Apr 2025	31 Oct 2024	28 Apr 2025	04 Nov 2024
BH115_2.5-2.6	SE273394.003	LB328513	30 Oct 2024	31 Oct 2024	28 Apr 2025	31 Oct 2024	28 Apr 2025	04 Nov 2024

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH114_2.5-2.6	SE273394.001	LB328501	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	10 Dec 2024	04 Nov 2024
BH115_2.4-2.5	SE273394.002	LB328501	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	10 Dec 2024	04 Nov 2024
BH115_2.5-2.6	SE273394.003	LB328501	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	10 Dec 2024	04 Nov 2024

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH114_2.5-2.6	SE273394.001	LB328523	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	13 Nov 2024	05 Nov 2024
BH115_2.4-2.5	SE273394.002	LB328523	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	13 Nov 2024	05 Nov 2024
BH115_2.5-2.6	SE273394.003	LB328523	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	13 Nov 2024	05 Nov 2024

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH114_2.5-2.6	SE273394.001	LB328523	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	13 Nov 2024	05 Nov 2024
BH115_2.4-2.5	SE273394.002	LB328523	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	13 Nov 2024	05 Nov 2024
BH115_2.5-2.6	SE273394.003	LB328523	30 Oct 2024	31 Oct 2024	13 Nov 2024	31 Oct 2024	13 Nov 2024	05 Nov 2024

SURROGATES

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

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

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH114_2.5-2.6	SE273394.001	%	60 - 130%	107
	BH115_2.4-2.5	SE273394.002	%	60 - 130%	113
	BH115_2.5-2.6	SE273394.003	%	60 - 130%	111
d4-1,2-dichloroethane (Surrogate)	BH114_2.5-2.6	SE273394.001	%	60 - 130%	91
	BH115_2.4-2.5	SE273394.002	%	60 - 130%	99
	BH115_2.5-2.6	SE273394.003	%	60 - 130%	95
d8-toluene (Surrogate)	BH114_2.5-2.6	SE273394.001	%	60 - 130%	96
	BH115_2.4-2.5	SE273394.002	%	60 - 130%	101
	BH115_2.5-2.6	SE273394.003	%	60 - 130%	98

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH114_2.5-2.6	SE273394.001	%	60 - 130%	107
	BH115_2.4-2.5	SE273394.002	%	60 - 130%	113
	BH115_2.5-2.6	SE273394.003	%	60 - 130%	111
d4-1,2-dichloroethane (Surrogate)	BH114_2.5-2.6	SE273394.001	%	60 - 130%	91
	BH115_2.4-2.5	SE273394.002	%	60 - 130%	99
	BH115_2.5-2.6	SE273394.003	%	60 - 130%	95
d8-toluene (Surrogate)	BH114_2.5-2.6	SE273394.001	%	60 - 130%	96
	BH115_2.4-2.5	SE273394.002	%	60 - 130%	101
	BH115_2.5-2.6	SE273394.003	%	60 - 130%	98

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

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

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

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

Sample Number	Parameter	Units	LOR	Result
LB328513.001	Lead, Pb	mg/kg	1	<1

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB328501.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB328523.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	105
		d8-toluene (Surrogate)	%	-	106
		Bromofluorobenzene (Surrogate)	%	-	105
	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
LB328523.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	105

DUPLICATES

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

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

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

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

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

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE273233.038	LB328526.011	% Moisture	%w/w	1	13.5490394337	14.2137096774	37	5
SE273394.003	LB328526.022	% Moisture	%w/w	1	19.1	20.0	35	4

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE273394.003	LB328513.008	Lead, Pb	mg/kg	1	18	17	36	3

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE273233.038	LB328501.014		TRH C10-C14	mg/kg	20	0.9888505225	1.3774917744	200	0
			TRH C15-C28	mg/kg	45	2.8607675583	2.2605582877	200	0
			TRH C29-C36	mg/kg	45	4.8545661702	4.4084336088	200	0
			TRH C37-C40	mg/kg	100	0.3518468138	0.3058537662	200	0
			TRH C10-C36 Total	mg/kg	110	0	0	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	0	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	1.0118470463	1.4464813458	200	0
			TRH >C16-C34 (F3)	mg/kg	90	7.3197935195	6.2136607257	200	0
			TRH >C34-C40 (F4)	mg/kg	120	0.7174915419	0.5381186564	200	0
SE273394.003	LB328501.024		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE273233.038	LB328523.015	Monocyclic Aromatic	Benzene	mg/kg	0.1	0.0030021007	0.0009416951	200	0
			Toluene	mg/kg	0.1	0.0136153074	0.0118226709	200	0
			Ethylbenzene	mg/kg	0.1	0.0027512879	0.0007298263	200	0
			m/p-xylene	mg/kg	0.2	0.0063734743	0.0021556312	200	0
			o-xylene	mg/kg	0.1	0.0026985270	0.0008762420	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	0.0023340386	0.0019902346	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9797441311	10.0744436097	50	1
			d8-toluene (Surrogate)	mg/kg	-	10.1775398259	10.3114815086	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.7242879183	10.2186345054	50	14
		Totals	Total BTEX*	mg/kg	0.6	0	0	200	0
			Total Xylenes*	mg/kg	0.3	0.0090720013	0.0030318732	200	0
SE273394.003	LB328523.030	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.5	10.5	50	10
			d8-toluene (Surrogate)	mg/kg	-	9.8	10.9	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.1	10.3	50	7
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE273394.003	LB328523.030		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.5	10.5	50	10

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

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

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

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

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

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE273394.003	LB328523.030	Surrogates	d8-toluene (Surrogate)	mg/kg	-	9.8	10.9	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.1	10.3	50	7
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

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

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB328513.002		Lead, Pb	mg/kg	1	92	89.9	80 - 120	103

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB328501.002		TRH C10-C14	mg/kg	20	41	40	60 - 140	103
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	86
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	90
	TRH F Bands	TRH >C10-C16	mg/kg	25	39	40	60 - 140	99
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	86
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	91

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB328523.002	Monocyclic Aromatic	Benzene	mg/kg	0.1	5.3	5	60 - 140	106
		Toluene	mg/kg	0.1	5.1	5	60 - 140	102
		Ethylbenzene	mg/kg	0.1	5.2	5	60 - 140	103
		m/p-xylene	mg/kg	0.2	9.9	10	60 - 140	99
		o-xylene	mg/kg	0.1	5.2	5	60 - 140	105

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB328523.002		TRH C6-C10	mg/kg	25	84	92.5	60 - 140	91
		TRH C6-C9	mg/kg	20	74	80	60 - 140	93
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	54	62.5	60 - 140	86

MATRIX SPIKES

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

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

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE273233.029	LB328501.004		TRH C10-C14	mg/kg	20	45	2.37540188836	40	106
			TRH C15-C28	mg/kg	45	180	24.83945203621	40	389 ⑨
			TRH C29-C36	mg/kg	45	130	27.92375566230	40	244 ⑨
			TRH C37-C40	mg/kg	100	<100	7.68635425131	-	-
			TRH C10-C36 Total	mg/kg	110	350	0	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	300	0	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	47	2.97971156642	40	109
			TRH >C16-C34 (F3)	mg/kg	90	250	47.47782228349	40	507 ⑨
			TRH >C34-C40 (F4)	mg/kg	120	<120	12.43483376005	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE273233.029	LB328523.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	5.7	0.01767720126	5	114
			Toluene	mg/kg	0.1	5.5	0.03177384947	5	110
			Ethylbenzene	mg/kg	0.1	5.8	0.02501550033	5	115
			m/p-xylene	mg/kg	0.2	11	0.05420343230	10	110
			o-xylene	mg/kg	0.1	5.8	0.02776952112	5	116
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	0.00758853606	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.4	10.06646552738	-	104
			d8-toluene (Surrogate)	mg/kg	-	10.5	10.33530266796	-	105
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.8	10.68587052550	-	98
		Totals	Total BTEX*	mg/kg	0.6	34	0	-	-
			Total Xylenes*	mg/kg	0.3	17	0.08197295343	-	-

MATRIX SPIKE DUPLICATES

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

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

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

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

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

QC Sample	Sample Number	Parameter	Units	LOR

FOOTNOTES

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

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

Appendix K – QA/QC Assessment

Quality Assurance / Quality Control Program

Quality assurance comprises an assessment of the reliability of the field procedures and laboratory results against standard industry practices and the SAQP. A summary of the project QA/QC measures incorporated into this DSI is presented in **Table K-1**.

Table K-1 Project QC Measures

Task	Description	Project
Field QA/QC		
General	Work was to be undertaken following standard field procedures which are based on industry accepted standard practice.	Soil samples were collected directly from the augers. Soil samples were placed in 250 gram glass jars and plastic bags, which were filled to minimise headspace, and sealed using Teflon-coated lids. Groundwater samples were obtained using sample bottles/vials provided by the laboratory.
	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 manufacturer requirements.	Yes
Equipment Decontamination	Sampling equipment to be decontaminated after the collection of each soil sample by washing with phosphate-free detergent and potable water, followed by a final distilled water rinse. One rinsate blank would be collected and analysed for the primary contaminants. All results should be non-detect.	Yes Two rinsate samples were collected during this DSI. One was collected during the soil investigation on 10 October 2024 and the other was collected during the groundwater monitoring event on 17 October 2024. All results were reported as below the detection limits, except for a minor exceedance in the rinsate collected during groundwater monitoring event (TRH – F2 marginally above PQLs).
Transport	Samples stored in a chilled cooler box and transported to the 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 to be prepared and analysed by the primary laboratory for BTEX. Analytical results to be below the laboratory LOR, indicating satisfactory sample transport and handling conditions were achieved.	Two trip blank samples prepared by the primary laboratory were analysed for BTEX during soil and groundwater testing. All results were reported below the laboratory LOR, indicating that ideal sample transport and handling conditions were achieved (i.e. no cross-contamination of volatiles during sample transport and subsequent handling).

Task	Description	Project
Trip Spikes	Trip spike samples were to be prepared and analysed by the primary laboratory for BTEX. Analytical results to be within 80-120% recovery, indicating satisfactory sample transport and handling conditions were achieved.	Two trip spike samples prepared by the primary laboratory were analysed for BTEX during soil and groundwater testing. All results were within the recovery acceptance levels, indicating that satisfactory sample transport and handling conditions were achieved (i.e. no loss of volatiles during sample transport and subsequent handling).
Duplicates	Field duplicate samples were to be analysed as follows (NEPC, 2013): ▪ intra-laboratory duplicates at a rate of 1 in 20 primary samples; and ▪ inter-laboratory duplicates at a rate of 1 in 20 primary samples. Field and laboratory acceptable limits between 30-50% RPD as stated by AS4482.1–2005. 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. Non-compliance is to be documented in the report and the sample re-analysed or a higher level conservatively adopted.	The required sampling density of 1 per 20 duplicated primary samples was achieved and sufficient for the investigation. Laboratory duplicates prepared and analysed. A few non-conformances were observed, likely caused by heterogeneity in soil samples with negligible effects on data use for interpretative purposes. Field QC samples and calculated RPD values are presented in **Table K-5**. Copies of laboratory reports are included in **Appendix I**.
<u>Laboratory QA/QC</u>		
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 Laboratory QA/QC analyses are included in **Appendix J**.
	Appropriate detection limits were used for the analyses to be undertaken.	Practical Quantitation Limits for all tested parameters during the DSI are presented in laboratory analytical reports in **Appendix I**.
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.	Assessment of holding times has been undertaken by the laboratory.

Task	Description	Project
Method Blanks	A method blank contains the reagents used to prepare the sample for final analysis. The purpose of this procedure is to identify contamination in the reagent materials and assess potential bias in the sample analysis due to contaminated reagents. The QC criterion aims to find no detectable contamination in the reagents. Each analysis procedure should be subject to a method blank analysis. The results of each should indicate that contaminants were not detected.	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 most calculated RPDs that were within acceptable ranges. Exceptions are noted to be: • SE 272387.010 o Fluoranthene (42%) o Pyrene (42%) o Carcinogenic PAHs, BaP TEQ <LOR=0* (35%) o Carcinogenic PAHs, BaP TEQ <LOR=LOR/2* (35%) o Carcinogenic PAHs, BaP TEQ <LOR=LOR* (35%) o Total PAH (34%) RPD failed acceptance criteria due to sample heterogeneity
Laboratory Control Standard	A laboratory control standard is a standard reference material used in preparing primary standards. The concentration should be equivalent to a mid-range standard to confirm the primary calibration. Laboratory control samples should be performed on a frequency of 1 per 20 samples or at least one per analytical run.	Assessment of laboratory control standard has been undertaken by the laboratory. All laboratory control standards were within acceptable ranges.
Matrix Spikes	Matric spikes 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%.	Assessment of matrix spikes has been undertaken by the laboratory. All laboratory control standards were within acceptable ranges with the exception of: • SE 272387.001 o Fluoranthene (146%) o Pyrene (158%) o Benzo(a)pyrene (154%) o Lead (40%) Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).

Task	Description	Project
Surrogate Spikes	Surrogate spikes provide a means of checking that no gross analyte loss occurred. Recoveries should be within the stated laboratory control limits of 70 to 130%.	Assessment of surrogate spikes has been undertaken by the laboratory.
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.	Yes Further assessment of the investigation QA/QC is presented in the following sections.

Field QA/QC

Field QC Samples

The field (intra- / inter- laboratory) duplicate samples collected during the investigation are summarised in **Table K-2**. Inter-laboratory duplicates were analysed by the secondary laboratory, Envirolab.

Table K-2 Field QC Sampling Program

Matrix	Primary QA Sample	Duplicate (Primary Lab)	Triplicate (Secondary Lab)	Total Duplicates
Soil	BH107M_0.3-0.4	QD1_241010	QT1_241010	2
Groundwater	BH109M	QD_241017	QT_241017	2

Field QC Summary

Review of the field data quality indicators is presented in **Table K-3** below.

Table K-3 Field Data Quality Indicators

QA Component	Data Quality Indicator(s)	Conformance
Accuracy – a quantitative measure of the closeness of reported data to the “true” value	SOPs appropriate and complied with	Yes
	Results for inter-laboratory (split field) duplicates acceptable	Yes
Precision – A quantitative measure of the variability (or reproducibility) of data	SOPs appropriate and complied with	Yes
	Results for intra-laboratory (blind field) duplicates acceptable	Yes
Completeness – A measure of the amount of useable data from a data collection activity	Each critical location sampled	Yes
	Samples collected at targeted locations and depth	Yes
	SAQP appropriate and complied with	Yes
	Experienced sampler	Yes
	Field documentation correct	Yes
Comparability – The	Same sampling method used on each occasion/location	Yes

QA Component	Data Quality Indicator(s)	Conformance
	Experienced sampler	Yes
	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

Conclusion for the Field QA/QC

All field work, including equipment decontamination and sample preservation and transport, was conducted in accordance with the SAQP, which were devised with reference to industry-approved guidelines. Appropriate QC measures were integrated into each sampling event and the DQIs were met.

All samples, including field QC samples, were transported to the primary and secondary laboratories under refrigerated conditions, using strict COC procedures. Relevant documents (COC forms) were presented with the samples at the times of delivery. All supporting documents (COCs and SRAs) were completed in full and signed, where appropriate. EI considered the field QA/QC program carried out during the DSI to be appropriate.

Laboratory QA/QC

Laboratory Accreditation

Primary and intra-laboratory duplicate samples were analysed by SGS (located in Alexandria NSW), with inter-laboratory duplicate samples analysed by Envirolab (located in Chatswood NSW). All laboratories are accredited by NATA for the analyses undertaken.

Laboratory QC Summary

Review of the laboratory data quality indicators is presented in **Table K-4** below.

Table K-4 Laboratory Data Quality Indicators

DQI	Item	Conformance
Completeness A measure of the amount of useable data (expressed as %) 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	Sample analytical methods used (including clean-up)	Yes
	Sample PQLs (justify/ quantify if different)	Yes
	Same laboratories (justify/ quantify if different)	Yes
	Same units (justify/ quantify if different)	Yes
Representativeness Confidence that data are	All key samples analysed according to SAQP in the proposal	Yes

DQI	Item	Conformance
representative of each media		
Precision A quantitative measure of the variability (or reproducibility) of data	Analysis of laboratory duplicates	Yes
	Analysis of field duplicates	Yes
	Analysis of laboratory-prepared volatile trip spikes	Yes
Accuracy A quantitative measure of the closeness of reported data to the true value	Analysis of field blanks	Yes
	Analysis of rinsate/ rinsate blanks	Yes
	Analysis of method blanks	Yes
	Analysis of matrix spikes (MS)	Yes
	Analysis of surrogate spikes	Yes
	Analysis of reference materials	Not applicable
	Analysis of laboratory control samples	Yes

Conclusion for the Laboratory QA/QC

All contracted laboratories (SGS and Envirolab) were accredited by NATA for the analyses undertaken. All analytical procedures used were industry recognised and endorsed standard methods. Appropriate QC measures were integrated into each testing batch and the DQIs were met, or if not, the variability was suitably justified.

All final reports were submitted in full and included all requested analyses, as per the signed COC forms. EI considered the laboratory QA/QC programs carried out during the DSI to be appropriate.

Summary of Project QA/QC

The sampling (including sample preservation, transport and decontamination procedures) and laboratory methods followed during this investigation were consistent with EI protocols. The project DQOs specified in **Section 5.2**, **Table 5-1** were considered to have been achieved. The adopted QA/QC program ensured that the data collated during the DSI were accurate, precise and representative of the site condition. It was therefore considered that the data were sufficiently precise and accurate and that the results could be used for DSI interpretative purposes.

Table K-5 Summary of Results for the Field QA/QC samples

Sample identification	Sampled Date	Description	TRH				BTEX				Heavy Metals							
			F1*	F2**	F3 (>C_{16} - C_{34})	F4 (>C_{34} - C_{40})	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate																		
BH107M_0.3-0.4	10/10/2024	Soil	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	2	<0.3	8.2	53	2	<0.05	100	49
QD1_241010		Duplicate of BH107M_0.3-0.4	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	1	<0.3	8.6	42	4	<0.05	82	45
RPD (%)			***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***66.7***	***0.0***	***4.8***	***23.2***	***66.7***	***0.0***	***19.8***	***8.5***
BH109M	17/10/2024	Groundwater	<50	84	<500	<500	<0.5	<0.5	<0.5	<1.5	20	0.2	<1	<1	<1	<0.1	27	63
QD_241017		Duplicate of BH109M	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	26	0.3	<1	<1	<1	<0.1	29	81
RPD (%)			***0.0***	***42.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***26.1***	***40.0***	***0.0***	***0.0***	***0.0***	***0.0***	***7.1***	***25.0***
Inter-laboratory Duplicate																		
BH107M_0.3-0.4	10/10/2024	Soil	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	2	<0.3	8.2	53	2	<0.05	100	49
QT1_241010		Duplicate of BH107M_0.3-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<4	<0.4	16	67	3	<0.1	100	42
RPD (%)			***0.0***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***100.0***	***NA***	***64.5***	***23.3***	***40.0***	***NA***	***0.0***	***15.4***
BH109M	17/10/2024	Groundwater	<50	84	<500	<500	<0.5	<0.5	<0.5	<1.5	20	0.2	<1	<1	<1	<0.1	27	63
QT_241017		Duplicate of BH109M	<10	<50	<100	<100	<1	<1	<1	<1.5	23	0.3	<1	1	<1	<0.05	37	100
RPD (%)			***NA***	***62.4***	***NA***	***NA***	***NA***	***NA***	***NA***	***0.0***	***14.0***	***40.0***	***0.0***	***0.0***	***0.0***	***NA***	***31.3***	***45.4***
Soil																		
QTB1	10/10/2024	Trip blank	-	-	-	-	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-
QTS1		Trip spike	-	-	-	-	[94%]	[98%]	[99%]	[98%]	-	-	-	-	-	-	-	-
QR_241010		Rinsate	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	<5
Groundwater																		
GW_QTB1	17/10/2024	Trip blank	-	-	-	-	<0.5	<0.5	<0.5	<1.5	-	-	-	-	-	-	-	-
GW_QTS1		Trip spike	-	-	-	-	[101%]	[110%]	[98%]	[98%]	-	-	-	-	-	-	-	-
QR_241017		Rinsate	<50	93	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	<5

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

NOTE:

All soil results are reported in mg/kg . All water results are reported in µg/L.

* - F1 is obtained by subtracting the sum of BTEX concentrations from the C_6-C_{10} fraction

** - F2 is obtained by subtracting naphthalene from the > C_{10}-C_{16} fraction

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Appendix L – Statistical Analysis

95% UCL Data Analysis - Fill materials

TRH-F2 Dataset

Sample	Concentration
BH101_0.1-0.2	<25
BH102_0.2-0.3	<25
BH103_0.1-0.2	<25
BH104_0.1-0.2	<25
BH105_0.2-0.3	<25
BH106_0.2-0.3	<25
BH107M_0.3-0.4	<25
BH108_0.2-0.3	<25
BH109M_0.2-0.3	<25
BH110_0.1-0.2	<25
BH111_0.1-0.2	170
BH112_0.1-0.2	<25
BH113M_0.1-0.2	<25

	A	B	C	D	E	F	G	H	I	J	K	L
1					UCL Statistics for Uncensored Full Data Sets							
2												
3			User Selected Options									
4			Date/Time of Computation	ProUCL 5.2 25/10/2024 2:06:01 PM								
5			From File	TRH-F2								
6			Full Precision									
7			Confidence Coefficient	95%								
8			Number of Bootstrap Operations	2000								
9												
10												
11	TRH-F2											
12												
13						General Statistics						
14					Total Number of Observations	13					Number of Distinct Observations	2
15											Number of Missing Observations	0
16					Minimum	25					Mean	36.15
17					Maximum	170					Median	25
18					SD	40.22					Std. Error of Mean	11.15
19					Coefficient of Variation	1.112					Skewness	3.606
20												
21						Normal GOF Test						
22					Shapiro Wilk Test Statistic	0.311			Shapiro Wilk GOF Test			
23					1% Shapiro Wilk Critical Value	0.814			Data Not Normal at 1% Significance Level			
24					Lilliefors Test Statistic	0.532			Lilliefors GOF Test			
25					1% Lilliefors Critical Value	0.271			Data Not Normal at 1% Significance Level			
26						Data Not Normal at 1% Significance Level						
27												
28						Assuming Normal Distribution						
29			95% Normal UCL						95% UCLs (Adjusted for Skewness)			
30					95% Student's-t UCL	56.03					95% Adjusted-CLT UCL (Chen-1995)	66.42
31											95% Modified-t UCL (Johnson-1978)	57.89
32												
33						Gamma GOF Test						
34					A-D Test Statistic	4.552			Anderson-Darling Gamma GOF Test			
35					5% A-D Critical Value	0.742			Data Not Gamma Distributed at 5% Significance Level			
36					K-S Test Statistic	0.548			Kolmogorov-Smirnov Gamma GOF Test			
37					5% K-S Critical Value	0.239			Data Not Gamma Distributed at 5% Significance Level			
38						Data Not Gamma Distributed at 5% Significance Level						
39												
40						Gamma Statistics						
41					k hat (MLE)	2.411					k star (bias corrected MLE)	1.906
42					Theta hat (MLE)	14.99					Theta star (bias corrected MLE)	18.97
43					nu hat (MLE)	62.7					nu star (bias corrected)	49.56
44					MLE Mean (bias corrected)	36.15					MLE Sd (bias corrected)	26.19
45											Approximate Chi Square Value (0.05)	34.4
46					Adjusted Level of Significance	0.0301					Adjusted Chi Square Value	32.6
47												
48						Assuming Gamma Distribution						
49					95% Approximate Gamma UCL	52.09					95% Adjusted Gamma UCL	54.96
50												
51						Lognormal GOF Test						
52					Shapiro Wilk Test Statistic	0.311			Shapiro Wilk Lognormal GOF Test			

	A	B	C	D	E	F	G	H	I	J	K	L
53	10% Shapiro Wilk Critical Value					0.889	Data Not Lognormal at 10% Significance Level					
54	Lilliefors Test Statistic					0.532	**Lilliefors Lognormal GOF Test**					
55	10% Lilliefors Critical Value					0.215	Data Not Lognormal at 10% Significance Level					
56	**Data Not Lognormal at 10% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data					3.219	Mean of logged Data					3.366
60	Maximum of Logged Data					5.136	SD of logged Data					0.532
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL					46.41	90% Chebyshev (MVUE) UCL					47.98
64	95% Chebyshev (MVUE) UCL					54.78	97.5% Chebyshev (MVUE) UCL					64.21
65	99% Chebyshev (MVUE) UCL					82.75						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data do not follow a Discernible Distribution**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL					54.5	95% BCA Bootstrap UCL					N/A
72	95% Standard Bootstrap UCL					N/A	95% Bootstrap-t UCL					N/A
73	95% Hall's Bootstrap UCL					N/A	95% Percentile Bootstrap UCL					N/A
74	90% Chebyshev(Mean, Sd) UCL					69.62	95% Chebyshev(Mean, Sd) UCL					84.77
75	97.5% Chebyshev(Mean, Sd) UCL					105.8	99% Chebyshev(Mean, Sd) UCL					147.1
76												
77	**Suggested UCL to Use**											
78	95% Student's-t UCL					56.03						
79												
80	**The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.**											
81	**Please verify the data were collected from random locations.**											
82	**If the data were collected using judgmental or other non-random methods,**											
83	**then contact a statistician to correctly calculate UCLs.**											
84												
85	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
86	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
87	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
88												