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Additional Site Investigation; 64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW

1 INTRODUCTION

Mr Mustapha Saboune of Lakemba St Development Pty Ltd ('the client') engaged EI Australia (EI) to complete an Additional Site Investigation (ASI) for 64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW ('the site').

The site is located approximately 14.8km southwest of the Sydney central business district (CBD) within the local government area of Canterbury Bankston Council (**Figure 1**). It covers an area of approximately 5,900m^2, comprised of residential dwellings, car park lots and commercial businesses (**Figure 2)**.

The land was designated for development in accordance with Development Application (DA) 452/2021 to Canterbury Bankstown Council (**Appendix A**), which involved the demolition of existing structures and the construction of a shop top housing development comprising of residential apartments overlying a three storey basement car park.

This ASI follows on from previous investigations of the land, which included:

- EIS (2017a) *Limited Stage 1 Environmental Site Assessment with Soil Sampling for Proposed Mixed Use Development at 62-70 King Georges Road & 280 – 292 Lakemba Street, Wiley Park NSW 2195*, Ref. E30501KGrpt, dated 30 June 2017*;*
- EIS (2017b) *Stage 2 Environmental Site Assessment for Proposed Mixed Use Development at 62-70 King Georges Road & 280 – 292 Lakemba Street, Wiley Park NSW 2195*, Ref. E30501KGrpt2, dated 13 November 2017*;*
- JK (2021) *Review of Existing Environmental Reports for Proposed Mixed-Use Development at 64-70 King Georges Road and 280 – 300 Lakemba Street, Wiley Park, NSW*, Ref. E30501Plet, dated 27 May 2021.

1.1 PURPOSE

The purpose of this assessment is to address data gaps mentioned within EIS (2017b), recommendations made in JK (2021) and comments made by Canterbury Bankstown Council under:

- Further Information Required Before Approval, DA-452/2021 – Canterbury Bankstown Council, dated 9 September 2021

It was conducted in order for the client to meet its obligations under the *Contaminated Land Management Act 1997*, in particular the requirements of *State Environmental Planning Policy 55 - Remediation of Land* (SEPP 55).

1.2 PROJECT OBJECTIVES AND SCOPE

The main objective of this ASI was to further investigate the degree of any potential contamination by means of targeted intrusive sampling and laboratory analysis of areas identified as data gaps within EIS (2017b) and recommendations made in JK (2021). Data gaps were as follows:

- A hazardous building materials survey is to be undertaken prior to demolition;
- Additional characterisation of the soils that fall outside the proposed basement footprint sampling and analysis of soils from beneath all building footprints;
- Additional characterisation of the soils and bedrock within the proposed basement footprint with the aim of confirming the waste classification; and
- Additional investigation of the groundwater, primarily focussing on Volatile Organic Compounds (VOCs), Total Recoverable Hydrocarbons (TRHs) and naphthalene.

In order to achieve this, the following scope of work was completed:

- Review of previous environmental reports;
- Construction of test boreholes at 9 locations distributed beneath existing buildings and setback areas that were not previously assessed;
- Construction of two additional groundwater monitoring bores both up- and downgradient of the proposed redevelopment area;
- Multiple level soil sampling within fill and natural soils at each borehole location;
- One round of groundwater sampling, utilising the two existing monitoring wells installed by JK (identified as BH1/3A and BH109/MW2) and the three newly constructed monitoring wells installed by EI (identified as BH201M and BH203M);
- Laboratory analysis of selected soil and groundwater samples for relevant analytical parameters as determined from the site history survey and field observations during the investigation program; and
- Data interpretation and reporting.

1.3 REGULATORY FRAMEWORK

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

- *Environmental Planning and Assessment Act 1979*; in particular
- *State Environmental Planning Policy 55 - Remediation of Land* (SEPP 55);
- *Protection of the Environment Operation Act 1997*;
- *Contaminated Land Management Act 1997*;
- *Work Health and Safety Act 2011*;
- *Canterbury Local Environmental Plan 2012;*
- *Bankstown Development Control Plan 2015 – as amended 13 July 2016;*
- *Canterbury Development Control Plan 2012 – as amended 30 January 2017;*
- EPA (1995) *Sampling Design Guidelines*;
- EPA (2020) *Consultants Reporting on Contaminated Land*; and
- NEPC (2013) *National Environment Protection (Assessment of Site Contamination) Amendment Measure*.

2 SITE DESCRIPTION

2.1 PROPERTY IDENTIFICATION AND LOCATION

Relevant site details are presented in **Table 2-1**.

Table 2-1 Property Identification and Location

Attribute	Description
Street Address	64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW
Surrounding Uses	Approx. 14.8km southwest of Sydney CBD, the site is bound by Lakemba Street (north), Residential dwellings (east), King Georges Road (west) and residential and commercial units (south).
Cadastral Identification	Lot A DP 962951, Lot 1 DP 124635, Lot 1 DP 124613, Lot 1 DP 124636, Lot B DP 402053, Lot A DP 402053, Lot 3 DP 501587, Lot 1 DP 501587, Lot 2 DP 501587, Lot 2 DP 6970, and Lot 2 DP 206965.
Geographical Coordinates	Northeast corner of site (GDA2020-MGA56) Easting: 321442.428, Northing: 6244910.867 (Source: http://maps.six.nsw.gov.au)
Site Area	Approximately 5.900 m^2

2.2 REGIONAL SETTING

Topographical, (hydro)geological and soil landscape information for the site is given in **Table 2-2**.

Table 2-2 Setting Information

Attribute	Description
Topography	The site is located within a relatively flat topography with a slight north-west facing slope.
Drainage	The ground surface of the site was observed to be mostly paved, with minor exposed soil surfaces observed in the garden areas of the residential dwellings. Excess water runoff would be expected to be collected by municipal stormwater systems with exposed ground surfaces allowing direct infiltration through the soil media.
Geology	According to the Geological Survey of NSW *Sydney 1:100,000 Geological Series Sheet 9130,* the site overlies Ashfield shale of the Wianamatta Group (more specifically, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal).
Soil Landscape	According to Chapman and Murphy (1989) *Soil Landscapes of the 1:100,000 Sydney Sheet,* indicates that the site is underlain by residual soils of the Blacktown (bt); such landscapes are gently undulating rises on Wianamatta Group shales and Hawkesbury shale.
Typical Soil Profile	Based on previous investigation findings, site sub-surface conditions consist of: ▪ Silty clay, silty sandy clay and silty gravelly sand with fine to coarse gravel and ash; overlying ▪ natural, silty clay; overlying ▪ Bedrock, shale
Acid Sulfate Soil (ASS) Risk	The *Canterbury Local Environmental Plan 2012 - Acid Sulfate Soils Map* (ASS_004) indicates the site is within an area not known to contain ASS. With reference to the 1:25,000 scale *Botany Bay Acid Sulfate Soil Risk Map* (Murphy, 1997), the Wiley Park area is classified as *No Known Occurrence*.

Attribute	Description
Nearest Surface Water	Cox Creek, approximately 564m northwest of the site connecting to the Cooks River.
Groundwater Flow Direction	Anticipated to be towards Cox Creek.

2.3 SITE CONDITIONS

At the time of this ASI, the site comprised of four residential properties and two commercial buildings. Residential and commercial properties were observed to be mostly vacant (with the exception of the kebab shop and two dwellings) with minor overgrown vegetation within the yard areas and minor waste materials noted at 282-284 Lakemba Street (car park). Refer to **Appendix B** for site photos taken during EI's attendance on the 11, 15 and 21 October 2021.

3 PREVIOUS INVESTIGATIONS

The following environmental reports related to the site:

- EIS (2017a) *Limited Stage 1 Environmental Site Assessment with Soil Sampling for Proposed Mixed Use Development at 62-70 King Georges Road & 280 – 292 Lakemba Street, Wiley Park NSW 2195*, Ref. E30501KGrpt, dated 30 June 2017*;*
- EIS (2017b) *Stage 2 Environmental Site Assessment for Proposed Mixed Use Development at 62-70 King Georges Road & 280 – 292 Lakemba Street, Wiley Park NSW 2195*, Ref. E30501KGrpt2, dated 13 November 2017*;*
- JK (2021) *Review of Existing Environmental Reports for Proposed Mixed-Use Development at 64-70 King Georges Road and 280 – 300 Lakemba Street, Wiley Park, NSW*, Ref. E30501Plet, dated 27 May 2021.

Key findings from these previous reports are summarised in **Table 3-1**.

Table 3-1 Summary of Previous Reports

Project Task	Findings
EIS (2017a) Stage 1 Environmental Site Assessment	
Objectives	The main objectives of this investigation were to: ▪ Provide an appraisal of the past site uses based on a review of limited historical records; ▪ Assess the current site conditions and use via a site walkover inspection; ▪ Identify potential contamination sources/areas of environmental concern (AEC) and contaminants of potential concern (CoPC); ▪ Make a preliminary assessment of the soil contamination condition; ▪ Prepare a conceptual site model (CSM); ▪ Assess the potential risks posed by contamination to the receptors identified in the CSM; ▪ Assess whether further intrusive investigation and/or remediation is required; and ▪ Assess whether the site is suitable or can be made suitable for the proposed development (from a contamination viewpoint).
Scope of Work	The following scope of works was completed: ▪ Review of site information, including background and site history information from a Lotsearch Pty Ltd *Environmental Risk and Planning Report;* ▪ Site walkover inspection; ▪ Soil sampling from four boreholes drilled by JK Geotechnics for the geotechnical investigation; ▪ Interpretation of the analytical results against the adopted site assessment criteria (SAC); ▪ Assessment of data quality; and ▪ Preparation of a Limited ESA report presenting the results of the assessment including a CSM.
Findings	The findings were as follows: ▪ Majority of the site has been used for commercial purposes at least since 1924; ▪ Historical Business Directory indicated that part of the site (66 King Georges Road / Lot 1 in DP123635) had been used as a motor garage/service centre in 1950s to 1970s; ▪ Historical Business Directory indicated that the property to the immediate east of the site (278Lakemba St, Wiley Park) had been used for fuel/coal business; ▪ Aerial photographs indicate that the property to the north of the site (across Lakemba Street) had been used as a service station between 1961 and 2004; ▪ There were only limited soil sampling and no groundwater sampling; and ▪ The concentrations of targeted contaminants in the soil samples were all less than the site assessment criteria.

Data Gaps	The remaining data gaps were as follows: ▪ Search of historical land titles and Council records was limited to three lots out of eleven; ▪ The sampling density is insufficient to adequately characterise site contamination status; ▪ Areas beneath the existing buildings have not been included in the assessment; ▪ Groundwater sampling was outside the scope; and ▪ The presence of hazardous building materials in the existing buildings has not been assessed.
Conclusion and Recommendation	EIS concluded that the site CoPC identified at the site could pose a risk to the receptors. The following recommendations were noted: ▪ Undertake a Stage 2 ESA to address the data gaps identified in Section 10.1. The Stage 2 ESA should include soil and groundwater sampling; and ▪ Undertake a Hazardous Materials Assessment (Hazmat) for the existing buildings prior to the commencement of the demolition.
EIS (2017b) Stage 2 Environmental Site Assessment	
Objectives	The main objectives of this investigation were to: ▪ Undertake a search of historical land titles records for three additional lots in order to provide further appraisal of the past site use; ▪ Sample soil from eleven (11) additional boreholes to adequately characterise site contamination and meet the minimum sampling density recommended in the NSW EPA Sampling Design Guidelines (1995); ▪ Convert three (3) boreholes drilled for soil sampling into groundwater monitoring wells; ▪ Assess the soil and groundwater contamination conditions via implementation of a preliminary sampling and analysis program; ▪ Provide a waste classification for off-site disposal of soil; ▪ Update the conceptual site model (CSM) prepared in the Limited ESA if required; ▪ Assess the potential risks posed by contamination to the receptors identified in the CSM (Tier 1 assessment); and ▪ Assess whether the site is suitable or can be made suitable for the proposed development (from a contamination viewpoint).
Scope of Work	The following scope of works was completed: ▪ Review of additional site information (historical land titles records); ▪ Design and implementation of a sampling, analysis and quality plan (SAQP); ▪ Interpretation of the analytical results against the adopted site assessment criteria (SAC); ▪ Assessment of data quality; and ▪ Preparation of an ESA report presenting the results of the assessment, including a CSM and Tier 1 risk assessment.
Principal Findings	EIS findings were as follows: ▪ The assessment did not identify any contaminants over the adopted HIL criteria for soils and groundwater; ▪ Minor elevated levels of copper, nickel and zinc were identified in soils in six boreholes above the EIL criteria. EIS noted that these concentrations were all assessed using the most conservative EIL criteria, and that additional analysis of pH, Cation Exchange Capacity (CEC) and Clay Content may result in the EIL criteria being raised; and ▪ All elevated EIL concentration levels for copper, nickel and zinc with exception to BH112 were found to be within the basement footprint and are likely to be excavated during basement excavations. ▪ Based on the results of the assessment, the fill material is classified as General Solid Waste (non-putrescible); ▪ Natural soil and bedrock at the site meets the definition of VENM for off-site disposal or re-use purposes except for the southern section of the site around BH108 and BH110; ▪ Minor elevations of nickel above the ecological criteria were identified in BH108 and BH110 at depths of 1.5m to 2.2m below existing ground level.
Data Gaps	The remaining data gaps were as follows: ▪ Areas beneath the existing buildings have not been included in the assessment; and ▪ The presence of hazardous building materials in the existing buildings has not been assessed.

Conclusion and Recommendation	EIS concluded that the AEC identified in the CSM pose relatively low risk to the site receptors and the site is considered to be suitable for the proposed development subject to the following conditions: ▪ Undertake some additional analysis to assess whether the fill in the south section can remain on-site; ▪ If the concentrations remain elevated after the additional analysis the fill should be removed as part of the basement excavation; and ▪ Undertake a Hazardous Materials Assessment (Hazmat) for the existing buildings prior to the commencement of demolition work.
JK (2021) Review of Existing Environmental Reports	
Objectives	The main objective of this document was to undertake a review of the existing environmental reports prepared for the site with regards to State Environmental Planning Policy No.55 – Remediation of Land (1998) (SEPP55).
Conclusion and Recommendation	Based on JKs review of the Stage 1 and 2 reports, a number of data gaps remained. Potential risk associated with soils remaining outside the basement footprint has increased as the proposed basement extent had been altered. As a results the following was recommended: ▪ A hazardous building materials survey is to be undertaken prior to demolition and all buildings are to be demolished with regards to the survey report and the relevant guidelines, codes and standards; ▪ Additional sampling and analysis of soils from beneath all building footprints is to occur (preferably following demolition when access becomes available), with an aim of assessing whether these areas are contaminated and also to confirm the waste classification; ▪ Additional characterisation of the soils that fall outside the proposed basement footprint is to occur. ▪ Sampling and analysis must target all CoPC that were identified in the Stage 1 report. A systematic sampling plan should be developed and implemented for these areas in accordance with the relevant sampling guidelines for contaminated site investigations and the National Environment Protection (Assessment of Contamination) Measure 1999 (as amended 2013) (NEPM 2013); ▪ Additional investigation (i.e. via sampling and analysis) of the groundwater is to occur, primarily focussing on assessing the potential occurrence of volatile contaminants including Volatile Organic Compounds (VOCs), Total Recoverable Hydrocarbons (TRHs) and naphthalene. It is noted that VOCs including chlorinated solvents, were listed as CoPC in the Stage 1, however were not included in the Stage 2 analytical schedule; and ▪ Additional characterisation of the soils and bedrock to be excavated for the proposed basement is to occur, with an aim of confirming the waste classification. Preferably this should occur via test pits in order to provide a more comprehensive assessment of the potential occurrence of asbestos (with regards to the NEPM 2013 requirements). Sampling and analysis must target all CoPC that were identified in the Stage 1 report.

4 CONCEPTUAL SITE MODEL

In accordance with the NEPC (2013), a conceptual site model (CSM) was derived from the previous (EIS / JK) investigations.

4.1 SUBSURFACE CONDITIONS

The site lithology generally consists of anthropogenic filling (up to 0.8m thickness), overlying natural, residual, silty clays (from 0.3m below ground level (BGL)) and shale.

4.2 POTENTIAL CONTAMINATION SOURCES

The potential sources of site contamination were:

- The importation of fill soils of unknown origin and quality;
- Potential fuel, oil and chemical leaks / spills from historical vehicle maintenance and associated machinery, and chemicals / chemical stores;
- The application of pesticides underneath building footprints and/or around the site;
- Weathering of hazardous building (construction) materials, including metallic structures and potential asbestos-containing materials (ACM) and lead-based paints; and
- Off-site areas such as services stations.

4.3 OTHER CONTAMINANTS

Per- and Poly- Fluoro alkyl Substances

EPA (2017) requires that per- and poly- fluoro alkyl substances (PFAS) are considered when investigating land contamination. An assessment of the probability for PFAS occurrence is provided in **Table 4-1**. This was based on considerations outlined in the *PFAS National Environmental Management Plan* (NEMP 2020) and the EnRisk (2016) decision tree. In this instance, the potential for PFAS to be present on-site was considered to be moderate as anecdotal information provided by the tenants indicated that soap and detergent production was conducted and subsequently PFAS sampling / analysis of soil and water was warranted.

Table 4-1 PFAS Decision Tree

Preliminary Screening	Probability of Occurrence[1]
Has an activity listed in NEMP (2020) [2] as being associated with PFAS contamination occurred on-site? If so, list activity.	L
Has an activity listed in NEMP (2020) [2] as being associated with PFAS contamination occurred up-gradient or adjacent to the site? If so, list activity.	L
Did fire training involving the use of suppressants occur on-site between 1970 and 2010?	L
Did fire training occur up-gradient or adjacent to the site between 1970 and 2010? [3]	L
Have “fuel” fires ever occurred on-site between 1970 and 2010? (e.g. ignition of fuel (solvent, petrol, diesel, kero) tanks?)	L
Have PFAS been used in manufacturing or stored on-site? [4]	L
Could PFAS have been imported to the site in fill materials from a site with an activity listed in NEMP (2020)?	L

Preliminary Screening	Probability of Occurrence[1]
Could PFAS-contaminated groundwater or run-off have migrated on to the site?	L
Is the site or adjacent sites listed in the NSW EPA PFAS Investigation Program? [5]	L
If the probability is medium or high in any of the rows, does the site analytical suite need to be optimised to include preliminary sampling and testing for PFAS?	**No**

Notes:
1 Probability: L – low (all necessary documentation has been reviewed and there is no recorded instance or compelling rationale); M – moderate (all necessary documentation has been reviewed and there is potential evidence of a recorded instance with compelling rationale); H – high (all necessary documentation has been reviewed and there is evidence of a recorded instance with compelling rationale).
2 Activities listed in Appendix B of NEMP (2020).
3 Runoff from up-gradient PFAS use may impact surface water, soil, sediment and groundwater.
4 PFAS is used wide range of industrial processes and consumer products, including in the manufacture of non-stick cookware, specialised garments and textiles, Scotchguard™ and similar products (used to protect fabric, furniture, leather and carpets from oils and stains), metal plating and in some types of fire-fighting foam. (https://www.nicnas.gov.au/chemical-information/factsheets/chemical-name/perfluorinated-chemicals-pfas)
5 Refer to https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program.

Table 4-2 Emerging or Controlled Chemicals

Chemicals of Concern (CCO or emerging)	Decision
Were aluminium smelter wastes used or stored on site (CCO, 1986)?	No
Do dioxin contaminated wastes (CCO, 1986) have the potential to impact the site?[1]	No
Were organotin products (CCO, 1989) used or stored on site? [2]	No
Were polychlorinated biphenyls (PCBs) used or PCB wastes (CCO, 1997) stored on-site?[3]	No
Were scheduled chemical or wastes (CCO, 2004) used or stored?[4]	Potential for organic pesticides to have been used, or in fill If present typically localised to near surface soil associated with building foundations and footings.
Are other emerging chemicals suspected?[5]	No
If Yes to any questions, has site sampling suite been optimised to include sampling for these chemicals of concern?	**Yes**

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

4.4 CONTAMINANTS OF CONCERN

The contaminants of concern at the site were considered to be:

- **Soil** - heavy metals (HM: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn), total recoverable hydrocarbons (TRH), the monocyclic aromatic hydrocarbon compounds *benzene, toluene, ethyl-benzene* and *xylenes* (BTEX), polycyclic aromatic hydrocarbons (PAH), organochlorine and organophosphorus pesticides (OCP and OPP), polychlorinated biphenyls (PCB) and asbestos.
- **Groundwater** - TRH, volatile organic compounds (VOC, in particular BTEX and chlorinated VOC).

4.5 RECEPTORS AND EXPOSURE PATHWAYS

Refer to **Table 4-3** for a summary of the CSM, including exposure pathways for the identified human and environmental receptors.

Table 4-3 Summary of Conceptual Site Model

Potential Sources	Potential Contaminants	Media	Transport Mechanism	Exposure Pathway	Potential Receptor
▪ Imported fill soils of unknown origin and quality ▪ Hazardous materials present within existing site structures or from demolition of historic structures ▪ Weathering of existing building fabrics containing hazardous substances	HM, TRH, BTEX, PAH, OCP/OPP/PCB and asbestos	Soil	Disturbance of (sub-)surface soils during site redevelopment Future site maintenance / use post development Atmospheric dispersion from soil to outdoor and indoor air spaces Volatilisation of contamination from soil	▪ Ingestion ▪ Dermal contact ▪ Inhalation (dust particulates) ▪ Plant root uptake	▪ Construction / demolition workers ▪ Adjacent site users ▪ Future site users ▪ Planting within landscaping areas ▪ Current site occupants
▪ Contamination from onsite fill soils ▪ Contamination (migration) from offsite sources	TRH, and VOCs	Ground water	Migration in groundwater	▪ Ingestion ▪ Dermal contact ▪ Inhalation of vapours	▪ Construction / maintenance workers ▪ Future land users

5 SAMPLING, ANALYTICAL AND QUALITY PLAN

The sampling, analytical and quality plan (SAQP) plays a crucial role in ensuring that the data collected as part of an environmental investigation are representative and provide a robust basis for site assessment decisions. The SAQP for this ASI included:

- Definition of the data quality objectives (DQO);
- Investigation methodology, including media to be sampled, details of parameters to be monitored and a description of intended sampling points;
- Sampling methods and procedures;
- Field screening methods;
- Analysis methods;
- Sample handling, preservation and storage; and
- Analytical quality assurance / quality control (QA/QC).

5.1 DATA QUALITY OBJECTIVES

In accordance with the USEPA (2006) *Data Quality Assessment* and EPA (2017) *Guidelines for the NSW Site Auditor Scheme*, DQO were developed by the EI investigation team to determine the appropriate level of data quality needed for the specific requirements of the project. The DQO process that was applied for this ASI is documented in **Table 5-1**.

Table 5-1 Data Quality Objectives

DQO Step	Details
1. State the Problem Summarise the contamination problem that will require new environmental data.	The purpose of this ASI was to address data gaps identified in EIS (2017b) and JK (2021) as part of the requirements for Development Application DA452/2021 with Canterbury Bankstown Council. The site was proposed for shop top housing development comprising of residential apartments overlying a three storey basement car park.
2. Identify the Goal of the Study (Identify the decisions) Identify the decisions that need to be made on the contamination problem and the new environmental data required to make them.	Based on the objectives outlined in **Section 1.2**, the decisions that need to be made were: ■ Were the data gaps identified in the EIS (2017b) and JK (2021) affectively closed? ■ Are the site soils and groundwater suitable for the proposed land use? ■ Will site soils and groundwater at the site require further remediation and/or special management before the site can be used for the proposed land use? ■ Does residual contamination beyond site boundaries constitute a significant risk to on-site and off-site receptors such that further investigation and / or remediation are required? ■ Does the collected data provide sufficient information to identify potential soil and groundwater contamination?
3. Identify Information Inputs (Identify inputs to decision) Identify the information needed to support any decision and specify which inputs require new environmental measurements.	Inputs to the decision making included: ■ Data from previous environmental investigations of the property; ■ Laboratory analytical results for additional investigation samples; ■ Site inspections and field records; ■ Assessment of analytical results in relation to the acceptance criteria; and ■ Qualitative assessment of risk with respect to the development layout. At the end of the ASI, a statement had to be made regarding the closure of data gaps and if any additional remedial works are required to make the site suitable.
4. Define the Boundaries of the Study Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision.	*Lateral* – The cadastral boundaries of the site; *Vertical* – Boreholes were advanced to the depth of natural soils, where possible; and *Temporal* – Results are valid on the day of data and sample collection and remain valid as long as no changes occur on site or contamination (if present) does not migrate on site or on to the site from off-site sources.

DQO Step	Details
5. Develop the Analytic Approach (Develop a decision rule) To define the parameter of interest, specify the action level, and integrate previous DQO outputs into a single statement that describes a logical basis for choosing from alternative actions.	Parameters of interest included the contaminants of concern. Laboratory test results were accepted if: ■ All contracted laboratories were accredited by NATA for the analyses undertaken; ■ Laboratory methods were conducted in accordance with NEPC (2013) guidelines; ■ Laboratory and field quality control sample results were within the adopted Data Quality Indicators (DQI); and ■ Laboratory QA/QC protocols and results complied with NEPM requirements. Decision criteria for QA/QC measures are defined by the DQI in **Table 5-2.** The decision rule for the investigation was: ■ If the concentrations of contaminants in the soil and groundwater data exceed the adopted criteria, then assess the need to further investigate the extent of impacts on-site.
6. Specify Performance or Acceptance Criteria (Specify limits on decision errors) Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data.	Specific limits for this project were in accordance with national and EPA guidance, appropriate indicators of data quality and standard procedures for field sampling and handling. This included the following points to quantify tolerable limits: ■ The null hypothesis for the investigation was that the 95% upper confidence limit (UCL) of the mean for each contaminant of concern exceed relevant land use criterion. ■ Acceptance of site suitability was based on the probability that: ‣ The 95% UCL of the mean of the data satisfied the given site criteria (thus, a limit on the decision error was 5% that a conclusive statement may be incorrect); ‣ The standard deviation of the results was less than 50% of the relevant acceptance criterion; and ‣ No single result exceeded the acceptance criterion by 250% or more. ■ Soil and groundwater concentrations for the COPC that were below investigation criteria made or approved by the EPA were treated as acceptable and indicative of suitability for the proposed land use(s).
7. Develop the Detailed Plan for Obtaining Data (Optimise the design for obtaining data) Identify the most resource-effective sampling and analysis design for general data that are expected to satisfy the DQOs.	In order to identify the most resource-effective sampling and analysis design for data that are expected to satisfy the DQOs: ■ Soil sampling was conducted at 9 targeted locations deemed adequate for the purpose of closure of data gaps; ■ In-field screening for VOC contamination, carried out with a portable Photo-Ionisation Detector (PID); ■ An upper soil profile sample was collected at each test pit and analysed for the COPC, to assess the condition of the fill/topsoil layer, and impacts from activities at ground level; ■ A lower (natural) soil sample was analysed for HM, TRH, BTEX, PAH, the selection being based on field observations (including visual and olfactory evidence), giving consideration to the subsurface stratigraphy; ■ Four groundwater monitoring wells were gauged and sampled to assess groundwater quality at the site; and ■ Groundwater samples were tested for the COPC. Review of the results was undertaken to determine if further sampling was warranted.

5.2 DATA QUALITY INDICATORS

To ensure that the results were of an acceptable quality, they were assessed against the DQI outlined in **Table 5-2**. The overall assessment of data quality is discussed in **Appendix F.**

Table 5-2 Data Quality Indicators

QA/QC Component	Data Quality Indicators
Precision – A quantitative measure of the variability (or reproducibility) of data	Data precision was assessed by reviewing the performance of blind field duplicates, through calculation of relative percentage differences (RPD). Data precision was deemed acceptable if RPDs were found to be less than 30%. RPDs that exceeded this range were considered acceptable where: ▪ Results were less than 10 times the limits 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 duplicates; ▪ Field and method blanks, tested for analytes as per the primary samples; ▪ Matrix spike and matrix spike duplicate sample sets; and ▪ Laboratory control samples.
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present on-site	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 relative percentage differences (RPD) values 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 ASI were evaluated as complete upon confirmation that: ▪ Standard operating procedures (SOPs) for sampling were adhered to; and ▪ Copies of all chain of custody (COC) documentation were included and found to be properly completed. It could therefore be considered whether the proportion of "useable data" generated in the data collection activities was sufficient for the purposes of the land use assessment.
Comparability – The confidence (expressed qualitatively) that data are equivalent for each sampling and analytical event	Given that several data sets from separate sampling episodes were required, 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 methodologies will be employed.

6 METHODOLOGY

6.1 SAMPLING RATIONALE

The following sampling rationale was adopted for this ASI:

- Sampling of fill and natural from 9 borehole locations, distributed beneath existing dwelling footprints and in the setback areas ;
- Completion of a single groundwater monitoring event (GME), utilising the two EIS/JK-installed monitoring wells (BH1/3A and BH109/MW2) and two newly constructed monitoring wells installed by EI (BH201M and BH203M);
- Laboratory analysis of soil and groundwater samples for the chemicals of concern (**Section 4.3**).

6.2 ASSESSMENT CRITERIA

The assessment criteria adopted for this ASI were selected from available published guidelines that are endorsed by national or state regulatory authorities, with due consideration of the exposure scenarios that are expected for various parts of the site, the likely exposure pathways, and the identified potential receptors. Refer to **Table 6-1** (soil) and **Table 6-2** (groundwater) for further details.

For the purpose of this ASI, the soil thresholds are termed *Soil Investigation Levels* (SILs), while the groundwater thresholds are termed *Groundwater Investigation Levels* (GILs).

Table 6-1 Adopted Investigation Levels for Soil

Adopted Guidelines	Rationale
NEPC (2013) HILs, HSLs and Management Limits for TRHs	**Soil Health-based Investigation Levels (HILs)** NEPC (2013) *HIL-B* for residential with minimal opportunities for soil access. **Soil Health-based Screening Levels (HSLs)** NEPC (2013) *HSL-A/B* for low-high density residential **Ecological Health based Investigation Levels (EILs) / Ecological Health based Screening Levels (ESLs)** NEPC (2013) EILs/ESLs for urban residential and public open space land use scenarios. Ecological criteria were adopted to assess the potential impact to proposed landscaping areas, where plants could be exposed to soils and where precipitation may result in subsurface infiltration and resulting leaching of soil impacts to groundwater. **Management Limits for Petroleum Hydrocarbons** Where the ESLs and HSLs were exceeded for petroleum hydrocarbons, soil samples were also assessed against the NEPC (2013) *Management Limits* for the TRH fractions F1-F4 to assess propensity for phase-separated hydrocarbons, fire and explosive hazards and adverse effects on buried infrastructure.

Table 6-2 Adopted Investigation Levels for Groundwater

Adopted Guidelines	Rationale
ANZG (2018) GILs for Fresh Waters	**Groundwater Investigation Levels (GILs) for Fresh Water** ANZG (2018) provides GILs for typical, slightly-moderately disturbed aquatic ecosystems, which are based on the ANZECC / ARMCANZ (2000) *Trigger Values*. Generally, the criterion for 95% level of protection was adopted; however, the 99% values were applied for the bio-accumulative metals cadmium and mercury. Fresh water criteria were considered relevant as the closest, potential surface water receptor was Heathcote Brook, followed by Kangaroo Creek.
NEPC (2013) Groundwater HSLs for Vapour Intrusion	**Health-based Screening Levels (HSLs)** The NEPC (2013) *HSL-A&B* thresholds for vapour intrusion were used to assess for potential human health impacts from residual vapours resulting from petroleum hydrocarbon, BTEX and naphthalene impacts.
NEPC (2013) GILs for Drinking purposes	**Recreational Water GILs** The NEPC (2013) *GILs* for recreational water quality were applied for specific parameters relating to secondary contact. These were based on the NHMRC (2011) *Australian Recreational Water Guidelines*.

6.4 SOIL SAMPLING

The soil sampling methodology is described in **Table 6-3**. Test pit locations are illustrated in **Figure 2** and the borehole logs are presented in **Appendix C**.

Table 6-3 Summary of Soil Sampling Methodology

Activity	Details
Fieldwork	Intrusive borehole drilling and soil sampling were conducted on 15 October 2021, at 9 selected borehole locations (HA1 – HA6 and BH201M – BH203M). Boreholes were drilled to depths of 0.5m into natural material with exception to location HA1. Soil vapour (headspace) screening was performed in-field. Borehole details, with PID results, are presented in borehole logs attached in **Appendix C**.
Method	Test bores were drilled using a ute mounted drill rig fitted with a solid flight auger in conjunction with hand auguring. Two boreholes (BH201M and BH203M) were converted into groundwater monitoring wells. BH202M was unable to be converted to a monitoring well due to refusal on shale. Prior to drilling, the bore locations were checked for underground services by reference to *Dial-Before-You-Dig* plans and electro-magnetic equipment operated by a licensed services locator.
Soil Logging	Examined soils were classified in-field for their lithological characteristics by experienced field engineers and evaluated on a qualitative basis for odour and visual signs of contamination. Soil classifications were based on Australian Standard (AS) 1726-2017. They are included in the test pit logs in **Appendix C**.
Soil Sampling	Soil samples were obtained from the boreholes at various depths ranging between 0.2-1.2m BGL. They were collected by dry grab method (the sampler wearing previously unused, dedicated nitrile gloves) and placed into laboratory-supplied, acid-washed, solvent-rinsed glass jars, or snap-lock, plastic bags. 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 in-field, soil headspace screening for VOC.
Filed Screening with PID	Screening for VOC in soil headspace samples was conducted on 15 October 2021 using a pre-calibrated photo-ionisation detector (PID) with a 10.6mV ionisation lamp (calibration certificate attached in **Appendix D**).
Decontamination Procedures	Nitrile sampling gloves were replaced between each sampling location. The sampling equipment (hand auger) was decontaminated between uses by washing in a solution of potable water and *Decon 90*, and then rinsed with potable water.
Sample Preservation	Samples were stored in an insulated chest (with ice packs), whilst on-site and in transit to the contracted laboratories. Soil samples were transported to SGS Australia Pty Ltd (SGS; the primary laboratory) under strict chain-of-custody (COC) conditions. Signed COC certificates and sample receipt advice (SRA) were provided by SGS for confirmation purposes (**Appendix E**). Split (inter-laboratory) field duplicates were submitted to Envirolab Services Pty Ltd (Envirolab; the secondary laboratory) under strict COC conditions. Signed COC forms and SRA were provided by Envirolab for confirmation purposes (**Appendix E**).

Activity	Details
Quality Control and Laboratory Analysis	Soil samples were analysed by SGS and Envirolab for the COPC. All samples were analysed within the required holding period, as documented in the corresponding laboratory reports (**Appendix E**). In addition to the split (inter-laboratory) field duplicates (QT1 and GW-QT1; analysed by Envirolab), QC testing comprised blind (intra-laboratory) field duplicates (QD1 and GWQD1), equipment rinsate blanks, laboratory-prepared, trip spike samples and laboratory-prepared, trip blank samples, all analysed by SGS.

6.5 GROUNDWATER SAMPLING

The groundwater sampling methodology is described in **Table 6-4**. Refer to **Appendix D** for the Field Data Sheets.

Table 6-4 Summary of Groundwater Sampling Methodology

Activity/Item	Details
Fieldwork	The two EIS/JK groundwater monitoring wells (BH1/3A and BH109/MW2) and two newly installed EI monitoring wells (BH201M and BH203M) were sampled on 21 October 2021. The wells were developed a week prior, on 15 October 2021, to remove sediment and stagnant water. Water level gauging and field testing also occurred on 21 October 2021.
Well Development	Well development involved the removal of water and accumulated sediment using a 12V, HDPE submersible bore pump (*Proactive Environmental*, model *Super Twister*). Pumping was continued after removal of several well volumes, or until the monitoring well was dry.
Well Survey	No well survey was completed for this ASI.
Well Gauging	Monitoring wells were gauged for standing water level (SWL) prior to purging at the commencement of the GME on 21 October 2021. Gauging was conducted with a water/oil interface probe.
Well Purging and Field Testing	Purging involved the removal of at least three well volumes. No volatile (organic) odour was detected during any stage of well purging or sampling. The measurement of water quality parameters was conducted repeatedly during purging and the details were recorded onto field data sheets (**Appendix D**). The measured parameters were temperature (T), reduction-oxidation potential (Redox), dissolved oxygen (DO), electrical conductivity (EC) and pH. Once three consecutive field measurements were recorded (± 10% for DO, ± 3% for EC , ± 0.2 for pH, ± 0.2° for temperature and ± 20mV for redox), this was considered to indicate representative groundwater quality and sample collection could commence.
Groundwater Sampling	Groundwater was sampled using a micro-purge system. A representative groundwater sample was then collected from the micro-purge sampling pump discharge point. Sample containers were supplied by the laboratory with the following preservatives: ▪ one, 1 litre amber glass, acid-washed and solvent-rinsed bottle; ▪ two, 40mL glass vials, pre-preserved with dilute hydrochloric acid, Teflon-sealed; ▪ one, 250mL, HDPE bottle, pre-preserved with dilute nitric acid (1mL). Samples for metals analysis were field-filtered using 0.45 µm pore-size membranes. All containers were filled with sample to the brim then capped.
Decontamination Procedure	The water level probe and MicroPurge kit were washed in a solution of potable water and *Decon 90*, then rinsed with potable water.

Activity/Item	Details
Sample Preservation	All water samples were stored in insulated chests (containing ice bricks), until completion of the fieldwork and during sample transit to the laboratory.
Sample Transport and Analysis	After sampling, the chilled chests were transported to SGS using strict COC procedures. SRA was provided by the laboratory to document sample condition upon receipt. Copies of the SRA and COC certificates are presented in **Appendix E**. A split (inter-laboratory) field duplicate was submitted to Envirolab under strict COC conditions. Signed COC certificates and sample receipt documentation were provided by Envirolab for confirmation purposes (**Appendix E**).

7 RESULTS

7.1 SUBSURFACE CONDITIONS

Based on the test pit logs from this ASI (**Appendix C**), the soil profile for the southern part of the site was as follows:

- Fill soils (to 0.8m BGL):
  - Gravelly CLAY; low to medium plasticity, fine to coarse sub-angular to angular gravels, with sand fine to medium grain, brown with brick and concrete fragments;
  - Gravelly SAND; fine to coarse sub angular to angular gravels, fine to medium sand brown with slag;
  - Clayey SAND; fine to medium grained, brown, low plasticity clays, orange with slag
- Natural soils:
  - Silty CLAY; medium to high plasticity, red to brown, trace rootlets
  - SHALE; extremely weathered, pale brown.

7.2 FIELD OBSERVATIONS

All examined soil samples were evaluated on a qualitative basis for odour and visual signs of contamination and the following observations were noted:

- No oil-like staining or unusual colouration was detected;
- No potential asbestos containing material or suspicious odour was detected;
- Construction waste (e.g. brick, concrete and tiles) and gravels were observed within the fill material;
- Slag was observed within the fill material within location HA4; and
- A selection of the photographs taken during the investigation is presented in **Appendix B**.

7.3 GROUNDWATER FIELD RESULTS

Monitoring Well Construction

Two groundwater monitoring wells was installed on 15 October 2021. Construction details for the well are summarised in **Table 7-1**.

Table 7-1 Monitoring Well Construction Details

Well	Depth to water[1] (m BGL)	Total well depth (m BGL)	Screen Interval (m BGL)	Volume Developed [2] (L)	Lithology Screened
BH201M	No water encountered	4.8	1.8-4.8	Until dry	Shale
BH203M	No water encountered	5.9	2.9-5.9	Until dry	Shale

Notes:
[1] Depth groundwater struck (first water) – depth at point where wet drill cuttings were first observed
[2] Approximate volume of water removed during well development

Field Observations and Water Quality Parameters

A GME was conducted on 21 October 2021. Field data recorded before sampling are presented in **Table 7-2**. Field data sheets are attached in **Appendix D**. Purged and sampled waters were evaluated on the basis of odour and visual signs of contamination, with the following observations noted:

- Groundwater was observed to be clear and had low turbidity.
- No olfactory or visual evidence of contamination was detected in the wells.
- No sheens were observed on the purged and sampled groundwater.

Table 7-2 Groundwater Field Data

Well	SWL [1] (m BGL)	DO (mg/L)	pH	EC (µS/cm)	T (°C)	Redox [2] (mV)
BH201M	3.36	0.00	5.29	4251	22.62	400.3
BH203M	2.09	0.73	5.14	7059	23.95	403.1
BH1/MW3A	3.35	0.00	7.37	3241	24.81	214.9
BH109/MW2	1.15	0.09	4.72	666	24.26	384.2

Notes:
[1] SWL values obtained by subtracting SWL measured at the top of casing, less stand pipe length
[2] Field redox (mV) readings adjusted to Standard Hydrogen Electrode by adding field electrode potential of 205mV.

7.3 LABORATORY ANALYTICAL RESULTS

Soil Analytical Results

The laboratory analytical results for the representative soil samples are presented in **Tables T.1**. Summary of the findings are given in **Tables 7-1**. Refer also to **Figures 2** for the sampling plan.

Table 7-1 Summary of borehole results

No. of Primary Samples	Analyte	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Sample Locations Exceeding Investigation Levels
Heavy Metals				
15	Arsenic	3	12	None
15	Cadmium	<0.3	1	None
15	Chromium (Total)	1.7	19	None
15	Copper	4.6	65	None
15	Lead	<1	1,100	None
15	Nickel	1.4	48	None
15	Zinc	<2	640	None
15	Mercury	<0.05	0.16	None
TRH and VOC (including BTEX)				
15	TRH C_6-C_{10} F1	<25	<25	None
15	TRH >C_{10}-C_{16} F2	<25	<25	None
15	TRH >C_{16}-C_{34} F3	<90	<90	None
15	TRH >C_{34}-C_{40} F4	<120	<120	None
15	Benzene	<0.1	<0.1	None

No. of Primary Samples	Analyte	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Sample Locations Exceeding Investigation Levels
15	Toluene	<0.1	<0.1	None
15	Ethylbenzene	<0.1	<0.1	None
15	Total Xylenes	<0.3	<0.3	None
PAH				
15	Benzo(a)pyrene	<0.1	0.2	None
15	Carcinogenic PAH	<0.3	3	None
15	Naphthalene	<0.1	<0.1	None
15	Total PAH	<0.8	28	None
Asbestos				
10	Asbestos (presence / absence)	No	No	None
OCP				
10	Total OCP	<1	11	None
OPP				
10	Total OPP	<1.7	<1.7	None
PCB				
10	Total PCB	<1	<1	None

Leaching potential (TCLP) of lead and nickel was assessed in various sampled due to elevated concentrations: TCLP analysis for lead at sampling locations HA2_0.6-0.7 (0.33mg/L), BH201M_0.2-0.3 (0.08mg/L), and HA1_0.3-0.4 (0.06mg/L) and TCLP analysis for nickel sampling location BH202M_0.3-0.4 (0.06mg/L).

Groundwater Analytical Results

The laboratory analytical results for the groundwater samples are presented in **Table T.2**. All groundwater sample results were below the corresponding GILs. Refer also to **Figures 2** for the sampling plan.

No. of Primary Samples	Analyte	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Sample Locations Exceeding Investigation Levels
TRH and VOC (including BTEX)				
4	TRH C_6-C_{10} F1	<50	<50	None
4	TRH >C_{10}-C_{16} F2	<60	<60	None
4	TRH >C_{16}-C_{34} F3	<500	<500	None
4	TRH >C_{34}-C_{40} F4	<500	<500	None
4	Benzene	<0.5	<0.5	None
4	Toluene	<0.5	<0.5	None
4	Ethylbenzene	<0.5	<0.5	None
4	o-xylene	<0.5	<0.5	None
4	m/p-xylene	<1.0	<1.0	None
4	Total Xylenes	<1.5	<1.5	None

No. of Primary Samples	Analyte	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Sample Locations Exceeding Investigation Levels
4	Total VOCs	<10	<10	None

8 SITE CHARACTERISATION

8.1 CHARACTERISATION OF SOILS

With reference to the previous and current data, **Table 1** and **Figure 2**, the following observations were made:

Priority Metals

All priority metal concentrations within the proposed basement footprint and setback areas were below the corresponding SILs.

PAHs, TRHs and BTEX

All PAHs, TRH and BTEX concentrations within the proposed basement footprint and setback areas were below the corresponding SILs.

OCPs, OPPs and PCBs

The concentrations of all screened OCPs, OPPs and PCBs within the proposed basement footprint and setback areas were below the corresponding SILs.

Asbestos

Asbestos was not detected in any soil samples.

In additional soil samples within the proposed landscaping areas were below the adopted ecological criteria.

8.2 GROUNDWATER QUALITY

Priority Metals

EIS (2017b) investigation reported concentrations of priority metals chromium (2µg/L), copper (2µg/L, 3µg/L and 5µg/L) and Zinc (83µg/L, 58µg/L and 17µg/L) exceeded the corresponding GILs for the adopted freshwater criteria.

The chromium, copper and zinc levels were considered to be representative of natural (background) conditions for urbanised parts of Sydney and did not pose environmental concern (at least with respect to the proposed land use).

In light of these considerations, EI did not regard the elevated metal concentrations to be a cause of concern.

Hydrocarbons – TRH and PAH

All TRH and PAH concentrations were found to be below the laboratory LOR and thus below the corresponding GILs.

VOC

The concentrations of all VOC, including BTEX and chlorinated VOC, were found to be below the laboratory LOR and thus below the corresponding GILs.

8.3 WASTE CLASSIFICATION OF SOILS

Based on the previous investigations and with reference to the additional data gathered during this ASI, at the time of reporting fill material is classified as both General Solid Waste (non-putrescible) and General Solid Waste (non-putrescible) – Schedule Waste.

8.4 HAZARDOUS MATERIALS SURVEY

A hazardous materials survey was completed on all existing building structures at the commencement of the investigation. This survey identified asbestos containing materials (ACM), lead based paints, synthetic mineral fibre materials (SMF), and potential Polychlorinated Biphenyls (PCBs) within the existing building structures and can be identified as EI *Hazardous Materials Survey, 64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW* Ref. E25377.E10_Rev0, dated 1 November 2021.

8.5 REVIEW OF CONCEPTUAL SITE MODEL

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

9 CONCLUSION

At the request of Lakemba St Development Pty Ltd, EI completed an Additional Site Investigation with the purpose to address the data gaps identified within EIS (2017b) and recommendations made in JK (2021).

The key findings of this ASI were as follows:

- A hazardous materials survey was completed at the site. This survey identified asbestos containing materials (ACM), lead based paints, synthetic mineral fibre materials (SMF), and potential Polychlorinated Biphenyls (PCBs) within the existing building structures;
- No unusual (suspicious / hydrocarbon) odours were detected during the intrusive site works or visits;
- Sub-surface conditions for the site consisted of fine to medium grained sands, low to medium plasticity clays, gravels, with trace levels of slag and silty clays with shale at depth;
- Concentrations of COPCs in representative soil samples were all below the adopted soil investigation levels applicable to the proposed development; and
- Contaminant concentrations in the representative groundwater samples were found to comply with the adopted investigation levels, with exception to dissolved chromium, copper and zinc however were considered reflective of background concentrations. Upon assessment of the data, EI did not consider local groundwater conditions to pose a risk to human health, the environment or the proposed development.

Based on the findings of this investigation and with consideration of EI's statement of limitations, EI conclude that the data gaps, noted in **Section 1.2**, have been addressed and the site is suitable for the proposed housing development comprising of residential apartments overlying a three storey basement car park.

It is recommended that a hazardous materials clearance inspection be undertaken by a suitably qualified occupation hygienist following demolition. It is also recommended that all surplus soils are waste classified in accordance with the Waste Classification Guidelines (EPA, 2014) by a suitably qualified environmental consultant / occupation hygienist prior to off-site disposal.

10 LIMITATIONS

This report has been prepared for the exclusive use of Lakemba St Development Pty Ltd, whom is the 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 Lakemba St Development 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 program.

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

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

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

This report was prepared for Lakemba St Development Pty Ltd 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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Figures

Figure 1 Site Locality Plan
Figure 2 Sampling Location Plan
Figure 3 Exceedance Plan

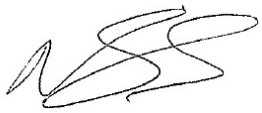
Tables

Table T.1 Summary of Additional Site Investigation Results
Table T.2 Summary of Groundwater Analytical Results
Table T.3 QA/QC Results for Soil Samples
Table T.4 QA/QC Results for Groundwater Samples

Appendices

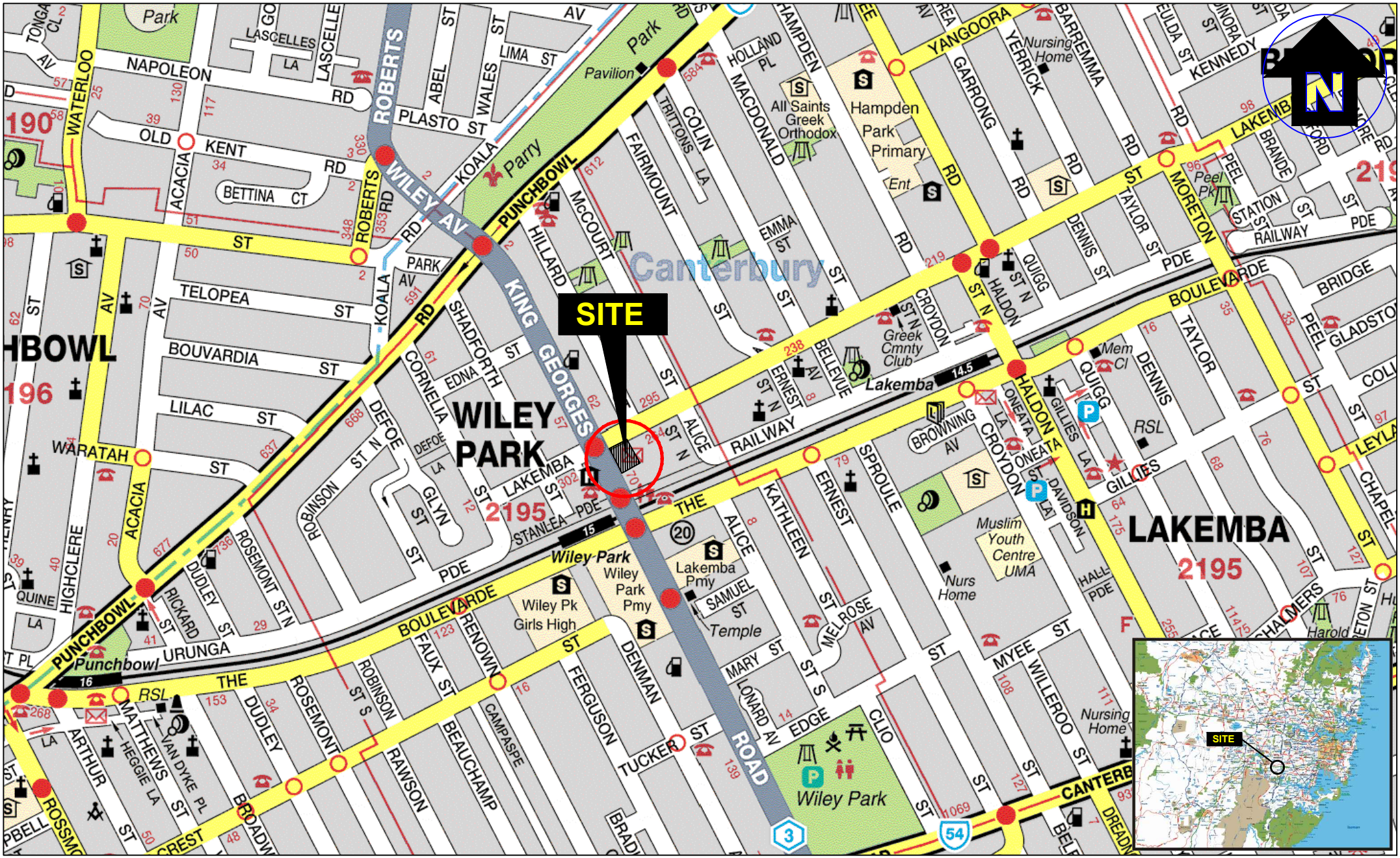
Appendix A Development Plans
Appendix B Site Photographs
Appendix C Borehole Logs
Appendix D Field Data Sheets
Appendix E Laboratory Documentation
Appendix F QA/QC Assessment
Appendix G Laboratory QA/QC and DQOs

Document Control

Author	**Technical Reviewer**
	
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Revision	**Details**	**Date**	**Amended By**
0	Original	1 November 2021	-

FIGURES



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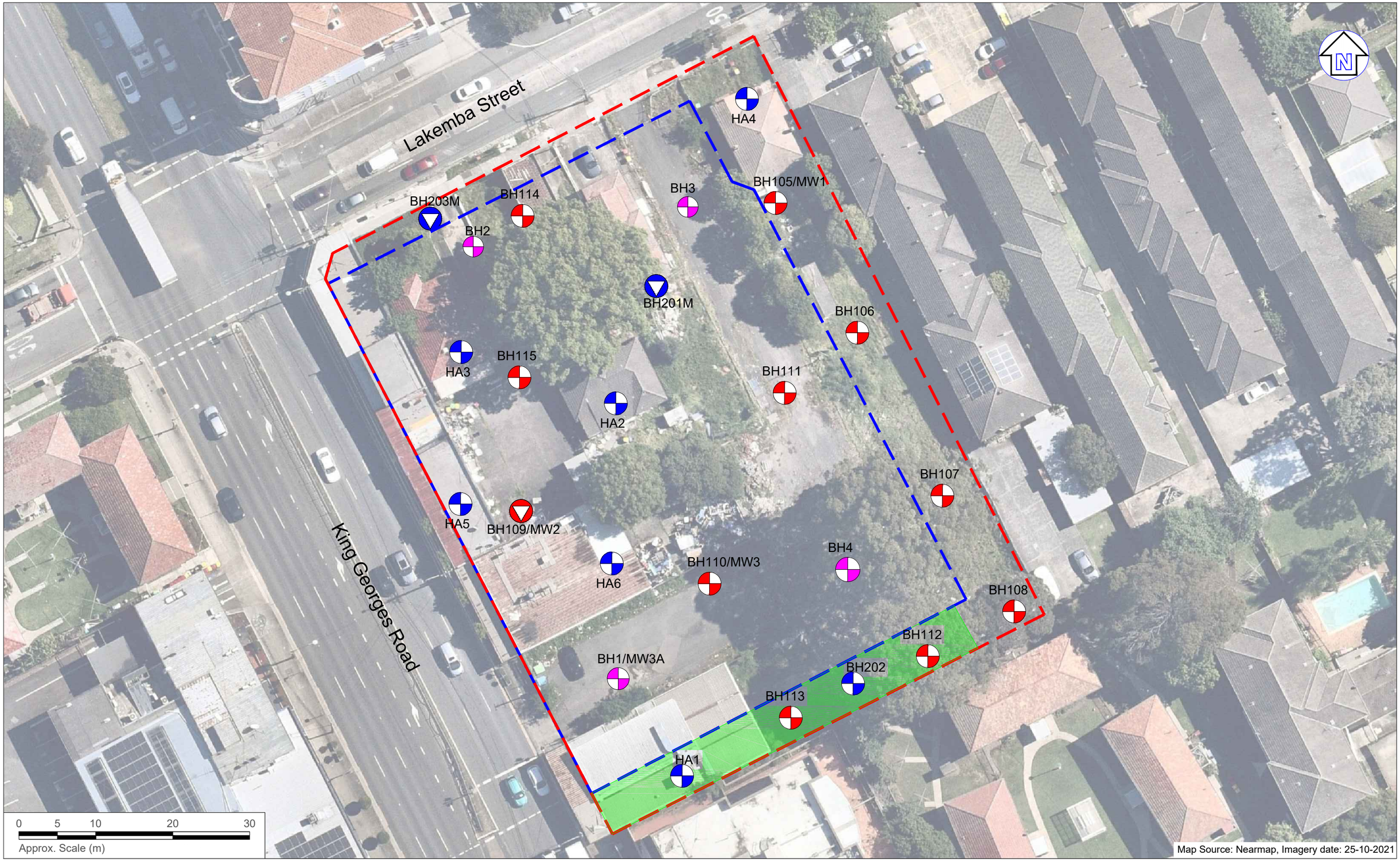
Drawn:	L.C.
Approved:	E.W.
Date:	1-11-21
Scale:	Not To Scale

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Additional Site Investigation
64-70 King Georges Rd & 280-300 Lakemba St,
Wiley Park NSW

Site Locality Plan

Figure:
1

Project: E25377 E03_Rev0



LEGEND **(All locations are approximate)**

- Site boundary
- Proposed basement boundary
- Borehole location (EI, 2021)
- Borehole location / monitoring well location (EI, 2021)
- Previous borehole location (EIS, 2017b)
- Previous borehole location / monitoring well location (EIS, 2017b)
- Borehole location (EIS, 2017a)

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Additional Site Investigation
64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park NSW

Sampling Location Plan

Figure: 2

Project: E25377 E03_Rev0

TABLES

Table B.1 – Summary of Soil Test Results

E25377 - Wiley Park

Sample ID	Sample Material	Sampling Date	Metals										PAHs				BTEX				TRHs				Pesticides		Total PCBs	pH	Cation Exchange Capacity (CEC)	Clay Content	Asbestos
			As	Cd	$Cr^{\#}$	Cu	Pb	TCLP Pb	Hg	Ni	TCLP Ni	Zn	Carcinogenic PAHs (as B(a)P TEQ)	Benzo(a)pyrene	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4	OCPs	OPPs					Presence / absence
EI Australia 2021 (Current Investigation)																															
Proposed Basement Footprint																															
HA2_0.6-0.7	Fill	15/10/2021	7	1	14	65	1,100	0.33	<0.05	5.7	NA	640	<0.3	0.1	1.4	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	11	<1.7	<1	NA	NA	NA	No
HA2_1.1-1.2	Natural		9	<0.3	21	7	18	NA	<0.05	2.6	NA	21	<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	NA
HA3_0.5-0.6	Fill		7	<0.3	12	6.1	18	NA	<0.05	3.3	NA	20	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	NA	NA	NA	No
HA3_0.7-0.8	Natural		8	<0.3	19	4.6	11	NA	<0.05	1.4	NA	14	<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	NA
HA4_0.12-0.2	Fill		5	<0.3	9.6	8.9	13	NA	0.16	5.9	NA	9.2	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	NA	NA	NA	No
HA4_0.4-0.5			7	<0.3	9.6	8.3	40	NA	<0.05	3.6	NA	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	NA	NA	NA	No
HA4_0.6-0.7	Natural		9	<0.3	13	5.7	15	NA	<0.05	1.9	NA	15	<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	NA
HA5_0.1-0.2	Fill		4	<0.3	1.7	11	<1	NA	<0.05	0.9	NA	<2	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	NA	NA	NA	No
HA6_0.2-0.3			3	<0.3	2.1	8.9	3	NA	0.05	1.1	NA	6.4	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	NA	NA	NA	No
HA6_0.4-0.5	Natural		11	<0.3	14	9	11	NA	<0.05	2.4	NA	15	<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	NA
BH201M_0.2-0.3	Fill		12	0.5	14	56	300	0.08	<0.05	15	NA	590	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	7	<1.7	<1	NA	NA	NA	No
BH203M_0.2-0.3			6	<0.3	15	34	100	NA	<0.05	6.1	NA	130	<0.3	0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	NA	NA	NA	No
Proposed Setback Area																															
HA1_0.3-0.4	Fill	15/10/2021	4	0.4	13	47	150	0.06	<0.05	7	NA	240	3	0.2	28	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	2	<1.7	<1	8.8	24	3	No
BH202M_0.3-0.4			3	<0.3	5.4	54	3	NA	0.07	48	0.06	32	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	7.7	15	16	No
BH203M_0.9-1.0	Natural		11	<0.3	14	15	13	NA	<0.05	2.4	NA	21	<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	NA
EIS/JK Investigation 2017 (Stage 1 & 2 Previous Investigation)																															
Proposed Basement Footprint																															
BH1_0.1-0.2	Fill	29/05/2017	<PQL	<PQL	13	81	5	NA	<PQL	50	NA	44	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	No
BH1_0.5-0.95	Natural		22	<PQL	11	21	10	NA	<PQL	4	NA	29	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH2_0.0-0.2	Fill		<PQL	<PQL	27	18	30	NA	<PQL	26	NA	57	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	No
BH3_0.1-0.2	Fill		<PQL	<PQL	12	73	2	NA	<PQL	63	NA	38	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	No
BH3_0.5-0.95	Natural		11	<PQL	24	11	13	NA	<PQL	4	NA	13	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH4_0.1-0.2	Fill		<PQL	<PQL	10	72	2	NA	<PQL	67	NA	35	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	No
BH105_0.0-0.2	Fill	27/09/2017	9	0.6	16	41	190	0.03	<PQL	8	NA	220	0.2	0.2	1.3	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	210	<PQL	NA	NA	NA	NA	NA	No
BH105_2.0-2.2	Natural		10	<PQL	17	16	17	NA	<PQL	7	NA	60	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH106_0.0-0.2	Fill		13	0.4	18	55	150	<PQL	0.4	14	NA	190	0.66	0.66	4.86	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	210	<PQL	NA	NA	NA	NA	NA	NA	No
BH107_0.0-0.2	Fill		12	0.5	19	43	150	<PQL	<PQL	12	NA	180	0.1	0.1	1	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	260	110	NA	NA	NA	NA	NA	NA	No
BH108_0.0-0.2	Fill		16	0.5	18	41	180	0.04	<PQL	14	NA	230	0.07	0.07	0.27	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	590	210	NA	NA	NA	NA	NA	NA	No
BH108_1.5-1.7	Natural		5	<PQL	9	56	34	NA	<PQL	47	0.04	130	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH109_0.2-0.4	Fill		10	1	23	140	260	0.04	0.2	13	NA	430	0.08	0.08	0.28	LPQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	No
BH109_1.8-2.0	Natural		18	<PQL	6	16	11	NA	<PQL	12	NA	88	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH110_0.2-0.4	Fill		9	<PQL	18	23	19	NA	<PQL	26	NA	58	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	No
BH110_2.0-2.2	Natural		12	<PQL	8	24	13	NA	<PQL	37	NA	160	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH111_0.2-0.4	Fill		<PQL	<PQL	11	58	11	NA	<PQL	50	0.05	44	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	No
BH111_1.3-1.5	Natural		13	<PQL	10	13	8	NA	<PQL	6	NA	39	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH114_0.0-0.2	Fill		7	<PQL	14	18	380	0.2	<PQL	7	NA	170	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	No
BH114_1.3-1.5	Natural		5	<PQL	7	15	9	NA	<PQL	2	NA	16	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	NA
BH115_0.2-0.4	Fill		7	<PQL	16	16	30	NA	<PQL	8	NA	47	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	No
Proposed Setback Area																															
BH112_0.2-0.4	Fill	27/09/2017	<PQL	<PQL	11	56	6	NA	<PQL	52	0.02	35	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	No
BH113_0.0-0.2	Fill		8	<PQL	14	45	91	NA	<PQL	9	NA	160	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	NA	NA	NA	NA	NA	NA	No
Statistical Analysis																															
Maximum Concentration (Proposed Basement)			22	1	27	140	1100	0.33	0.4	67	0.05	640	0.66	0.66	4.86	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	590	210	11	<1.7	<1	NA	NA	NA	No
Maximum Concentration (Proposed Setback Area)			11	0.4	14	56	150	0.06	0.07	52	0.06	240	3	0.2	28	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	2	<1.7	<1	8.8	24	16	No
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										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								0.01 / 0.001
			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								
EILs / ESLs - *Urban residential and public open space* [1,2]			105		250	220	1,200			175		475		0.7			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 exceed EILs and ESLs

Concentration exceeds highlighted criteria

Results are recorded in mg/kg

HIL A	NEPC 1999 Amendment 2013 'HIL A' - Health based Residential with garden / accessible soil, also includes children's day care centres, preschools and primary schools.
HIL B	NEPC 1999 Amendment 2013 'HIL B' - Health based Residential with minimal opportunities for soil access including dwellings with fully and permanenetly paved yard space such as high-rise buildings and apartments.
HSL A & B	NEPC 1999 Amendment 2013 'HSL A & B' Health Based Screening Levels applicable for vapour intrusion values applicable for low-high density residential settings.
HSL D	NEPC 1999 Amendment 2013 'HSL D' Health Based Screening Levels applicable for vapour intrusion values applicable for commercial / industrial settings.
#	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) for a high traffic NSW suburb.
3	NSW EPA Scheduled Chemical Wastes Chemical Control Order 2004. Section 4.14
4	NSW EPA Polychlorinated Biphenyl (PCB) Chemical Control Order 1997. Where PCBs are reported at concentrations >2 mg/kg and <50 mg/kg, material is *non-scheduled PCB waste* . Where PCBs are reported at concentrations >50 mg/kg, material is *scheduled PCB waste* .
5	ENM Exemption and Order (NSW EPA, 2014).
F1	To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
F2	To obtain F2 subtract naphthalene from the >C10-C16 fraction.
F3	(>C16-C34)
F4	(>C34-C40)

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Table 2 – Summary of Analytical Results: Groundwater

E25377 - Wiley Park

Sample Identification	Date	Heavy Metals											BTEX							TRHs				
		As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Total PAHs	Benzo(a)pyrene	Naphthalene	Benzene	Toluene	Ethylbenzene	o-xylene	m-xylene	p-xylene	Total Xylene	F1	F2	F3	F4	Total VOCs
EI (2021) Current Investigation																								
BH201M	21/10/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	<1		<1.5	<50	<60	<500	<500	<10
BH203M		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	<1		<1.5	<50	<60	<500	<500	<10
BH1/MW3A		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	<1		<1.5	<50	<60	<500	<500	<10
BH109/MW2		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	<1		<1.5	<50	<60	<500	<500	<10
EIS/JK (2017) Previous Investigation																								
BH105/MW1	4/10/2017	<PQL	<PQL	<PQL	2	<PQL	<PQL	5	83	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL		<PQL	<PQL	<PQL	<PQL	<PQL	NA
BH109/MW2		1	<PQL	2	3	<PQL	<PQL	10	58	0.13	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL		<PQL	<PQL	<PQL	<PQL	<PQL	NA
BH110/MW3		3	<PQL	<PQL	5	<PQL	<PQL	4	17	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL		<PQL	<PQL	<PQL	<PQL	<PQL	NA
Statistical																								
Maximum Concentration		3	<PQL	2	5	<PQL	<PQL	10	83	0.13	<PQL	<PQL	<0.5	<0.5	<0.5	<0.5	<1		<1.5	<50	<60	<500	<500	<10
GILs																								
ANZG (2018)	**Fresh Water**	24 (As III) 13 (As V)	0.2	1.0 (Cr VI)	1.4	3.4	0.6	11	8		0.1	16	950	180	80	350	75	200		50	60	500	500	
	Marine Water		5.5	27.4 (CrIII) 4.4 (Cr VI)	1.3	4.4	0.4	70	15			70	700		5									

Notes: All values are µg/L unless stated otherwise

Highlighted indicates analyte concentration value exceeding the adopted human health criteria

Highlighted indicates ecological criteria exceeded

Highlighted indicates criteria exceeded

1 NEPC 1999 Amendment 2013 'HSL A&B' - Groundwater Health Screening Levels for vapour intrusion at the contaminant source depths for for commercial / industrial.

2 ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian and New Zealand and Australian State and Territory Governments, August 2018. ANZG (2018) Marine Water Quality is applicable for assessment purposes, where not available the ANZG (2018) Fresh Water Quality Criteria can be applied.

3 NHMRC (2008) Recreational Water Guidelines are based on current Australian Drinking Water Guidelines multiplied by a factor of 10. Current Drinking Water Guidelines are the NHMRC & NRMMC (2017) Australian Drinking Water Guidelines, Version 3.4 Updated

4 C6-C10 minus BTEX.

F1 >C10-C16 minus Naphthalene.

F2 >C16-C34

F3 >C34-C40

F4 Silica Gel Clean-up

*

Table T-3. Summary of QA/QC Results for Soil Samples
Site: 64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW
Job No: E25377.E03

Date	Sample Identification	Description	TRH				BTEX				Heavy Metals							
			F1	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate																		
15/10/2021	BH201M_0.3-0.4	Primary Soil Sample	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	12	0.5	14	56	300	<0.05	15	590
15/10/2021	QD1	Intra-laboratory duplicate of BH201M_0.3-0.4	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	11	<0.3	13	29	150	<0.05	9.1	330
		RPD	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*8.70*	61.54	*7.41*	63.53	66.67	*38.46*	*48.96*	56.52
Inter-laboratory Duplicate																		
15/10/2021	BH201M_0.3-0.4	Primary Soil Sample	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	12	0.5	14	56	300	<0.05	15	590
15/10/2021	QT1	Inter-laboratory duplicate of BH201M_0.3-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<3	14	0.5	20	43	230	<0.1	20	530
		RPD	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*35.29*	*26.26*	*26.42*	*0.00*	*12.90*	*10.71*
Trip Blanks																		
15/10/2021	QTS1	Soil	-	-	-	-	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-
Trip Spikes																		
15/10/2021	QTB1	Soil	-	-	-	-	[95%]	[95%]	[95%]	[95%]	-	-	-	-	-	-	-	-
Rinsate Blanks																		
15/10/2021	QR1	De-ionised water	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	<5
15/10/2021	QRB1	De-ionised water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

F1 = TRH C6-C10 less the sum of BTEX
F2 = TRH >C10-C16 less naphthalene
F3 = TRH >C16-C34
F4 = TRH >C34-C40

Table T-4. Summary of QA/QC Results for Groundwater Samples
Site: 64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW
Job No: E25377.E03

Date	Sample Identification	Description	TRH			
			F1	F2	F3	F4
Intra-laboratory Duplicate						
21/10/2021	BH203M	Primary Water Sample	<50	<60	<500	<500
21/10/2021	GW-QD1	Intra-laboratory duplicate of BH3M	<50	<60	<500	<500
RPD			*0.00*	*0.00*	*0.00*	*0.00*
Inter-laboratory Duplicate						
21/10/2021	BH203M	Primary Water Sample	<50	<60	<500	<500
21/10/2021	GW-QT1	Inter-laboratory duplicate of BH3M	<10	<50	<100	<100
RPD			*0.00*	*0.00*	*0.00*	*0.00*
Trip Blanks						
21/10/2021	GW-QTB1	Water	-	-	-	-
Trip Spikes						
21/10/2021	GW-QTS1	Water	-	-	-	-
Rinsate Blanks						
21/10/2021	GW-QR1	De-ionised water	<50	<60	<500	<500
21/10/2021	GW-QRB1	De-ionised water	-	-	-	-

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

F1 = TRH C6-C10 less the sum of BTEX
F2 = TRH >C10-C16 less naphthalene
F3 = TRH >C16-C34
F4 = TRH >C34-C40

APPENDIX A – DEVELOPMENT PLANS

280-300 LAKEMBA ST &
64-70 KING GEORGES RD
WILEY PARK, NSW

DA DRAWING LIST

DA0.00 PRELIMINARIES
DA0.00 COVER SHEET C

DA1.00 SITE PLANS
DA1.01 DEMOLITON PLAN A

DA2.00 FLOOR PLANS
DA2.01 PLAN LEVEL B3 C
DA2.02 PLAN LEVEL B2 C
DA2.03 PLAN LEVEL B1 C
DA2.04 PLAN LEVEL B0 C
DA2.05 PLAN LEVEL 00 C
DA2.06 PLAN LEVEL 01 C
DA2.07 PLAN LEVEL 02 C
DA2.08 PLAN LEVEL 03 C
DA2.09 PLAN LEVEL 04 C
DA2.10 PLAN LEVEL 05 C
DA2.11 PLAN LEVEL 06 C
DA2.12 PLAN LEVEL 07 C
DA2.14 PLAN LEVEL ROOF C

DA3.00 SECTIONS
DA3.01 SECTION A-A C
DA3.02 SECTION B-B C
DA3.03 SECTION C-C C
DA3.04 STREETSCAPE SECTIONS C
DA3.05 CROSS SECTIONS A

DA4.00 ELEVATIONS
DA4.01 ELEVATION - SOUTH WEST - KING GEORGE RD C
DA4.02 ELEVATION - NORTH WEST - LAKEMBA ST C
DA4.03 ELEVATION NORTH-EAST C
DA4.04 ELEVATION SOUTH-EAST C
DA4.05 ELEVATION SOUTH-WEST INTERNAL C
DA4.06 ELEVATION NORTH-EAST INTERNAL C
DA4.07 ELEVATION SOUTH -EAST INTERNAL C
DA4.08 ELEVATION NORTH-WEST INTERNAL C

DA5.00 MATERIAL BOARD
DA5.01 MATERIAL BOARD B

DA6.00 IMPRESSIONS
DA6.01 CGI-01 B
DA6.02 CGI-02 B
DA6.03 CGI-03 B
DA6.04 CGI-04 B
DA6.05 CGI-05

DA7.00 SHADOW DIAGRAMS
DA7.01 SHADOW DIAGRAMS JUNE 21st B
DA7.02 SHADOW DIAGRAMS JUNE 21st B
DA7.03 SHADOW DIAGRAMS JUNE 21st B
DA7.10 278 LAKEMBA ST SURVEY INFORMATION B
DA7.11 278 LAKEMBA ST SHADOW IMPACT DIAGRAM B
DA7.12 72-74 KING GEORGES RD SURVEY INFORMATION B
DA7.13 72-74 KING GEORGES RD SHADOW IMPACT DIAGRAM 01 B
DA7.14 72-74 KING GEORGES RD SHADOW IMPACT DIAGRAM 02 B
DA7.15 72-74 KING GEORGES RD SHADOW IMPACT DIAGRAM 03 B
DA7.16 76 KING GEORGES RD (A&B) SURVEY INFORMATION B
DA7.17 76 KING GEORGES RD (A) SHADOW IMPACT DIAGRAM B
DA7.18 76 KING GEORGES RD (B) SHADOW IMPACT DIAGRAM B
DA7.19 76 KING GEORGES (C&D) SURVEY INFORMATION B
DA7.20 76 KING GEORGES RD (C) SHADOW IMPACT DIAGRAM B
DA7.21 76 KING GEORGES RD (B,C&D) SHADOW IMPACT DIAGRAM B
DA7.30 VIEWS FROM THE SUN 01 C
DA7.31 VIEWS FROM THE SUN 02 C

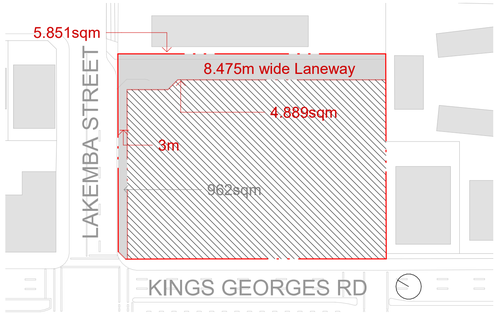
DA8.00 SEPP65 DIAGRAMS
DA8.01 SOLAR ACCESS DIAGRAM C
DA8.02 CROSS VENTILATION DIAGRAM C
DA8.03 GFA DIAGRAM C
DA8.04 UNITS DATA SHEET B
DA8.05 SEPP 65 DIAGRAM PRIVACY PLAN C
DA8.06 SEPP 65 DIAGRAM PRIVACY PLAN C
DA8.07 PRIVACY SECTION C
DA8.10 STORAGE DIAGRAM 01 C
DA8.11 STORAGE DIAGRAM 02 B
DA8.12 HEIGHT LIMIT PLANE DIAGRAM C
DA8.13 45 DEGREE SETBACK DIAGRAM C
DA8.14 STREET SETBACK DIAGRAM C
DA8.15 COMMON OPEN SPACE DIAGRAM C

DA9.00 ADAPTABLE UNITS
DA9.01 ADAPTABLE UNIT A C
DA9.02 ADAPTABLE UNIT B C
DA9.03 ADAPTABLE UNIT C C
DA9.04 ADAPTABLE UNIT D C
DA9.05 LIVABLE UNITS LEVELS1&2 A
DA9.06 LIVABLE UNITS LEVELS1&2 A
DA9.07 LIVABLE UNITS LEVEL 3 A
DA9.08 LIVABLE UNITS LEVEL 3 A
DA9.09 LIVABLE UNITS LEVEL 4 A
DA9.10 LIVABLE UNITS LEVEL 5&6 A

DA10.00 COUNCIL RFI
DA10.01 COUNCIL RFI - DISTANCE TO POWER LINES C
DA10.02 COUNCIL RFI - FRONTAGES SECTION B
DA10.03 COUNCIL RFI - RAMP SECTION A

PROJECT SUMMARY:

SITE AREA: 5,851 sqm
NEW SITE AREA: 4,889 sqm
AREA DEDICATED TO COUNCIL: 962 sqm
GFA: 13,639 sqm



APARTMENT MIX			CROSS VENT		SOLAR ACCESS	
TYPE	NUMBER	%	NUMBER	%	NUMBER (2h)	%
1B	44	**31%**	22	**15.49**	29	**20.42**
2B	80	**56%**	56	**39.44**	56	**39.44**
3B	4	**3%**	4	**2.82**	4	**2.82**
ST	14	**10%**	4	**2.82**	14	**9.86**
TOTAL	142		86	60.56	103	72.54

RESIDENTS PARKING SPACES	VISITORS PARKING SPACES	RETAIL PARKING SPACES	TOTAL PARKING SPACES
122	28	98	248

RESIDENT BICYCLE RACKS	VISITORS BICYCLE RACKS	RETAIL BICYCLE RACKS	TOTAL BICYCLE RACKS
37	15	22	74

MOTORCYCLE SPACES	27

PROPOSED LANDSCAPE	**1995.3 m²**	**40.7%**
LEVEL 0	**1699.0 m²**	
LEVEL ROOF	**296.3 m²**	
PROPOSED DEEP SOIL AREA	**332.6 m²**	**6.8%**
COMMUNAL ROOMS	**50.1 m²**	**1.0%**
SHARED COMMUNAL OPEN SPACE	**1197.3 m²**	**24.5%**
PRIVATE COMMUNAL OPEN SPACE	**595.3 m²**	**12.1%**
TOTAL COMMUNAL OPEN SPACE (SHARED + PRIVATE)	**1792.6m2**	**36.6%**



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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
COVER SHEET

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
NTS	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA0.00		C

PROPOSED SITE BOUNDARY

TO BE DEMOLISHED
TO BE RETAIN / RELOCATE

NOTE: THIS DRAWING IS INDICATIVE ONLY
PLEASE REFER TO SURVEY DOCUMENTATION

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This drawing is indicative only phase refer to survey documentation

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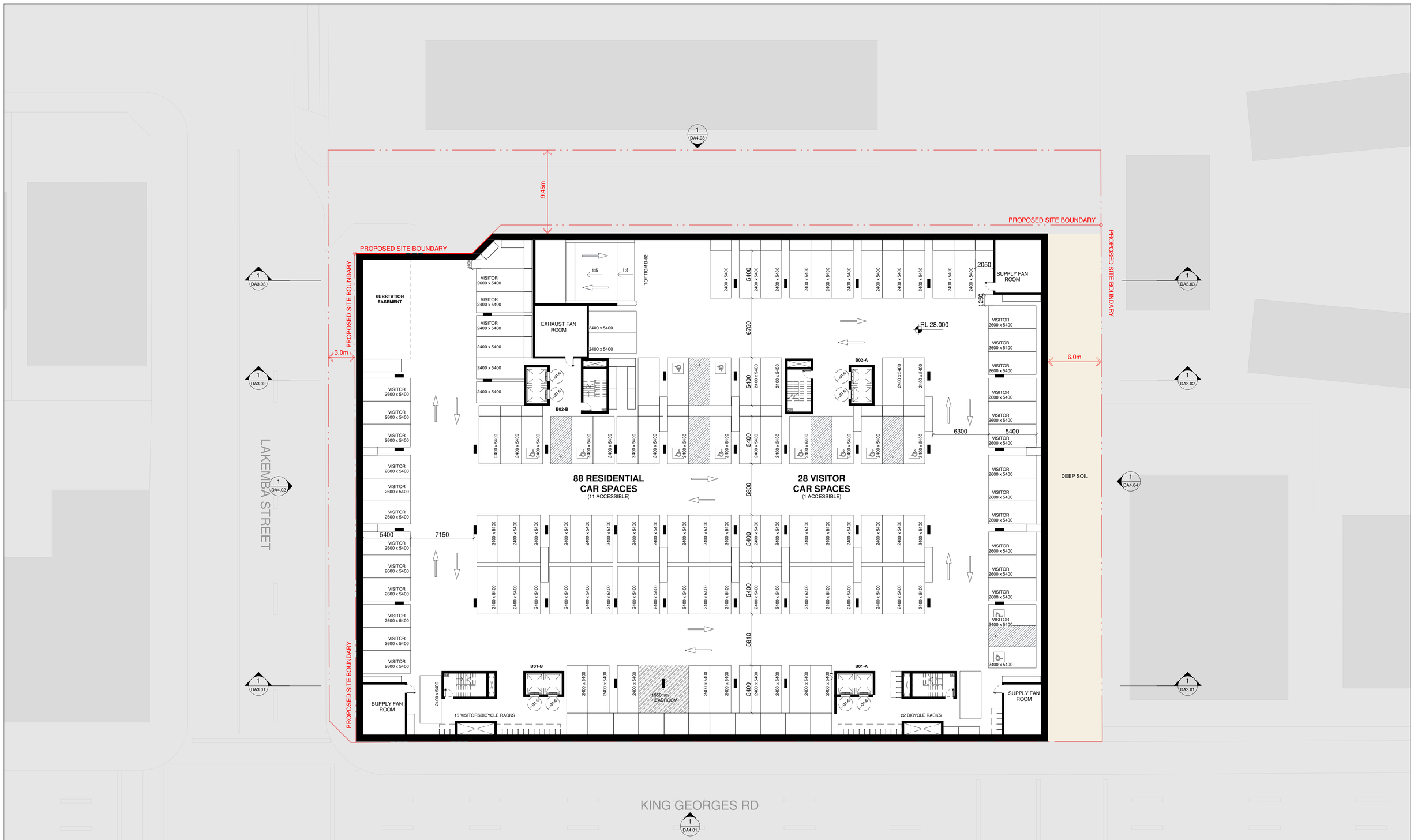
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DRAWING TITLE
DEMOLITON PLAN

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
NTS	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA1.01		A



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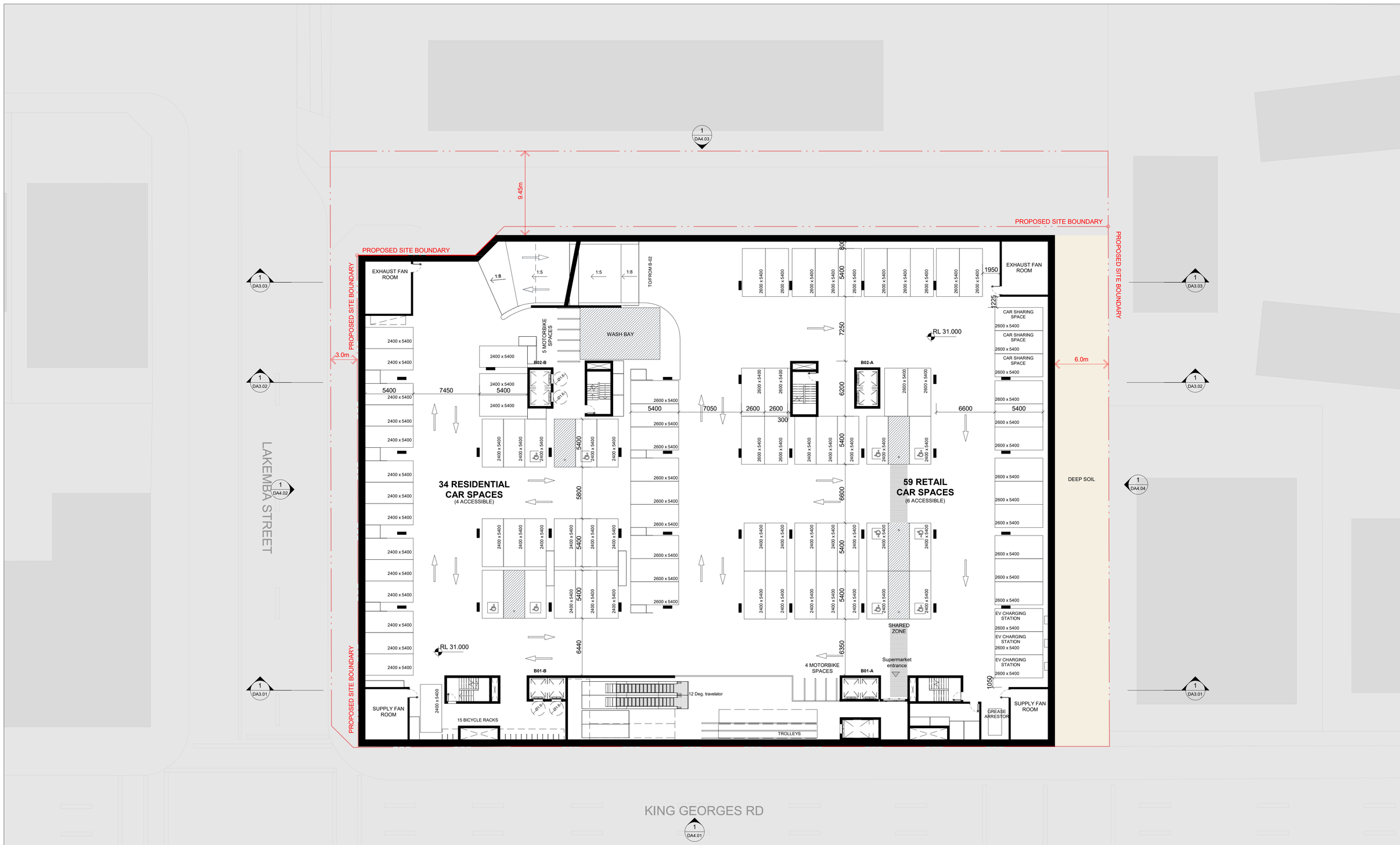
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280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL B3

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA2.01	C



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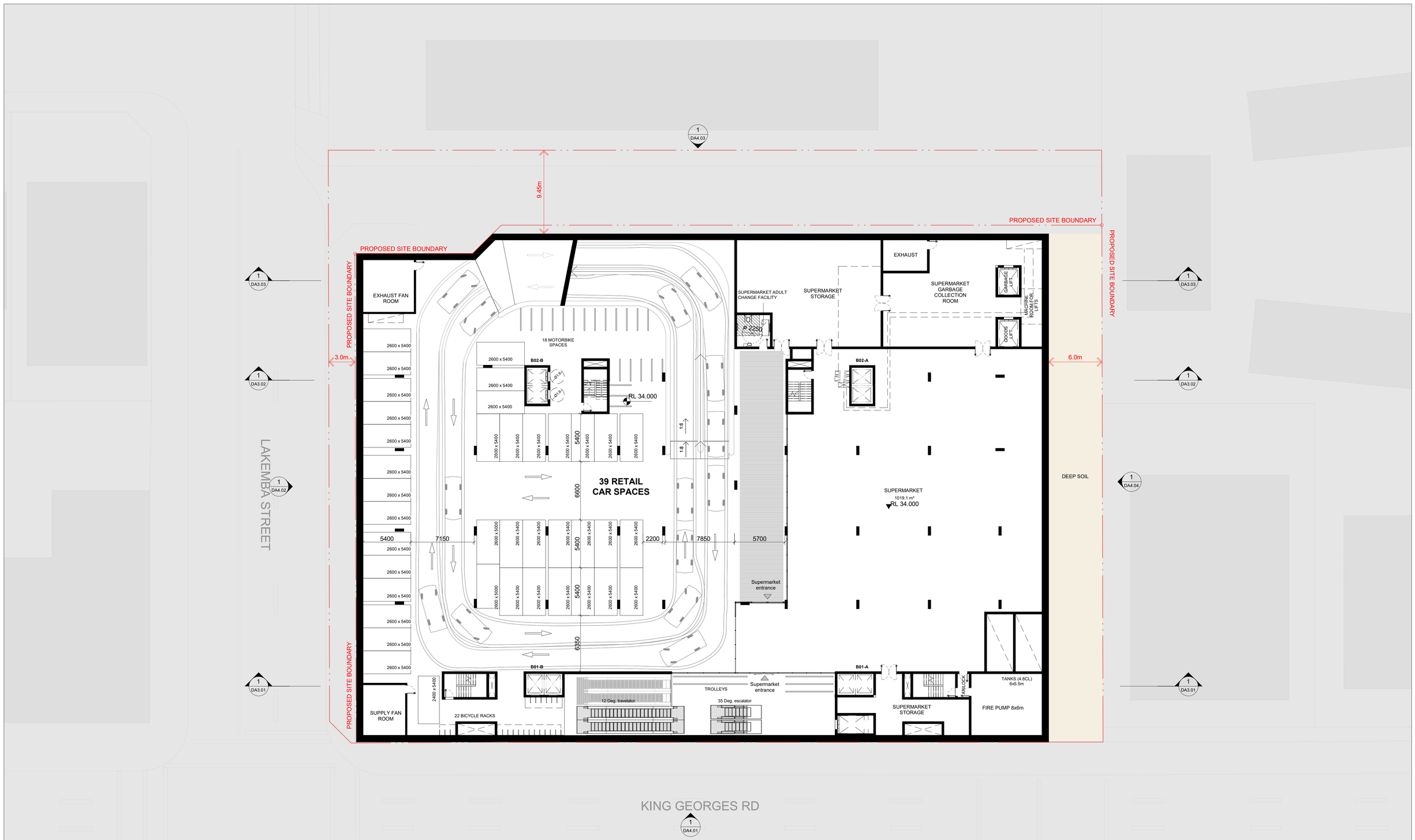
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PROJECT
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DRAWING TITLE
PLAN LEVEL B2

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA2.02	C



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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL B1

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA2.03	C



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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL B0

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA2.04	C

EXISTING BOUNDARY
EXISTING BOUNDARY
1.8m
DEDICATED FOOTPATH ZONE
PERMEABLE (COBBLE STONE PAVING OR SIMILAR)
INTERSECTION DETAILS REFER TO CIVIL ENGINEER`S PLANS
6.5m WIDE DRIVEWAY DETAILS REFER TO CIVIL ENGINEER`S PLANS
6.5m
DEDICATED LANE
PROPOSED SITE BOUNDARY
PROPOSED SITE BOUNDARY
PROPOSED SITE BOUNDARY
FUTURE CONNECTION TO ADJOINING NEIGHBORHOODS
SUBSTATION 61.1 m²
BASEMENT CAR PARK ACCESS
SUPERMARKET WASTE AREA
ELECTRONIC WASTE 11sqm
BULKY WASTE 16sqm
RETAIL WASTE AREA
3000 LOADING AREA
12500
LOADING AREA
UPPER LOADING DOCK
RETAIL DELIVERY AREA
HYDRAULIC LIFTS
SERVICES
SERVICES 40.1 m²
LOADING DOCK EXHAUST ABOVE
WASTE COLLECTION AREA
RESIDENTIAL WASTE 31.6 m²
RESIDENTIAL WASTE AREA
RETAIL FOOD PREMISES 111.4 m² HEAD CLEARANCE: 6.39m
RETAIL FOOD PREMISES 52.1 m² HEAD CLEARANCE 4.60m
RETAIL FOOD PREMISES 45.2 m² HEAD CLEARANCE: 5.65m
RETAIL FOOD PREMISES 75.0 m² HEAD CLEARANCE: 4.65m
B02-B LETTER BOXES
B02-A LETTER BOXES
RESIDENTIAL LOBBY
RESIDENTIAL ENTRANCE
PLATFORM LIFT
AWNING ABOVE
ART WORK
PLAZA 1188 SQM
OUTLINE OF BASEMENT BELOW
deep soil 332 SQM
EXTEND OF GRASS GRID PERMEABLE PAVING
slip lane
DETAILS REFER TO CIVIL ENGINEER`S PLANS
RETAIL 89.7 m² HEAD CLEARANCE: 5.50m
RETAIL 78.7 m² HEAD CLEARANCE: 4.80m
RETAIL 66.6 m² HEAD CLEARANCE: 4.40m
RETAIL 96.0 m² HEAD CLEARANCE: 3.90m
RETAIL 99.0 m² HEAD CLEARANCE: 4.75m
RETAIL 67.8 m² HEAD CLEARANCE: 4.45m
RETAIL 80.4 m² HEAD CLEARANCE: 4.05m
RETAIL 74.3 m² HEAD CLEARANCE: 3.90m
RETAIL 89.5 m² HEAD CLEARANCE: 3.92m
RETAIL 47.0 m² HEAD CLEARANCE: 3.43m
RETAIL 73.1 m² HEAD CLEARANCE: 3.49m
RELOCATED AUSTRALIA POST MAIL BOX
RETAIL WASTE
PUBLIC ACCESSIBLE TOILET
SUPERMARKET ENTRANCE
RESIDENTIAL ENTRANCE
LETTER BOXES
B01-B LETTER BOXES
B01-A RESIDENTIAL LOBBY
VOID
MECHANICAL VENTILATION
PROPOSED STREET TREE LOCATION REFER TO LANDSCAPE ARCHITEC`S PLAN FOR SPREAD & SPECIES
AWNING ABOVE
LAKEMBA STREET
KING GEORGES RD

NOTE: FOR THE LANDSCAPE DETAILED DESIGN, PLEASE REFER TO LANDSCAPE ARCHITECT DOCUMENTATION

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CLIENT
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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL 00

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB 15063	DRAWING DA2.05		REVISION C



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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL 01

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
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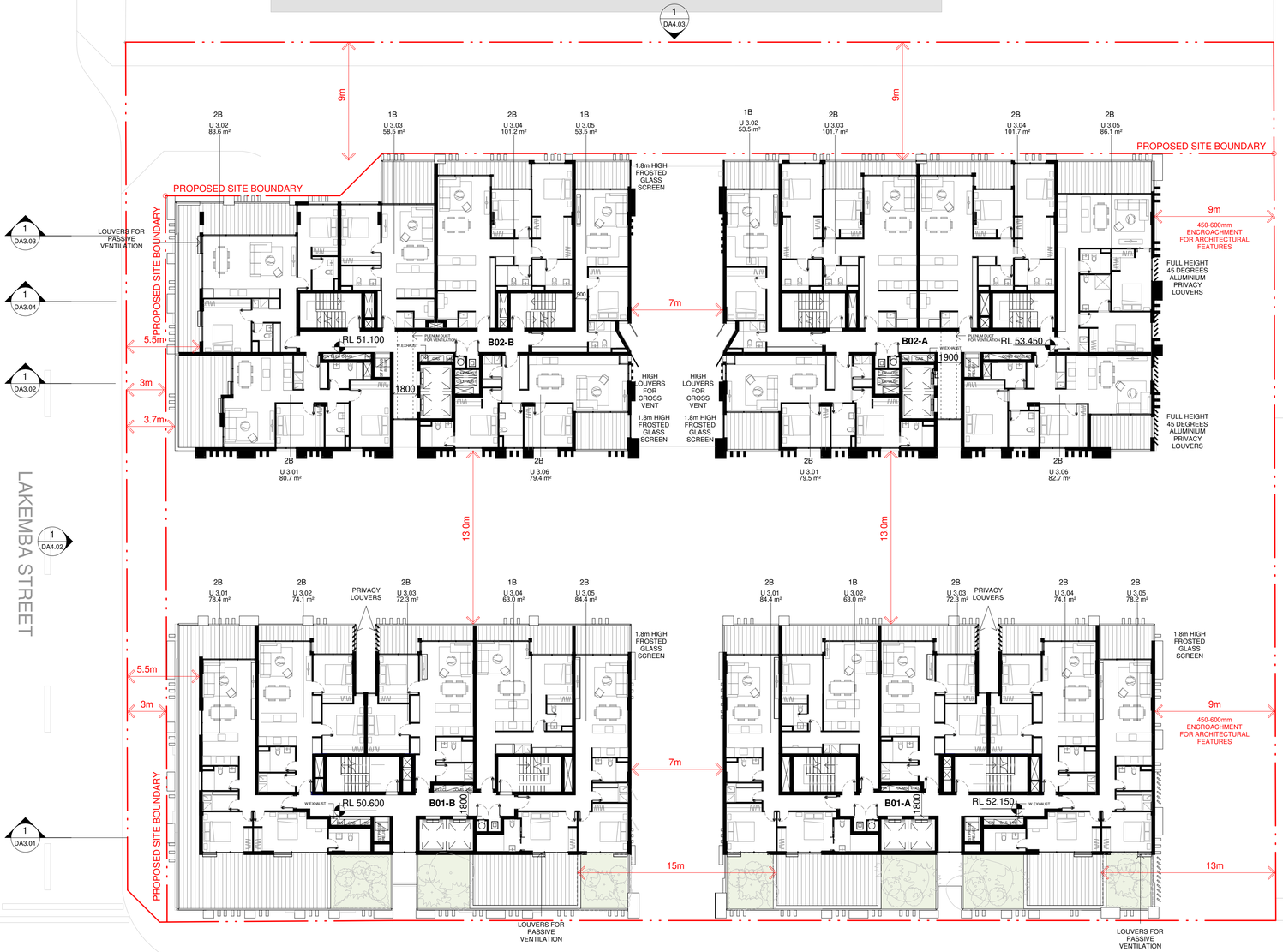
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LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL 02

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA2.07		C



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LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL 03

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA2.08	C



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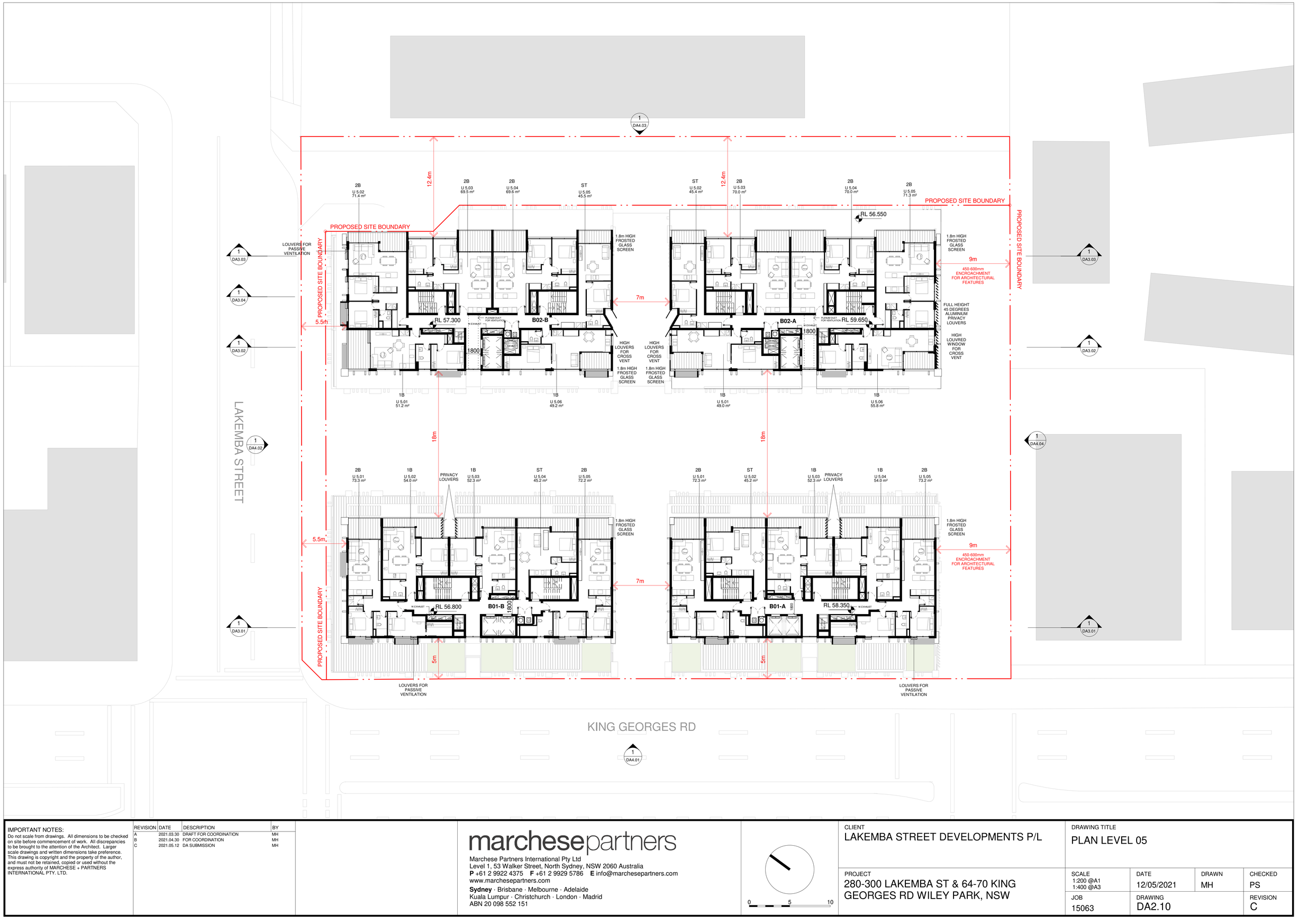
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PROJECT
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DRAWING TITLE
PLAN LEVEL 04

SCALE	DATE	DRAWN	CHECKED
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JOB	DRAWING		REVISION
15063	DA2.09		C



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C	2021.05.12	DA SUBMISSION	MH

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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL 05

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA2.10		C



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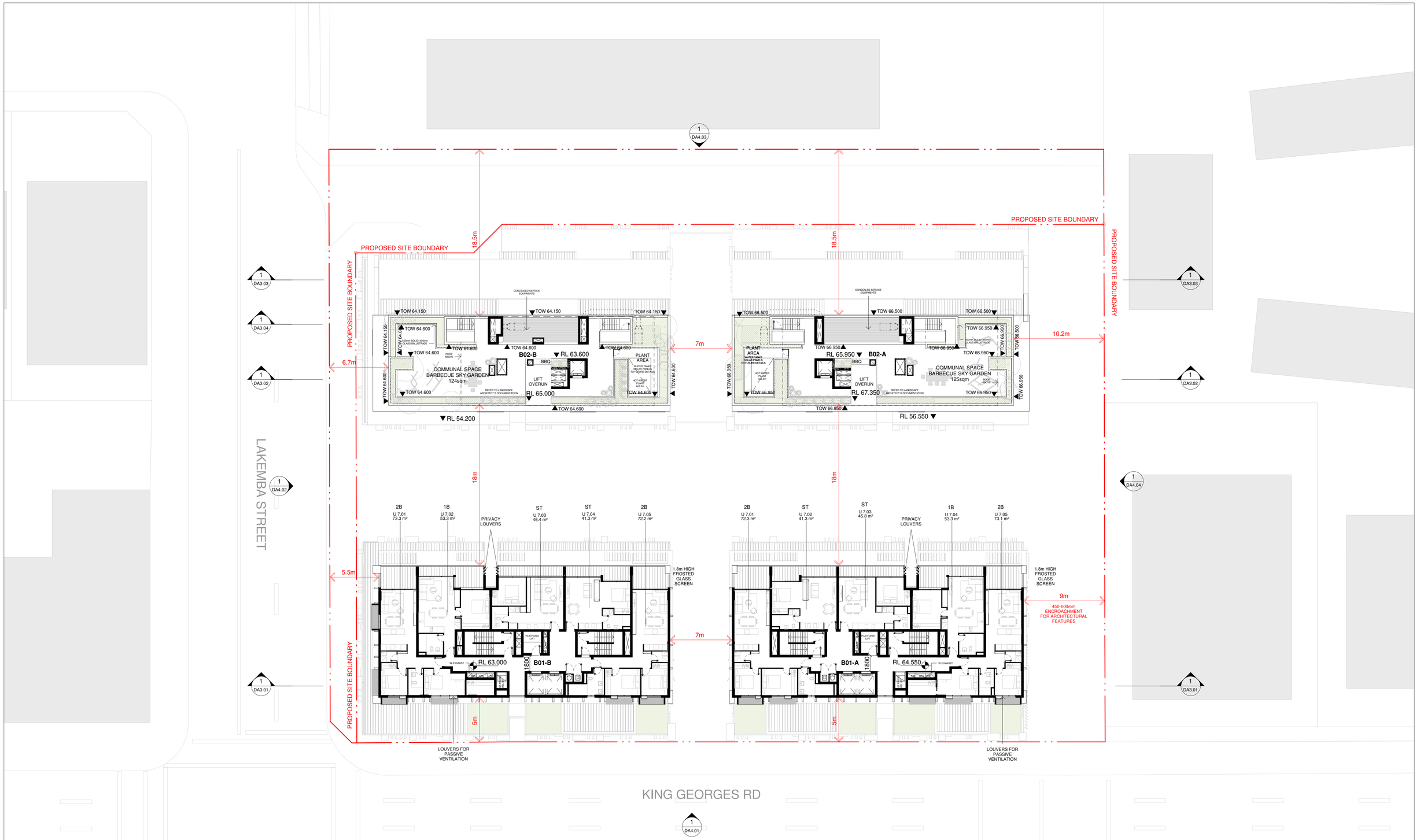
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LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL 06

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA2.11		C



NOTE: FOR THE LANDSCAPE DETAILED DESIGN, PLEASE REFER TO LANDSCAPE ARCHITECT DOCUMENTATION

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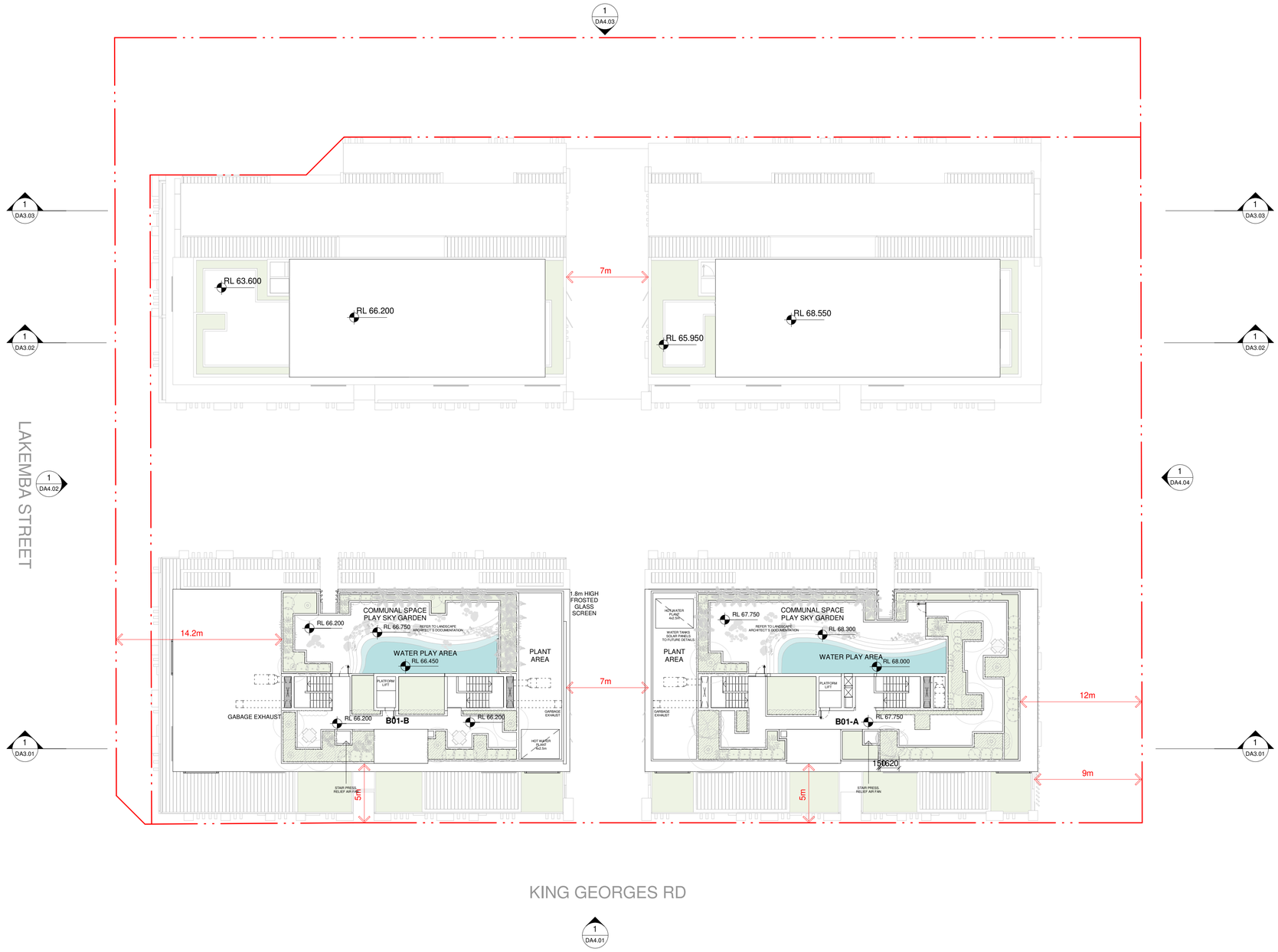
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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL 07

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA2.12		C



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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PLAN LEVEL ROOF

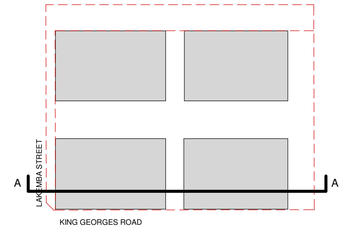
SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

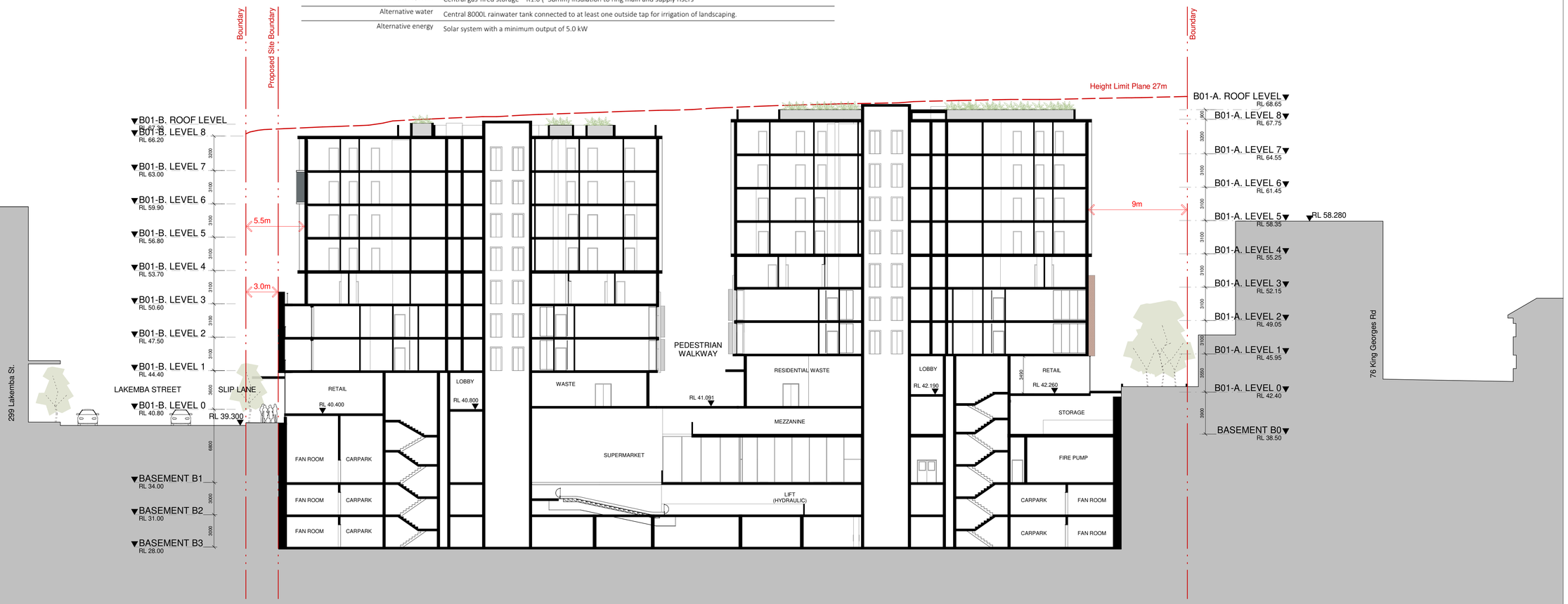
JOB	DRAWING	REVISION
15063	DA2.14	C

BASIX and Thermal Comfort Inclusions- 280-300 Lakemba Street & 65-70 King Georges Road

Floors	Concrete with a minimum R0.9 insulation (insulation only value) to units with garage or open subfloor below. Concrete between levels, no insulation required
Walls	**External walls:** 150mm concrete with R2.0 insulation (insulation only value) Upgrade: R2.5 external wall insulation applied as per thermal comfort upgrades table **External colour:** Medium colour (0.475<SA<0.7) **Inter tenancy walls:** 75mm Hebel Power Panel to walls adjacent to neighbours, no insulation required 75mm Hebel Power Panel to walls adjacent to hallways with a minimum R1.0 insulation (insulation only value) Minimum 150mm concrete with furring channel and plasterboard lining to all walls adjacent to lift shafts and fire stairs. No insulation required **Walls with-in dwellings:** Plasterboard on studs – no insulation
Ceilings	Plasterboard ceiling with R3.0 insulation (insulation only value) to soffit of concrete where roof or balcony is above Plasterboard ceiling, no insulation where neighbouring units are above
Roof	Concrete roof, no insulation Default medium colour (0.475<SA<0.7)
Floor Coverings	Tiles to wet areas an carpet elsewhere;
How water system	Central gas-fired storage – R1.0 (~38mm) insulation to ring main and supply risers
Alternative water	Central 8000L rainwater tank connected to at least one outside tap for irrigation of landscaping.
Alternative energy	Solar system with a minimum output of 5.0 kW

Windows	<u>Glazed windows and doors:</u> Group A – awning + bifold + casement windows + hinged glazed doors U-value: 4.30 (equal to or lower than) SHGC: 0.47(±10%) Group B – sliding doors/windows + fixed glazing + louvred windows U-value: 4.30 (equal to or lower than) SHGC: 0.53 (±10%) <u>Glazing upgrade one:</u> U-value: 4.90 (equal to or lower than) SHGC: 0.33 (±10%) <u>Glazing upgrade two:</u> U-value: 3.00 (equal to or lower than) SHGC: 0.26 (±10%) <u>Glazing upgrade three:</u> U-value: 3.60 (equal to or lower than) SHGC: 0.64 (±10%) <u>Glazing upgrade four:</u> U-value: 2.90 (equal to or lower than) SHGC: 0.51 (±10%) Given values are AFRC, total window system values (glass and frame)Given values are NFRC, total window values





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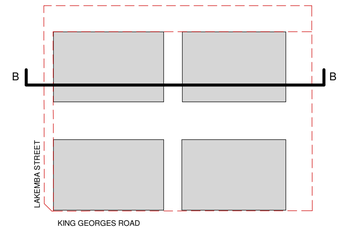
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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
SECTION A-A

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB 15063	DRAWING DA3.01		REVISION C





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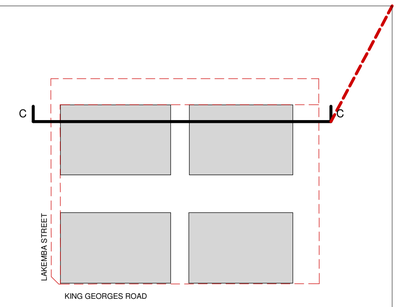
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
SECTION B-B

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA3.02	C





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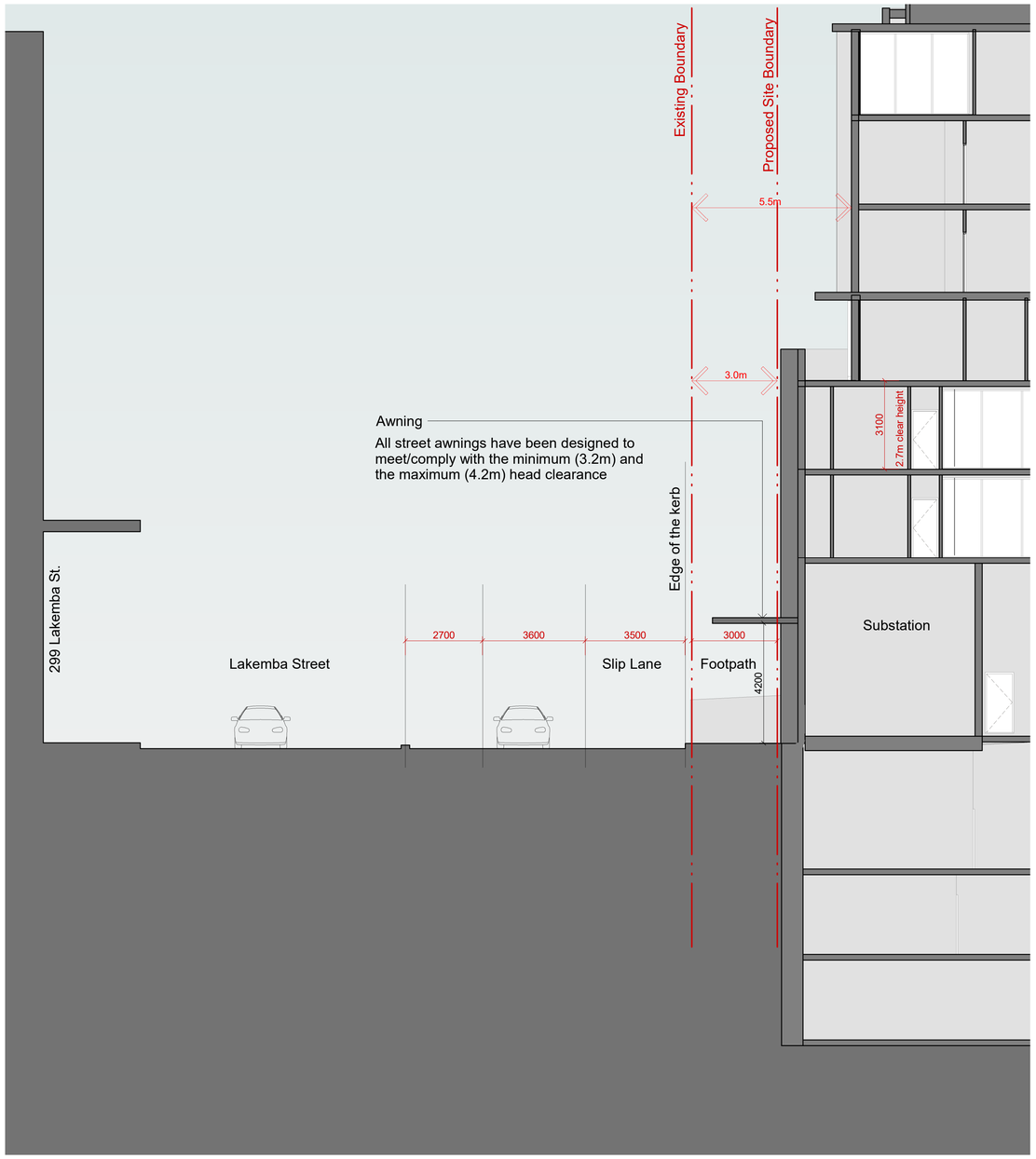
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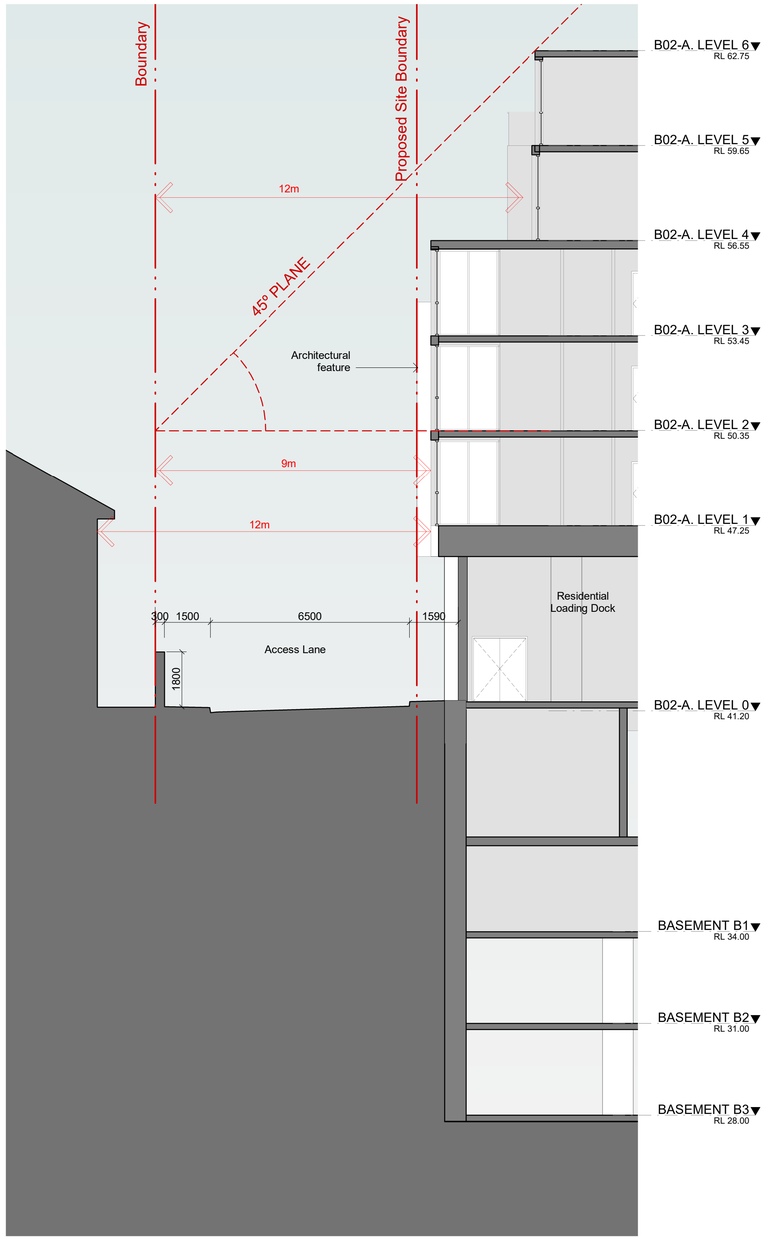
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
SECTION C-C

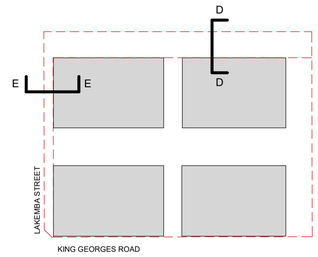
SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA3.03		C



1 SECTION EE
DA2.05



2 SECTION DD



NOTE:
FOR ROAD AND STREETS DETAILS REFER TO CIVIL ENGINEER'S DOCUMENTATION

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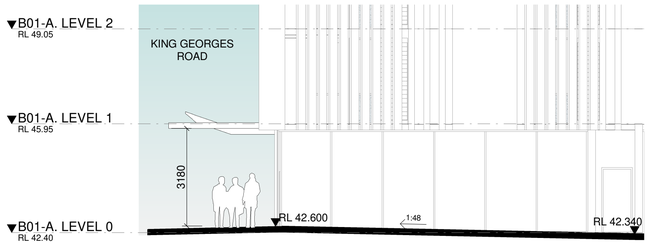
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DRAWING TITLE
STREETSCAPE SECTIONS

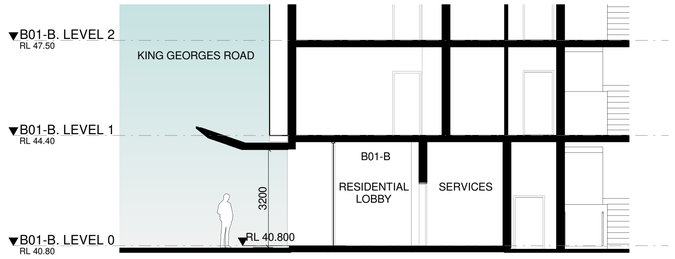
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
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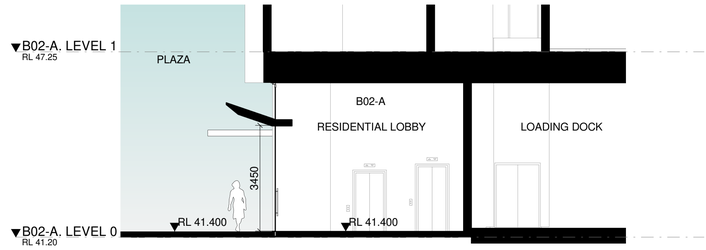
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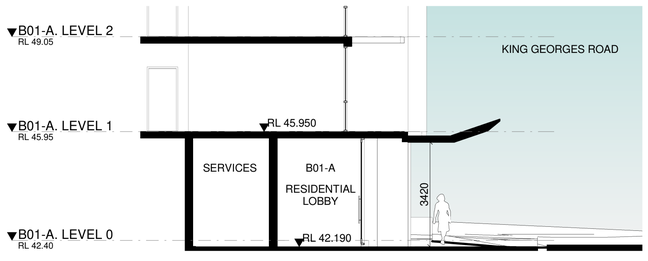
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SECTION 4



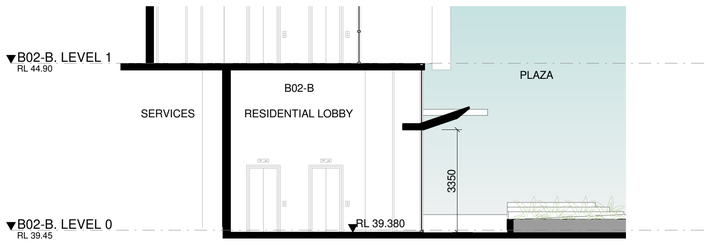
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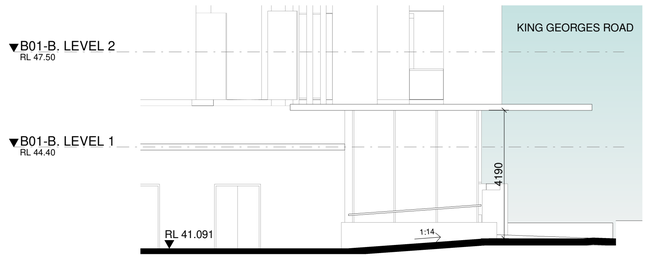
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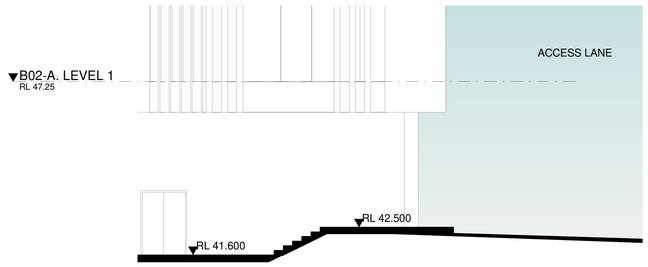
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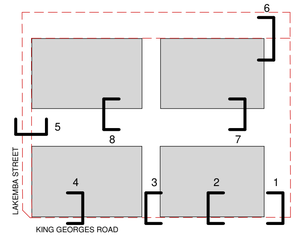
SECTION 8



SECTION 3



SECTION 6



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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
CROSS SECTIONS

SCALE	DATE	DRAWN	CHECKED
1 : 100 @A1	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA3.05	A



SOUTH WEST



NOTE:
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- ALL OPERABLE WINDOWS AND DOORS INCORPORATE FULL PERIMETER ACOUSTIC SEALS.
- FACADE AND ROOF SOUND INSULATION COMPLIES WITH THE MINIMUN RATINGS REQUIRED.

WINDOWS LEGEND

- SD_SLIDING DOOR
- SW_SLIDING WINDOW
- FW_FIXED WINDOW
- L_LOUVERS FOR PASSIVE VENTILATION IN FRONT OF FULL HEIGHT CASEMENT WINDOWS
- CW_CASEMENT WINDOW
- HW_HIGH WINDOW
- AW_AWNING WINDOW

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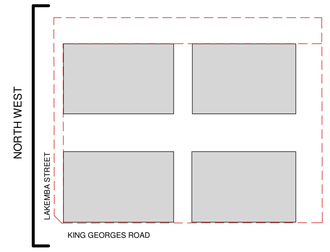
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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
ELEVATION - SOUTH WEST - KING GEORGE RD

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA4.01	C





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WINDOWS LEGEND

SD_SLIDING DOOR
SW_SLIDING WINDOW
FW_FIXED WINDOW
L_LOUVERS FOR PASSIVE VENTILATION IN FRONT OF FULL HEIGHT CASEMENT WINDOWS
CW_CASEMENT WINDOW
HW_HIGH WINDOW
AW_AWNING WINDOW

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PROJECT
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DRAWING TITLE
ELEVATION - NORTH WEST - LAKEMBA ST

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA4.02	C



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- FACADE AND ROOF SOUND INSULATION COMPLIES WITH THE MINIMUN RATINGS REQUIRED.

WINDOWS LEGEND

SD_SLIDING DOOR
SW_SLIDING WINDOW
FW_FIXED WINDOW
L_LOUVERS FOR PASSIVE VENTILATION IN FRONT OF FULL HEIGHT CASEMENT WINDOWS
CW_CASEMENT WINDOW
HW_HIGH WINDOW
AW_AWNING WINDOW

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B	2021.04.30	FOR COORDINATION	MH
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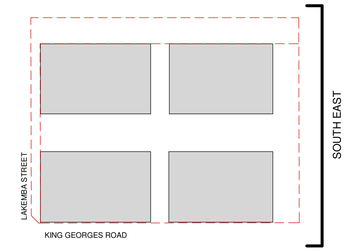
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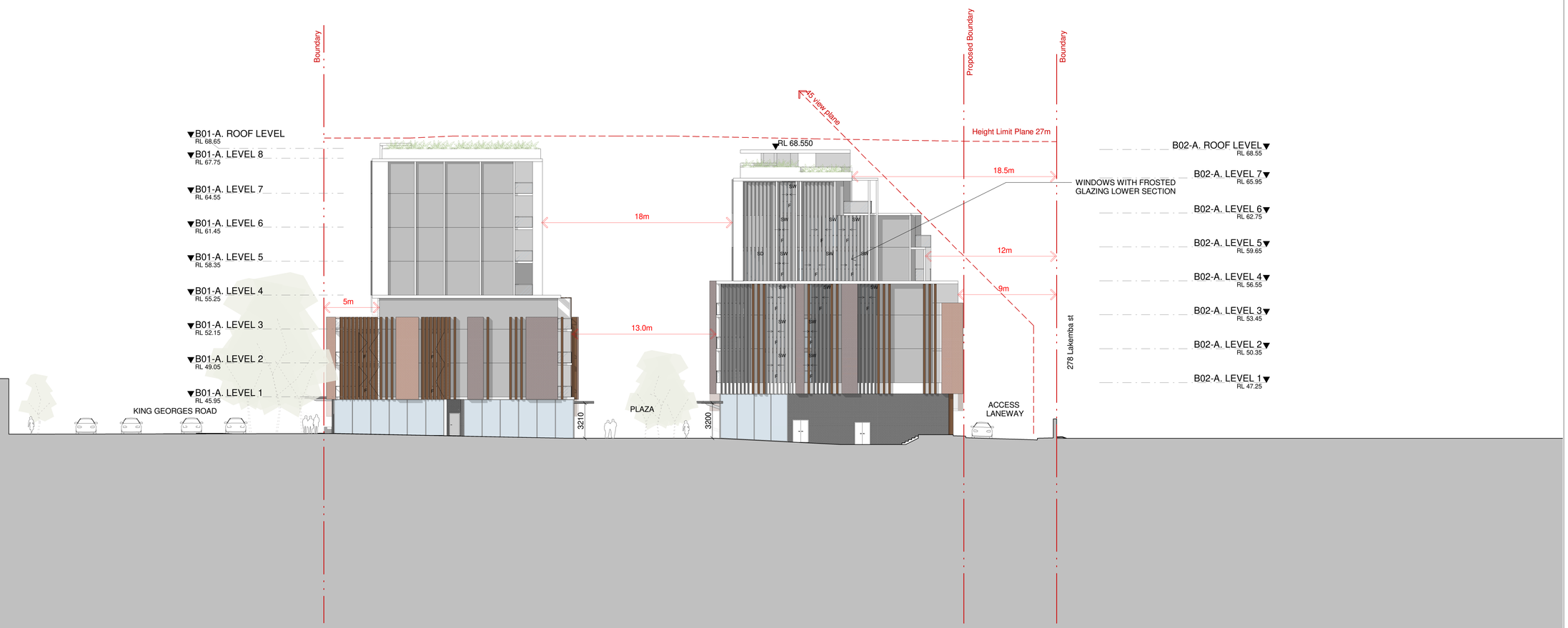
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
ELEVATION NORTH-EAST

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA4.03		C





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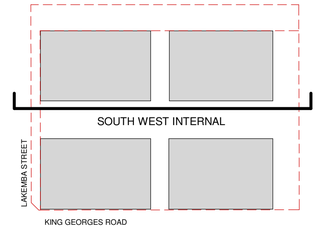
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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
ELEVATION SOUTH-EAST

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA4.04		C





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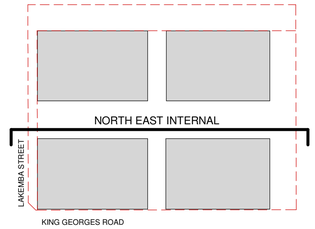
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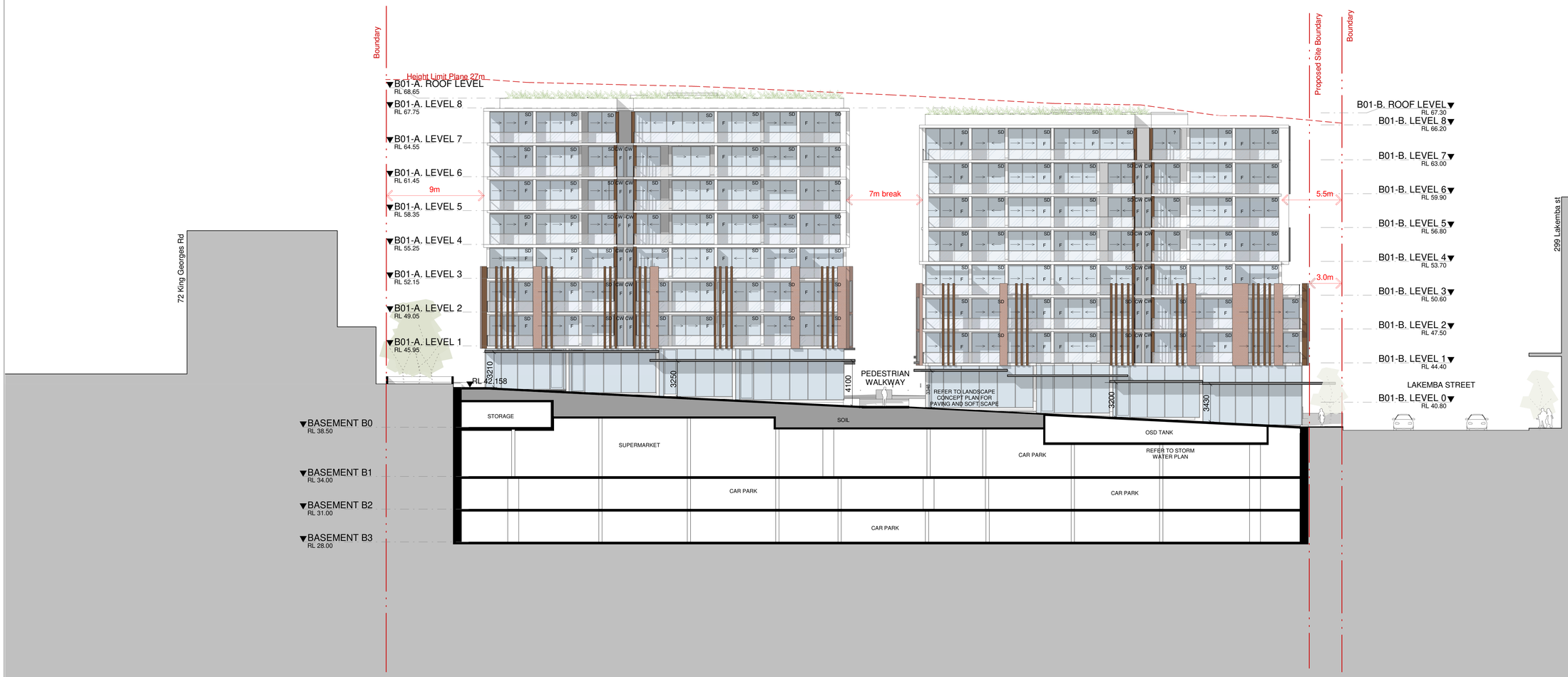
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
ELEVATION SOUTH-WEST INTERNAL

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA4.05	C





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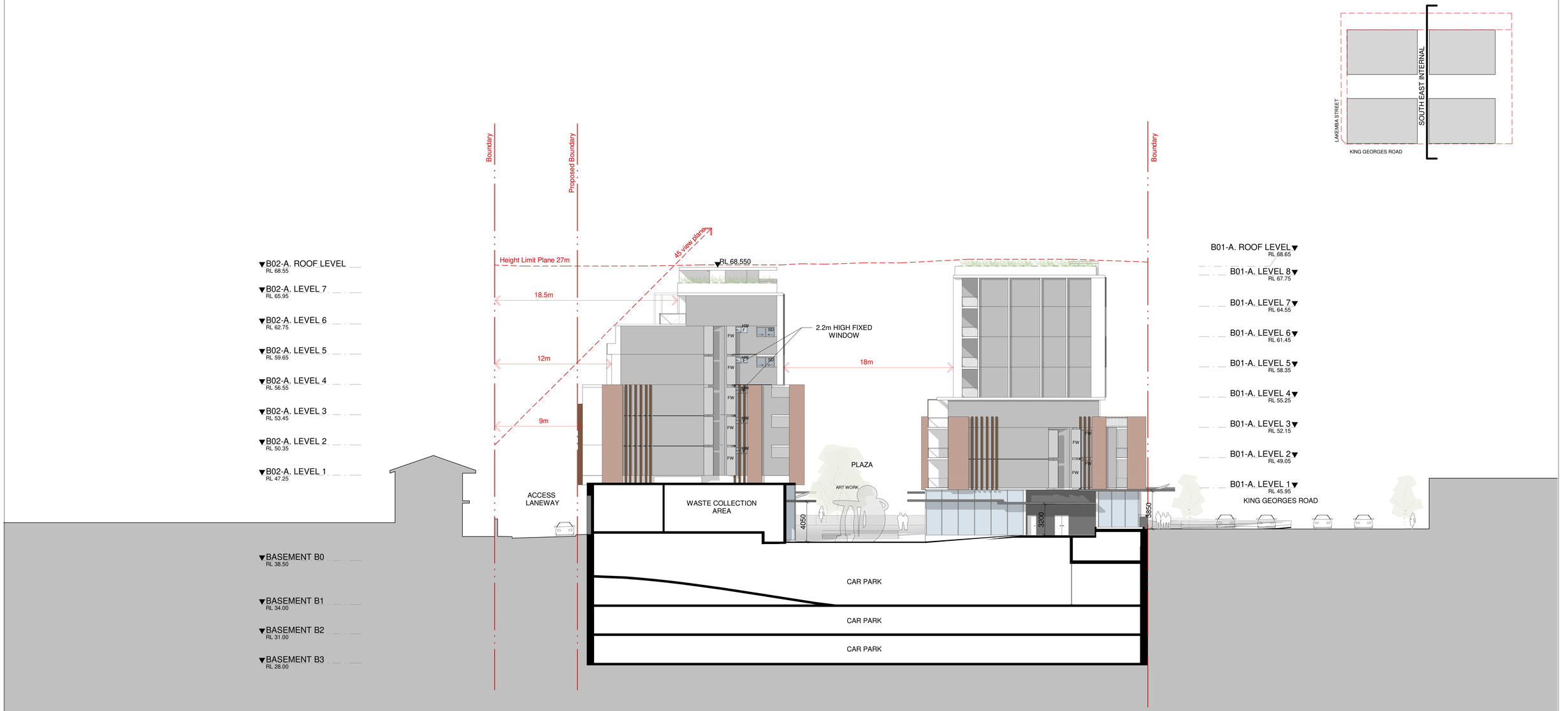
CLIENT
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DRAWING TITLE
ELEVATION NORTH-EAST INTERNAL

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA4.06	C



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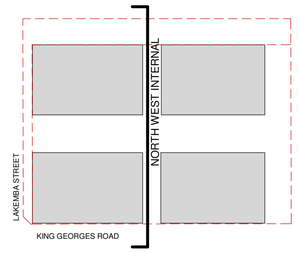
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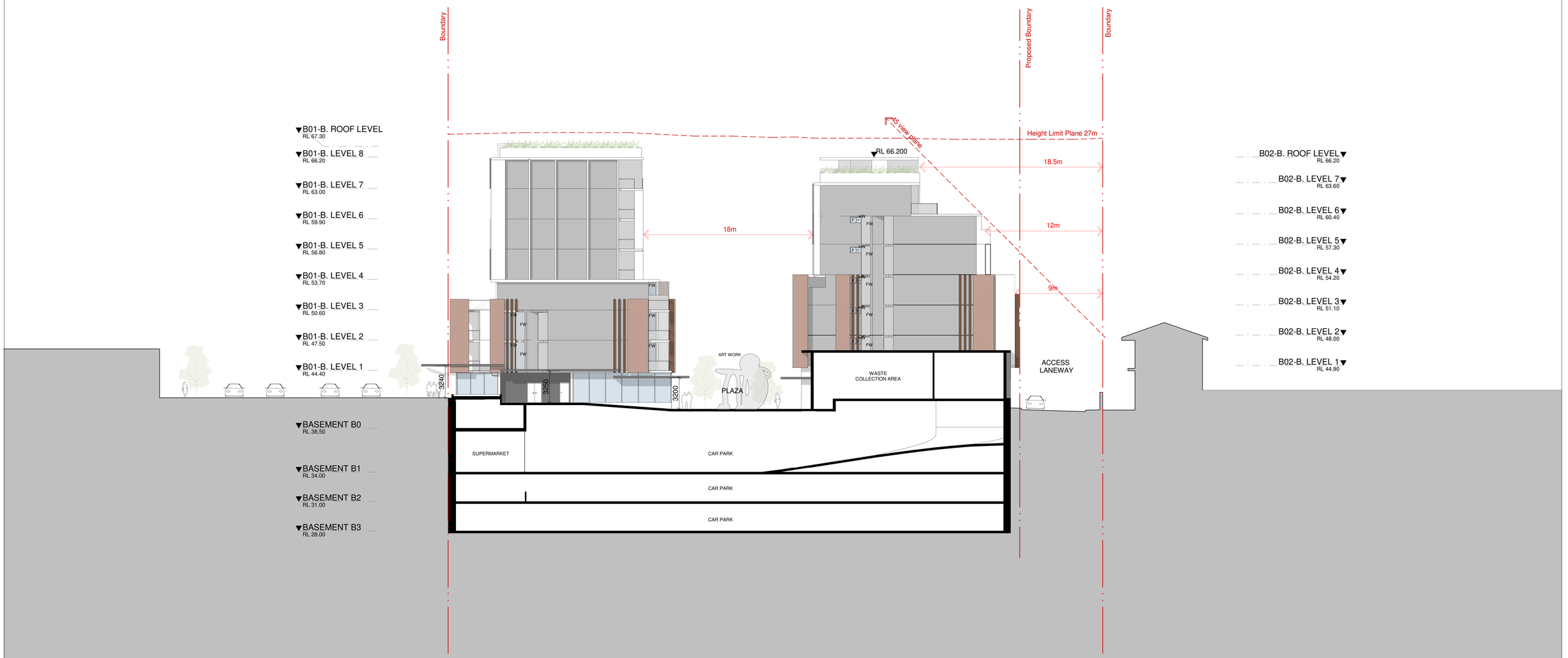
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
ELEVATION SOUTH -EAST INTERNAL

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA4.07	C





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DRAWING TITLE
ELEVATION NORTH-WEST INTERNAL

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @A1 1:400 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA4.08	C





Coloured Concrete -
Grey Mist or equivalent



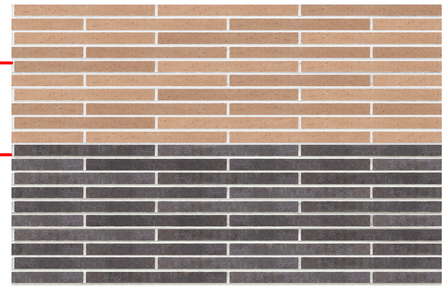
Dark brown metal window frames



Acoustic louvers Fantech SBL1
Colour to match metal window frames
Or similar to be approved



Louvretec Asutralia - Sun Louvres
2000m Maxi Louvre
Colour to math metal window frames



Australbricks - Arno
Or similar to be approved

Australbricks - Marana
Or similar to be approved

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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
MATERIAL BOARD

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA5.01	B



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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
CGI-01

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA6.01	B

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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
CGI-02

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA6.02	B



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PROJECT
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DRAWING TITLE
CGI-03

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DRAWING TITLE
CGI-04

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JOB	DRAWING	REVISION
15063	DA6.04	B



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PRELIMINARY

NOT FOR CONSTRUCTION

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PROJECT
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DRAWING TITLE
CGI-05

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA6.05	



JUNE 21st 8AM



JUNE 21st 9AM



JUNE 21st 10AM



JUNE 21st 11AM

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PROJECT
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DRAWING TITLE
SHADOW DIAGRAMS JUNE 21st

SCALE	DATE	DRAWN	CHECKED
1 : 1000 @A1	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA7.01	B



JUNE 21st 12PM



JUNE 21st 1PM



JUNE 21st 2PM



JUNE 21st 3PM

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SHADOW DIAGRAMS JUNE 21st

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JOB	DRAWING	REVISION
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JUNE 21st 4PM

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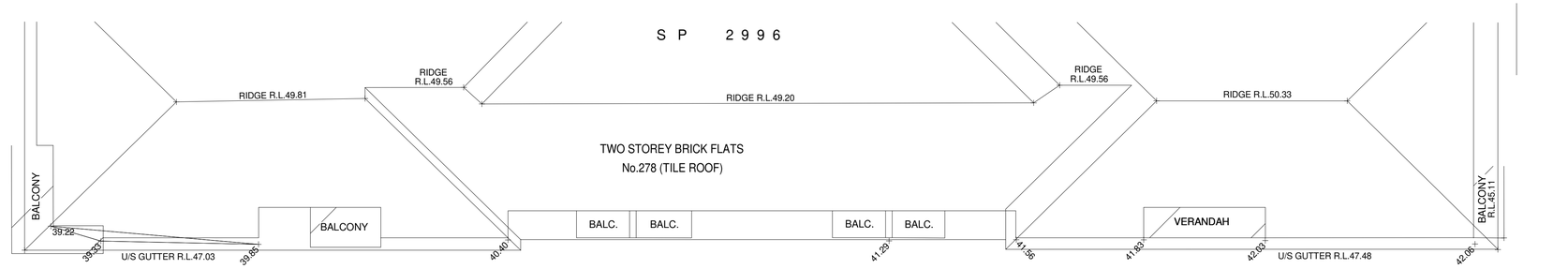
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LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

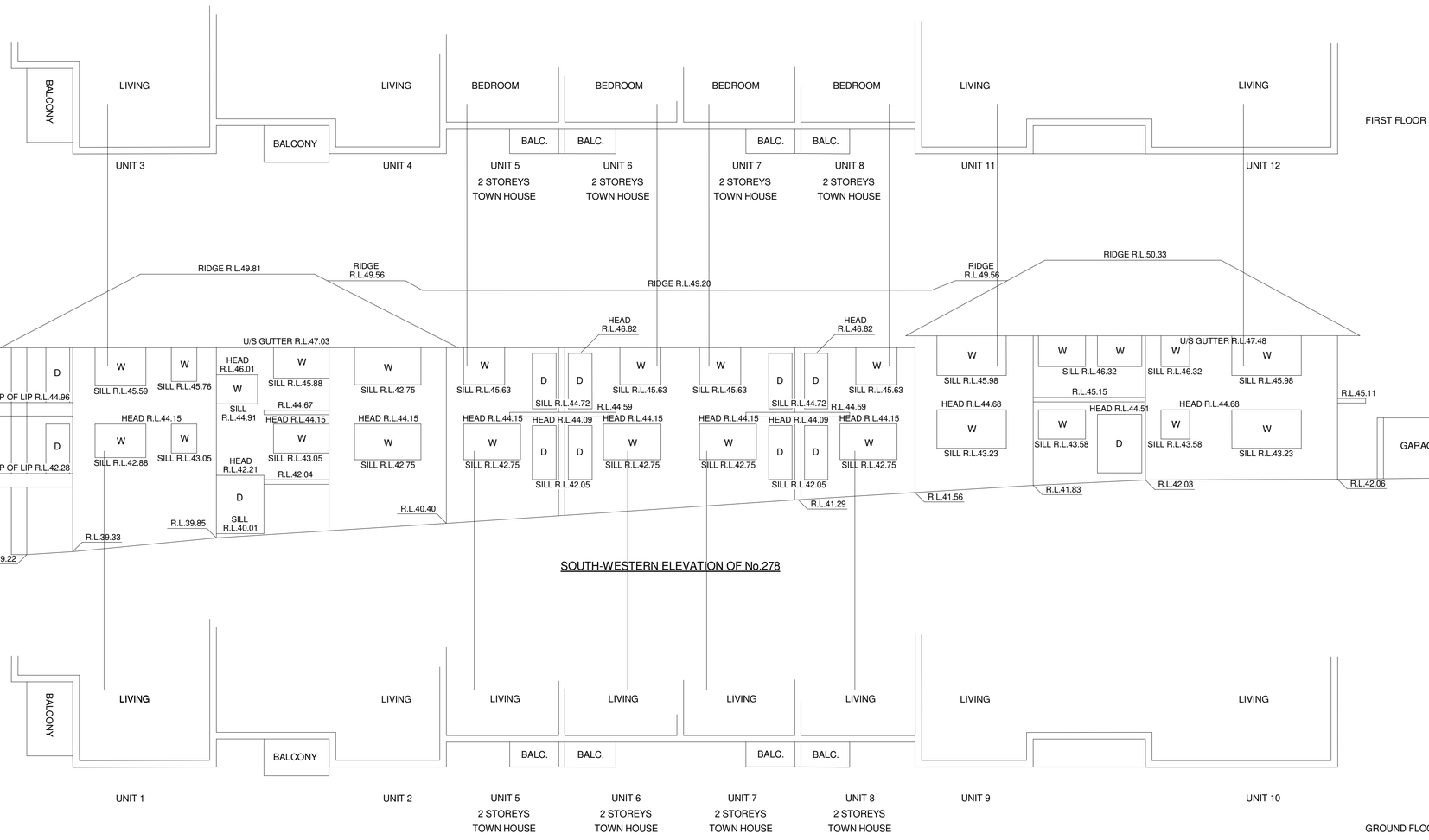
DRAWING TITLE
SHADOW DIAGRAMS JUNE 21st

SCALE	DATE	DRAWN	CHECKED
1 : 1000 @A1	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA7.03	B



ROOF PLAN



SOUTH-WESTERN ELEVATION OF No.278

GROUND FLOOR

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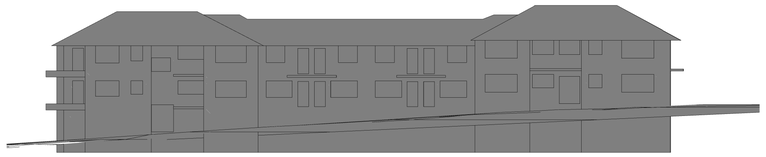
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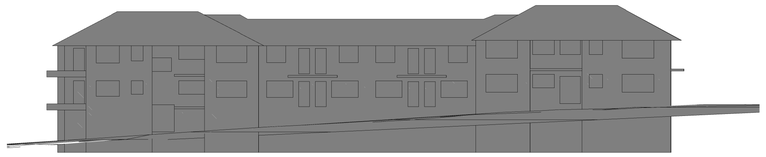
DRAWING TITLE
278 LAKEMBA ST SURVEY INFORMATION

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

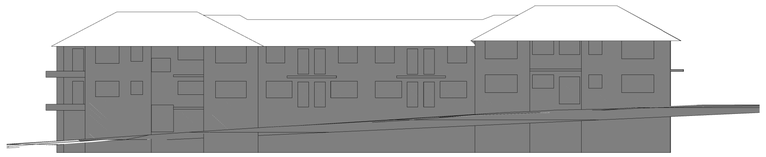
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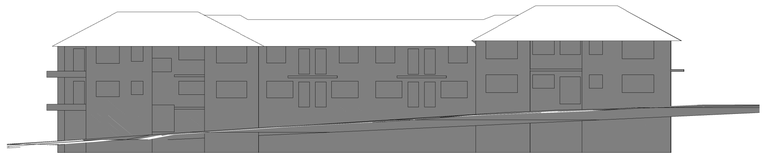
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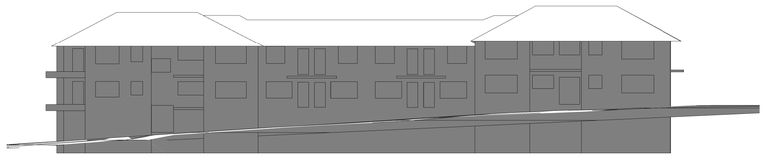
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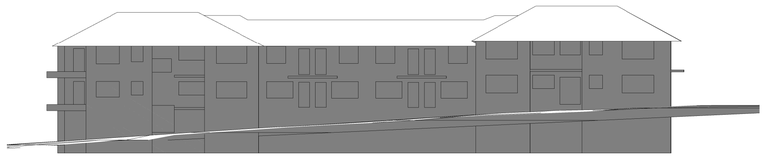
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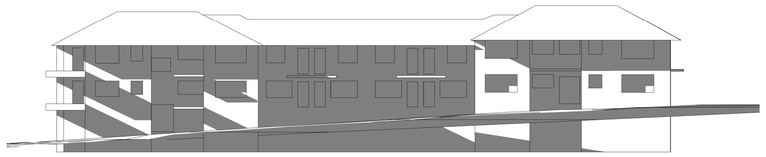
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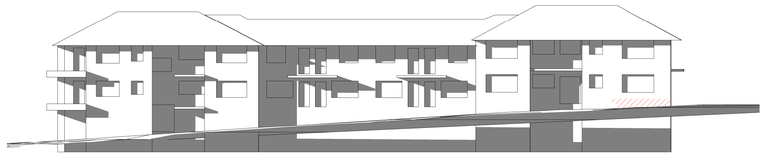
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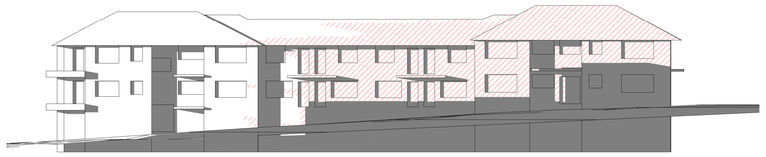
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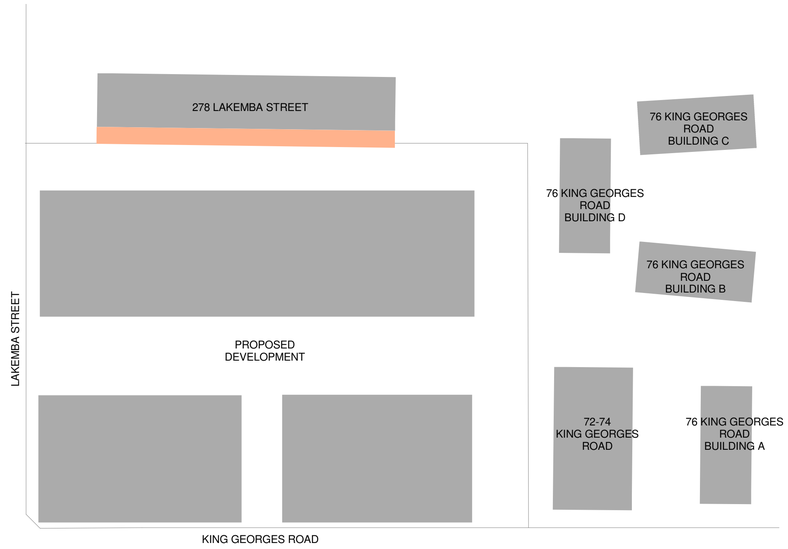
JUNE 21st 2PM



278_JUNE 21st 3PM



JUNE 21st 4PM



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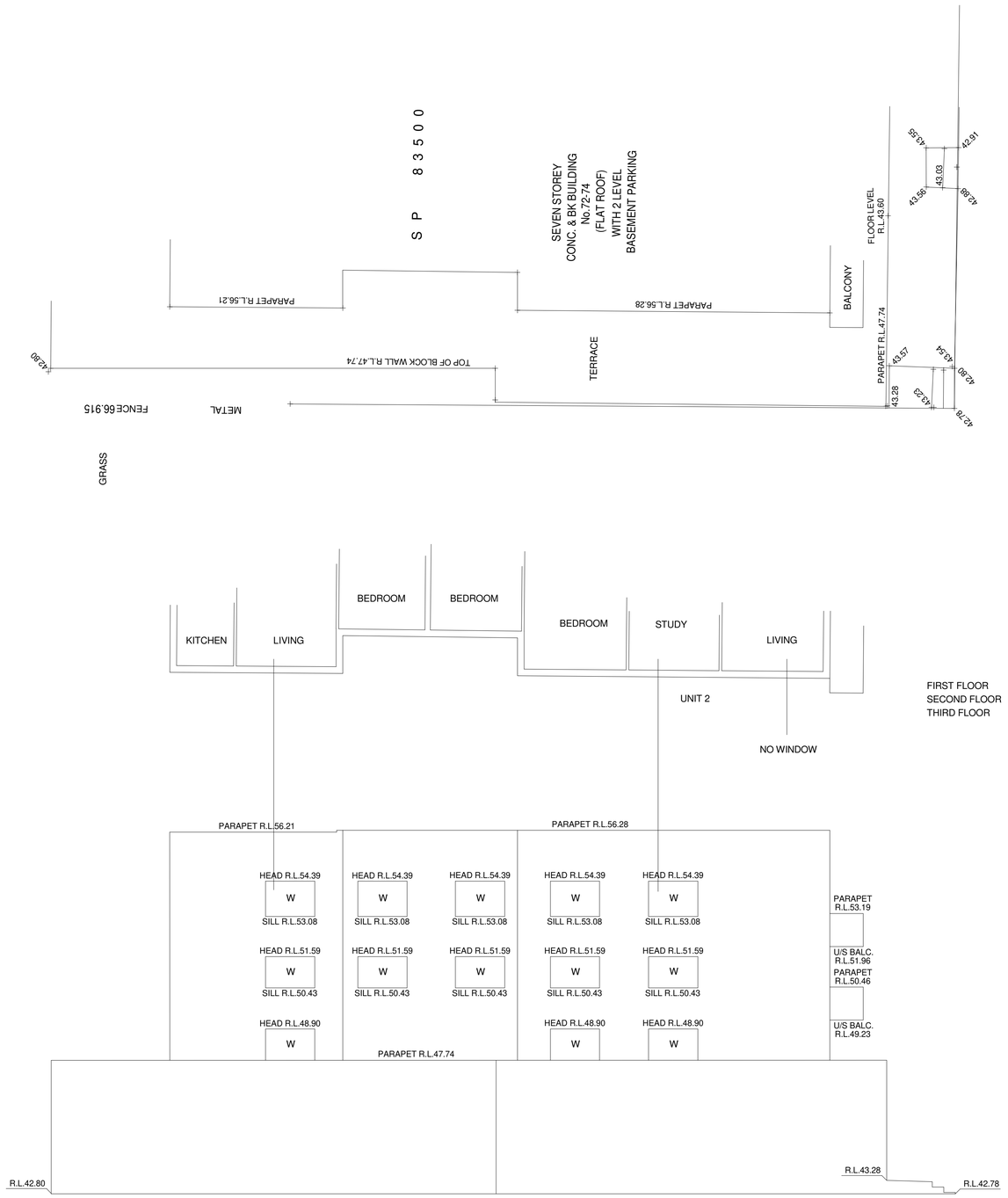
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
278 LAKEMBA ST SHADOW IMPACT DIAGRAM

SCALE	DATE	DRAWN	CHECKED
1:250 @A1 1:500 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA7.11	B



NORTH-WESTERN ELEVATION OF No.72-74

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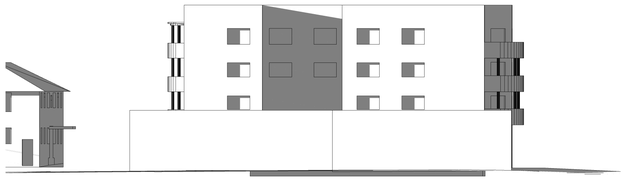
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PROJECT
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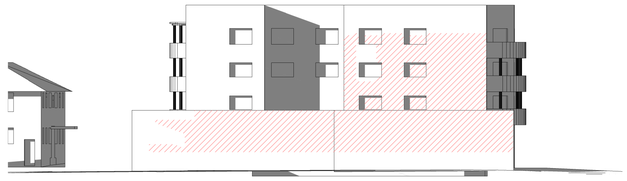
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72-74 KING GEORGES RD SURVEY INFORMATION

SCALE	DATE	DRAWN	CHECKED
NTS	12/05/2021	MH	PS

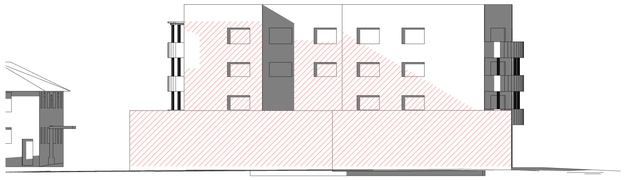
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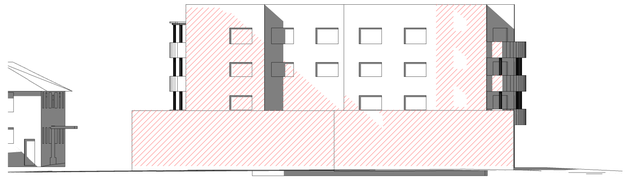
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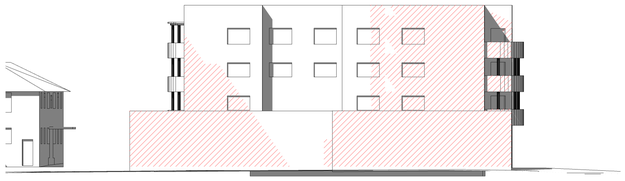
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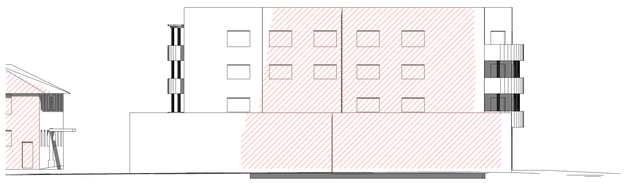
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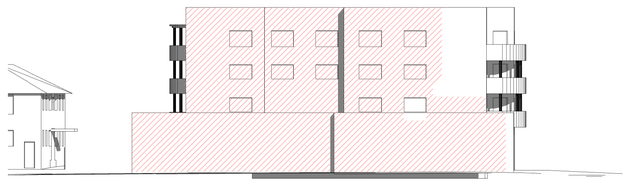
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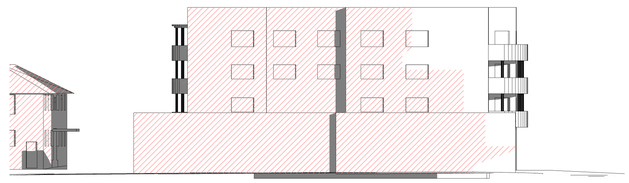
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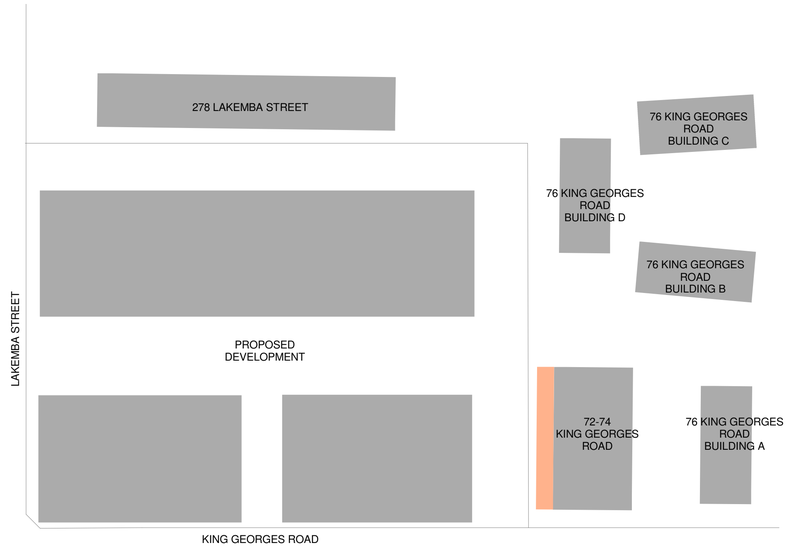
JUNE 21st 2PM



JUNE 21st 3PM



JUNE 21st 4PM



SHADOW CAST BY THE EXISTING CONDITION

SHADOW CAST BY THE PROPOSAL

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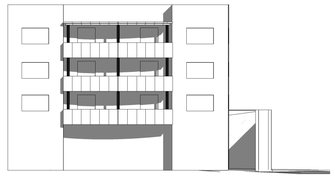
DRAWING TITLE
72-74 KING GEORGES RD SHADOW IMPACT DIAGRAM 01

SCALE	DATE	DRAWN	CHECKED
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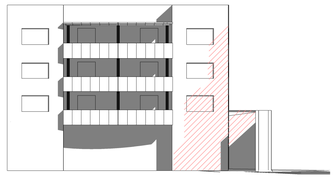
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15063	DA7.13	B



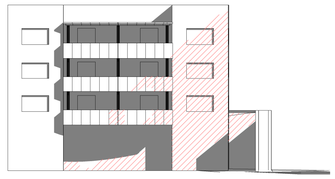
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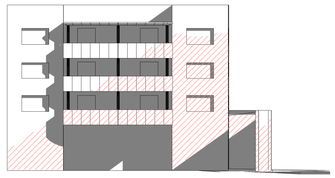
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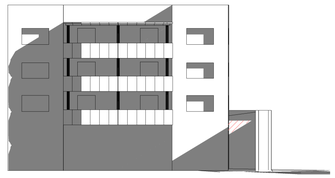
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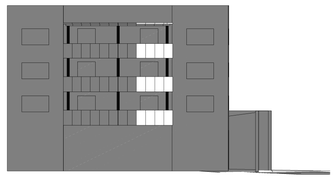
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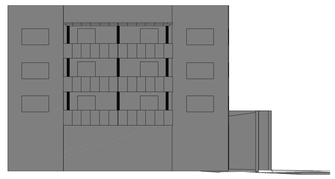
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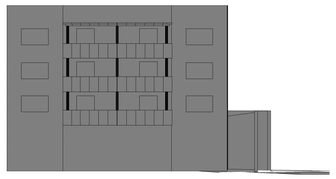
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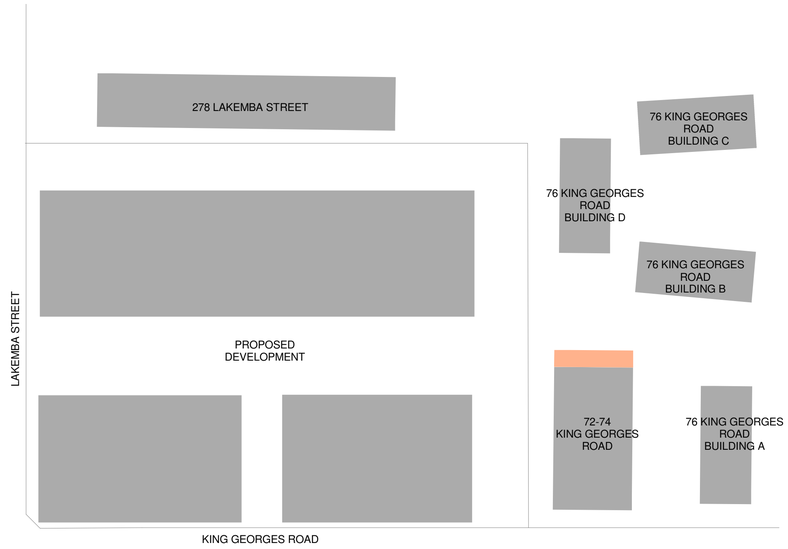
JUNE 21st 2PM



JUNE 21st 3PM



JUNE 21st 4PM



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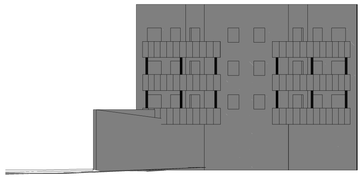
CLIENT
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PROJECT
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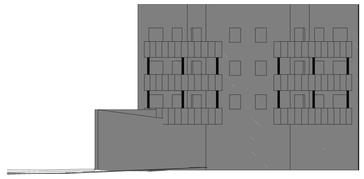
DRAWING TITLE
72-74 KING GEORGES RD SHADOW IMPACT DIAGRAM 02

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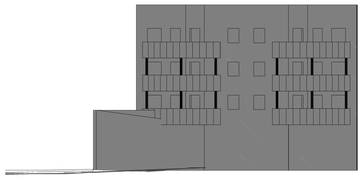
JOB	DRAWING	REVISION
15063	DA7.14	B



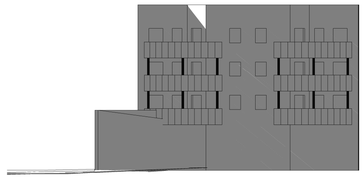
JUNE 21st 8AM



JUNE 21st 9AM



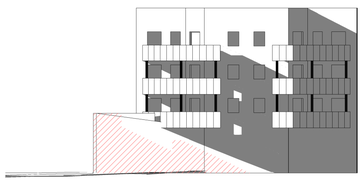
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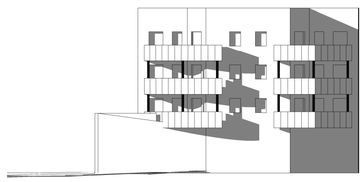
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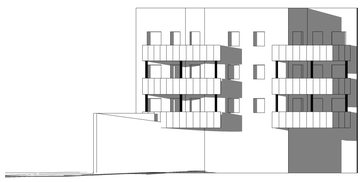
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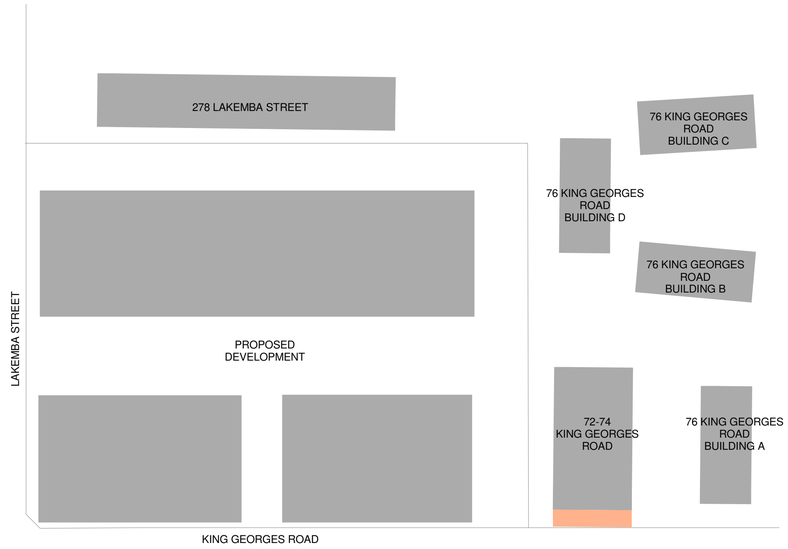
JUNE 21st 2PM



JUNE 21st 3PM



JUNE 21st 4PM



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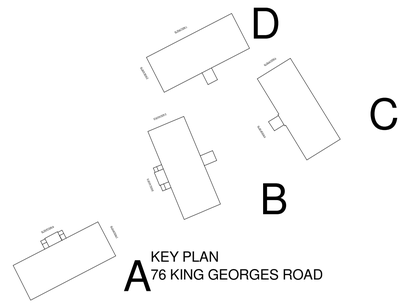
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LAKEMBA STREET DEVELOPMENTS P/L

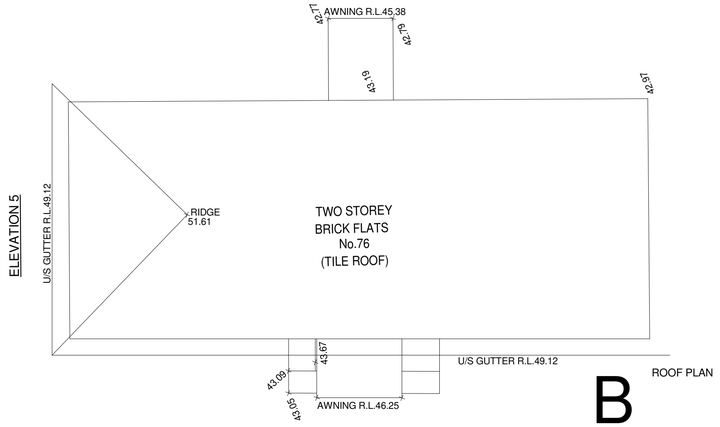
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
72-74 KING GEORGES RD SHADOW IMPACT DIAGRAM 03

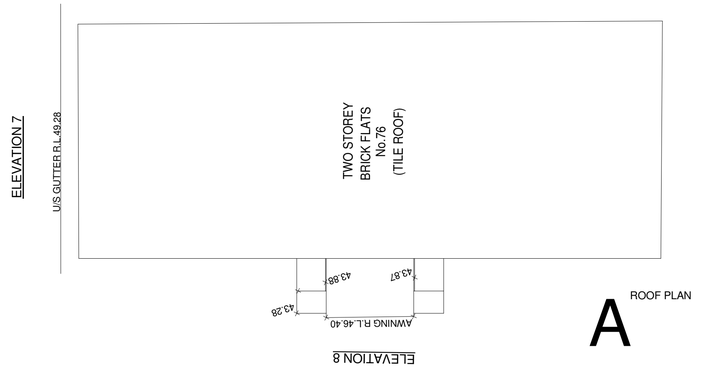
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JOB	DRAWING	REVISION
15063	DA7.15	B

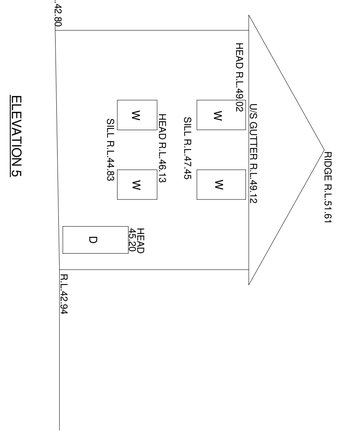


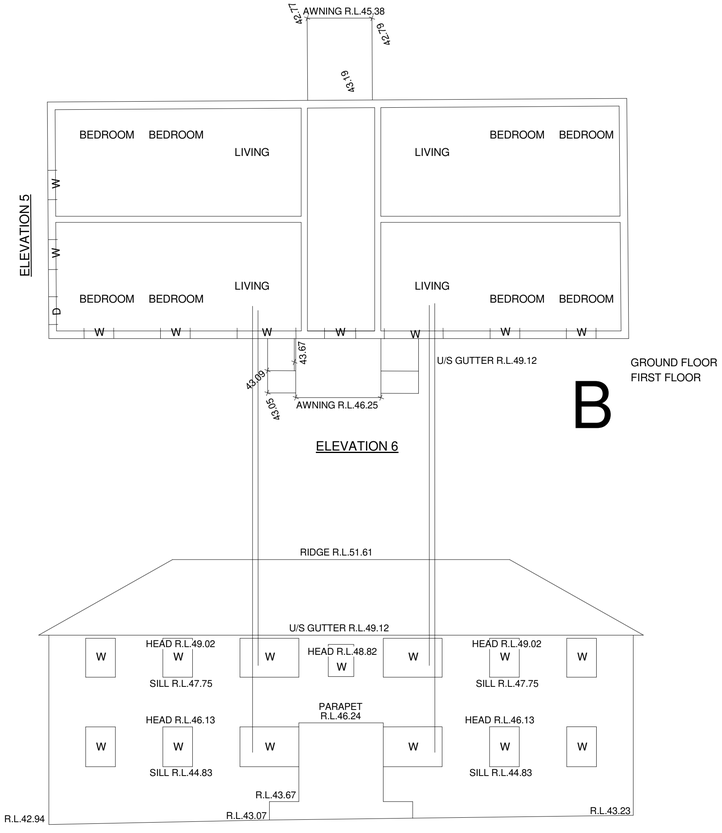


ELEVATION 6



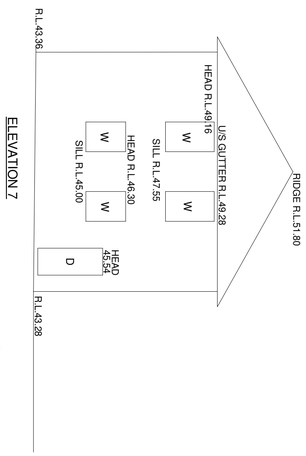
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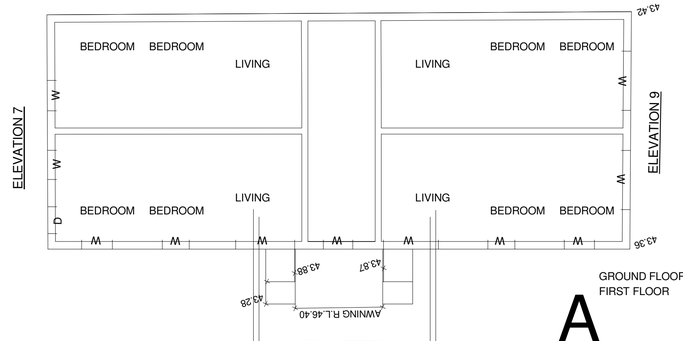


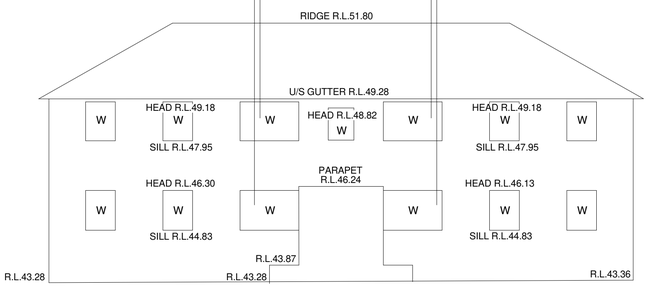


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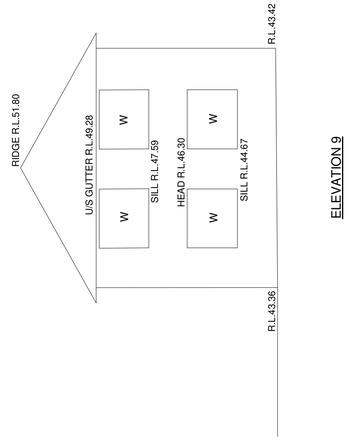
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ELEVATION 8



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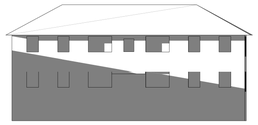
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

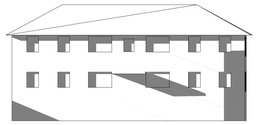
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76 KING GEORGES RD (A&B) SURVEY INFORMATION

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

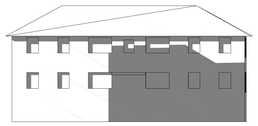
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15063	DA7.16	B



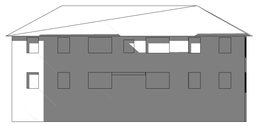
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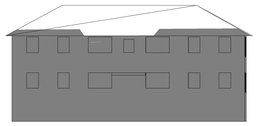
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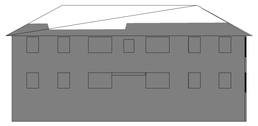
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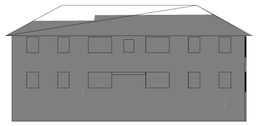
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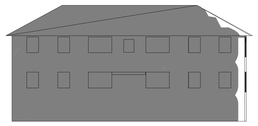
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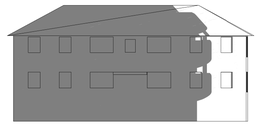
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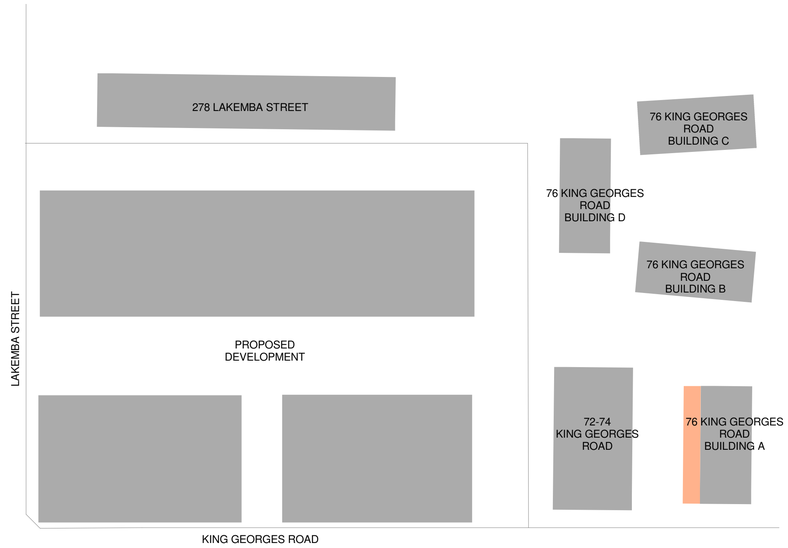
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JUNE 21st 3PM



JUNE 21st 4PM



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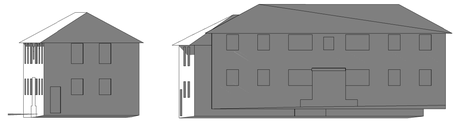
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
76 KING GEORGES RD (A) SHADOW IMPACT DIAGRAM

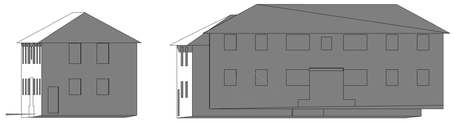
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

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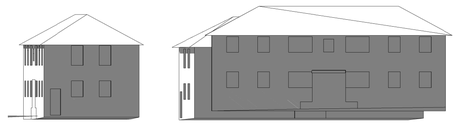
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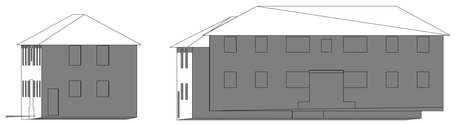
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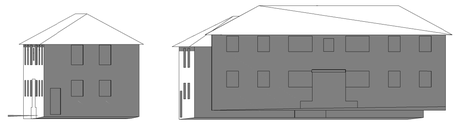
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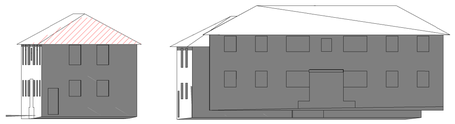
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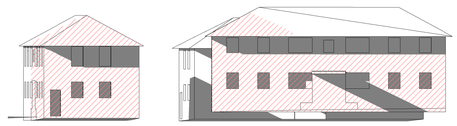
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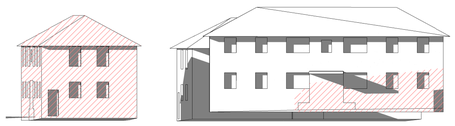
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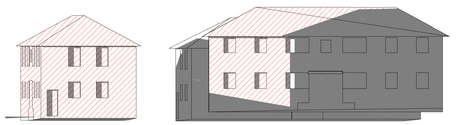
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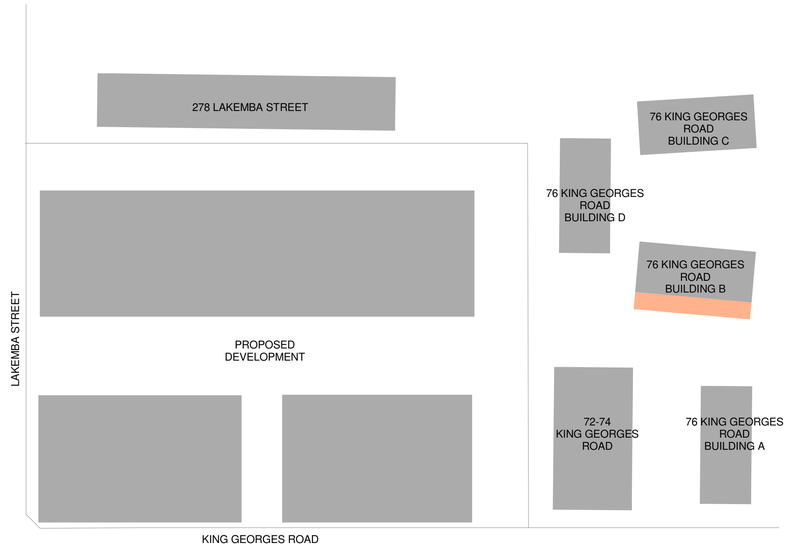
JUNE 21st 2PM



JUNE 21st 3PM



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SHADOW CAST BY THE EXISTING CONDITION

SHADOW CAST BY THE PROPOSAL

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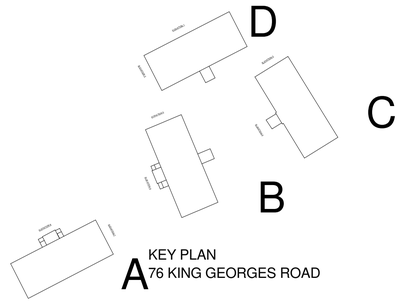
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LAKEMBA STREET DEVELOPMENTS P/L

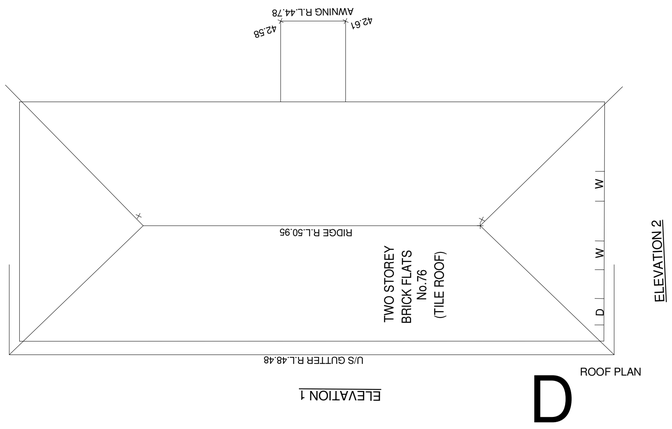
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

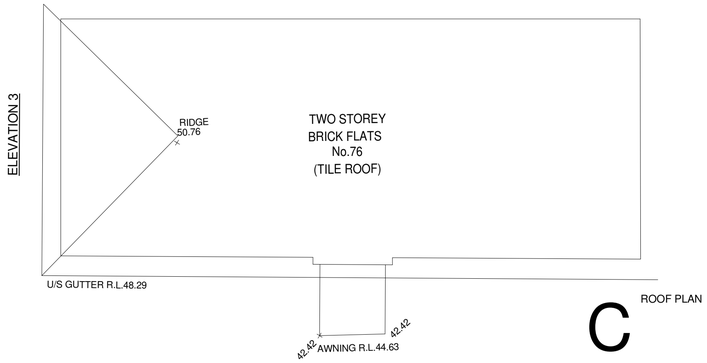
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76 KING GEORGES RD (B) SHADOW IMPACT DIAGRAM

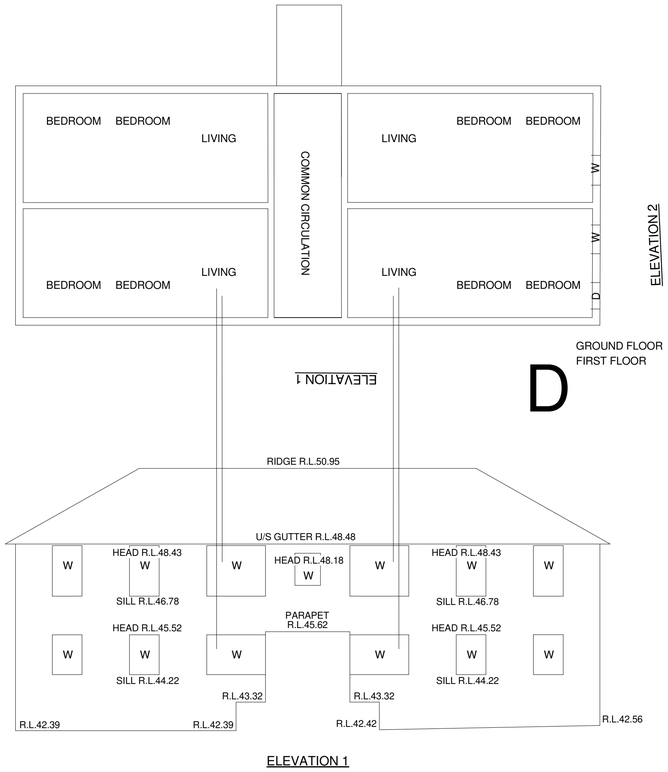
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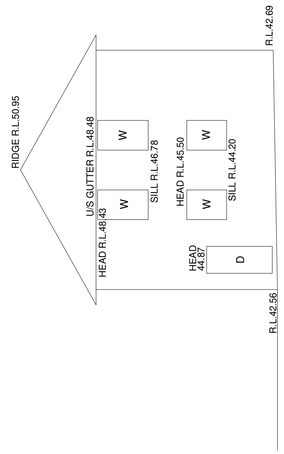
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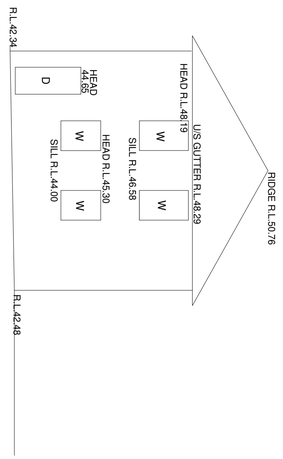


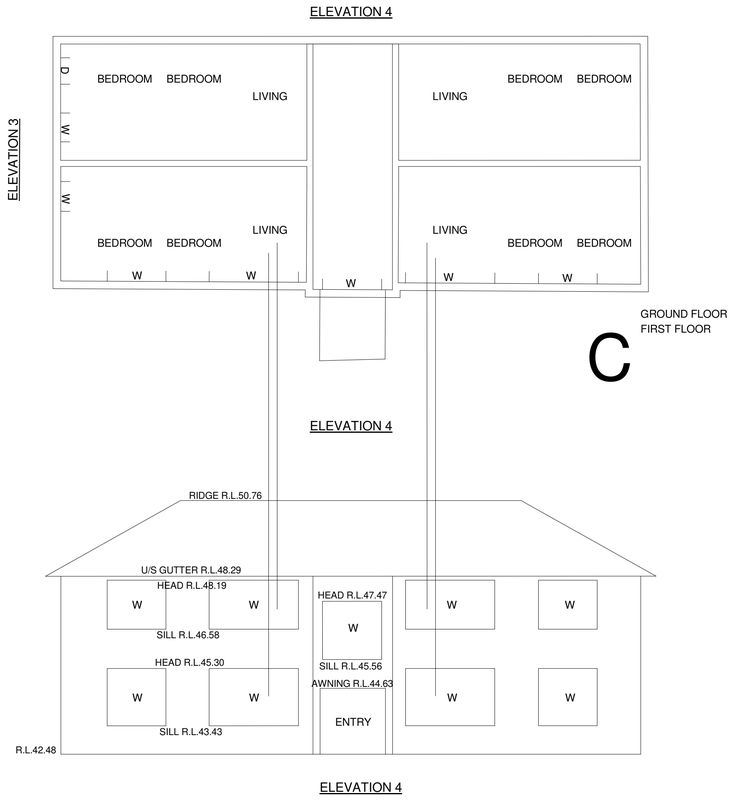












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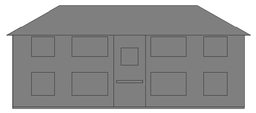
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LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

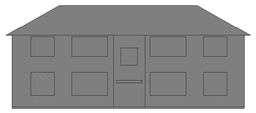
DRAWING TITLE
76 KING GEORGES (C&D) SURVEY INFORMATION

SCALE	DATE	DRAWN	CHECKED
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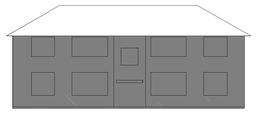
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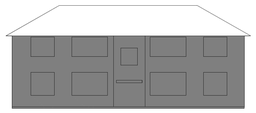
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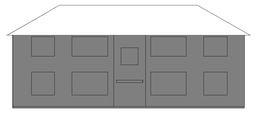
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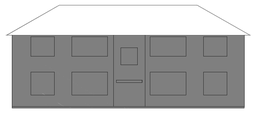
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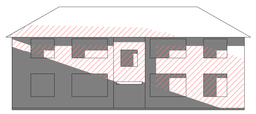
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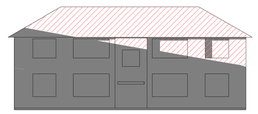
JUNE 21st 1PM



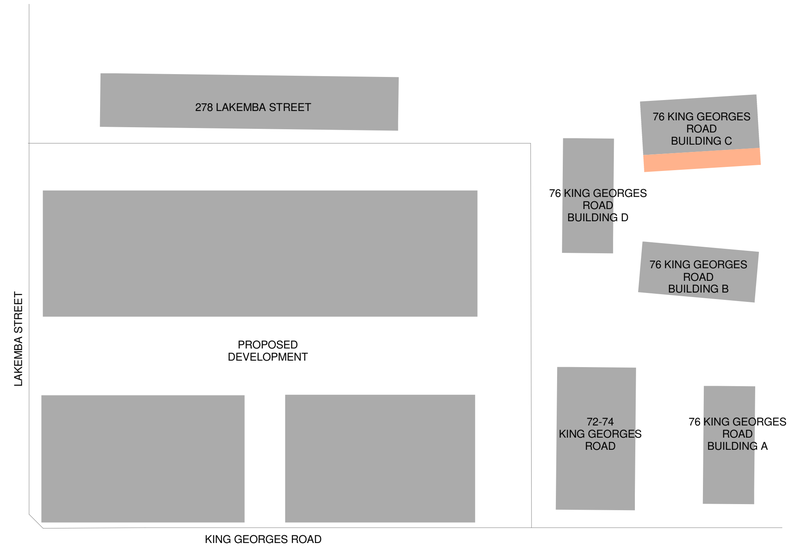
JUNE 21st 2PM



JUNE 21st 3PM



JUNE 21st 4PM



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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
76 KING GEORGES RD (C) SHADOW IMPACT DIAGRAM

SCALE	DATE	DRAWN	CHECKED
1 : 250 @A1 1:500 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA7.20	B



JUNE 21st 8AM



JUNE 21st 9AM



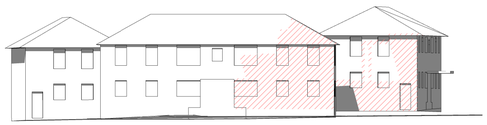
JUNE 21st 10AM



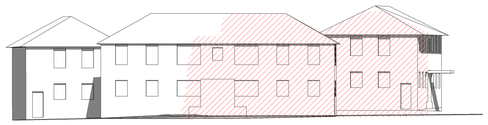
JUNE 21st 11AM



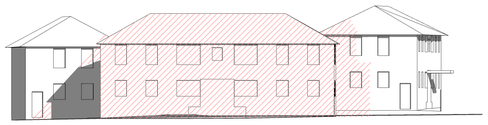
JUNE 21st 12PM



JUNE 21st 1PM



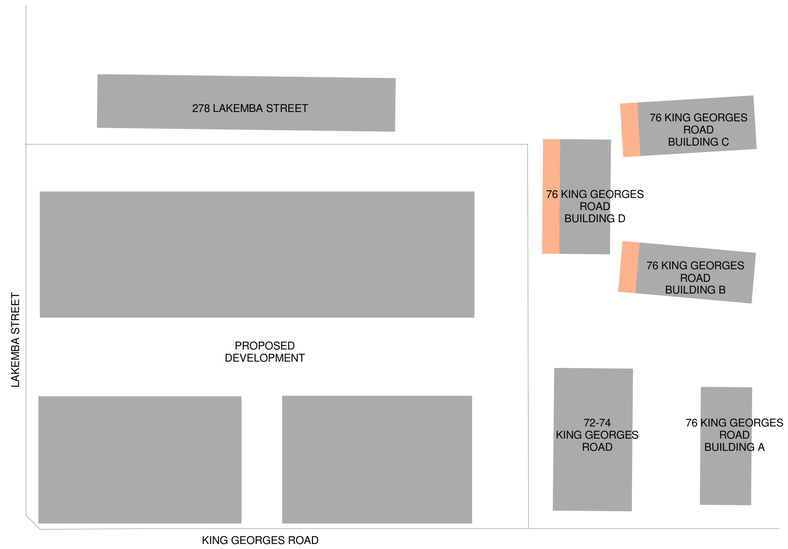
JUNE 21st 2PM



JUNE 21st 3PM



JUNE 21st 4PM



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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
76 KING GEORGES RD (B,C&D) SHADOW IMPACT DIAGRAM

SCALE	DATE	DRAWN	CHECKED
1:250 @A1 1:500 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA7.21	B



3D_21 Jun 0900_SOLAR



3D_21 Jun 1000_SOLAR



3D_21 Jun 1100_SOLAR



3D_21 Jun 1200_SOLAR

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LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
VIEWS FROM THE SUN 01

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA7.30	C



3D_21 Jun 1300_SOLAR



3D_21 Jun 1400_SOLAR



3D_21 Jun 1500_SOLAR

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DRAWING TITLE
VIEWS FROM THE SUN 02

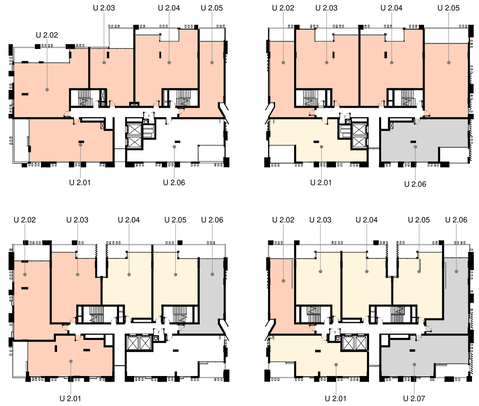
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA7.31	C



1 - SOLAR ACC. LEVEL 1



2 - SOLAR ACC. LEVEL 2



3 - SOLAR ACC. LEVEL 3



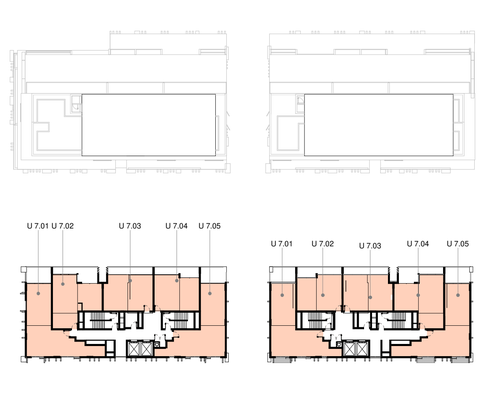
4 - SOLAR ACC. LEVEL 4



5 - SOLAR ACC. LEVEL 5



6 - SOLAR ACC. LEVEL 6



7 - SOLAR ACC. LEVEL 7

UNITS RECEIVE 2 HOURS SOLAR	
LEVEL 1	12
LEVEL 2	13
LEVEL 3	19
LEVEL 4	17
LEVEL 5	18
LEVEL 6	14
LEVEL 7	10
TOTAL: 142	103

2 HOURS

< 2 HOURS

NO SOLAR

UNITS RECEIVE 2 HOURS SOLAR	TOTAL UNITS	%
103	142	**72.54**

UNITS RECEIVE < 2 HOURS SOLAR	TOTAL UNITS	%
19	142	**13.38**

UNITS NO SOLAR	TOTAL UNITS	%
20	142	**14.08**

SOLAR COMPLIANCE CHECK_BUILDING B01-A

UNIT No.	9AM	10AM	11AM	12PM	1PM	2PM	3PM	TOTAL
B01-A. LEVEL 1								
U 1.01								0
U 1.02				Y	Y			1
U 1.03					Y			1
U 1.04					Y			1
U 1.05					Y	Y		1
U 1.06								0
U 1.07								0
B01-A. LEVEL 2								
U 2.01							Y	1
U 2.02				Y	Y	Y		2
U 2.03		Y			Y			1
U 2.04				Y	Y			1
U 2.05					Y	Y		1
U 2.06								0
U 2.07								0
B01-A. LEVEL 3								
U 3.01	Y			Y	Y	Y		3
U 3.02		Y		Y	Y	Y		3
U 3.03				Y	Y	Y		2
U 3.04				Y	Y	Y		2
U 3.05				Y	Y	Y		2
B01-A. LEVEL 4								
U 4.01	Y	Y	Y	Y				3
U 4.02		Y	Y	Y				2
U 4.03		Y	Y	Y				2
U 4.04		Y	Y	Y	Y			3
U 4.05		Y	Y					1
B01-A. LEVEL 5								
U 5.01	Y	Y	Y	Y				3
U 5.02	Y	Y	Y	Y				3
U 5.03	Y	Y	Y	Y				3
U 5.04		Y	Y	Y	Y			3
U 5.05	Y	Y	Y					2
B01-A. LEVEL 6								
U 6.01	Y	Y	Y	Y	Y			4
U 6.02	Y	Y	Y	Y				3
U 6.03	Y	Y	Y	Y				3
U 6.04	Y	Y	Y	Y	Y			4
U 6.05	Y	Y	Y					2
B01-A. LEVEL 7								
U 7.01	Y	Y	Y	Y	Y			4
U 7.02	Y	Y	Y	Y				3
U 7.03	Y	Y	Y	Y				3
U 7.04	Y	Y	Y	Y	Y			4
U 7.05	Y	Y	Y					2

SOLAR COMPLIANCE CHECK_BUILDING B01-B

UNIT No.	9AM	10AM	11AM	12PM	1PM	2PM	3PM	TOTAL
B01-B. LEVEL 1								
U 1.01			Y	Y	Y	Y	Y	5
U 1.02	Y	Y	Y	Y	Y			4
U 1.03		Y	Y	Y				2
U 1.04				Y				1
U 1.05				Y				1
U 1.06								0
U 1.07								0
B01-B. LEVEL 2								
U 2.01			Y	Y	Y	Y	Y	4
U 2.02	Y	Y	Y	Y	Y	Y		5
U 2.03		Y	Y	Y				2
U 2.04				Y				1
U 2.05				Y				1
U 2.06								0
U 2.07								0
B01-B. LEVEL 3								
U 3.01	Y	Y	Y	Y	Y	Y	Y	6
U 3.02		Y	Y	Y				2
U 3.03			Y	Y	Y			2
U 3.04			Y	Y	Y			2
U 3.05			Y	Y	Y			2
B01-B. LEVEL 4								
U 4.01	Y	Y	Y	Y	Y	Y	Y	6
U 4.02	Y	Y	Y	Y				3
U 4.03		Y	Y	Y	Y			3
U 4.04		Y	Y	Y				2
U 4.05		Y	Y					1
B01-B. LEVEL 5								
U 5.01	Y	Y	Y	Y	Y	Y		6
U 5.02	Y	Y	Y	Y				3
U 5.03	Y	Y	Y	Y	Y			4
U 5.04		Y	Y	Y				2
U 5.05		Y	Y					1
B01-B. LEVEL 6								
U 6.01	Y	Y	Y	Y	Y	Y	Y	6
U 6.02	Y	Y	Y	Y				3
U 6.03	Y	Y	Y	Y	Y			4
U 6.04	Y	Y	Y	Y				3
U 6.05	Y	Y	Y					2
B01-B. LEVEL 7								
U 7.01	Y	Y	Y	Y	Y	Y	Y	6
U 7.02	Y	Y	Y	Y				3
U 7.03	Y	Y	Y	Y				3
U 7.04	Y	Y	Y	Y				3
U 7.05	Y	Y	Y					2

SOLAR COMPLIANCE CHECK_BUILDING B02-A

UNIT No.	9AM	10AM	11AM	12PM	1PM	2PM	3PM	TOTAL
B02-A. LEVEL 1								
U 1.01								0
U 1.02		Y	Y	Y				2
U 1.03		Y	Y	Y	Y			3
U 1.04		Y	Y	Y				2
U 1.05		Y	Y	Y				2
U 1.06								0
B02-A. LEVEL 2								
U 2.01							Y	1
U 2.02		Y	Y	Y				2
U 2.03		Y	Y	Y	Y			3
U 2.04		Y	Y	Y				2
U 2.05		Y	Y	Y				2
U 2.06								0
B02-A. LEVEL 3								
U 3.01			Y				Y	1
U 3.02		Y	Y	Y				2
U 3.03		Y	Y	Y	Y			3
U 3.04		Y	Y	Y	Y			3
U 3.05		Y	Y	Y				2
U 3.06								0
B02-A. LEVEL 4								
U 4.01							Y	1
U 4.02		Y	Y	Y	Y			3
U 4.03		Y	Y	Y				2
U 4.04		Y	Y	Y				2
U 4.05		Y	Y	Y	Y			3
U 4.06								0
B02-A. LEVEL 5								
U 5.01							Y	1
U 5.02		Y	Y	Y	Y			3
U 5.03		Y	Y	Y				2
U 5.04		Y	Y	Y				2
U 5.05		Y	Y	Y	Y			3
U 5.06								0
B02-A. LEVEL 6								
U 6.01		Y	Y	Y	Y			3
U 6.02		Y	Y	Y	Y			3

SOLAR COMPLIANCE CHECK_BUILDING B02-B

UNIT No.	9AM	10AM	11AM	12PM	1PM	2PM	3PM	TOTAL
B02-B. LEVEL 1								
U 1.01			Y	Y	Y	Y	Y	5
U 1.02		Y	Y	Y				2
U 1.03		Y	Y	Y	Y			3
U 1.04		Y	Y	Y				2
U 1.05		Y	Y	Y				2
U 1.06								0
B02-B. LEVEL 2								
U 2.01			Y	Y	Y	Y	Y	5
U 2.02		Y	Y	Y				2
U 2.03		Y	Y	Y	Y			3
U 2.04		Y	Y	Y				2
U 2.05		Y	Y	Y				2
U 2.06								0
B02-B. LEVEL 3								
U 3.01				Y	Y	Y	Y	3
U 3.02		Y	Y	Y	Y	Y	Y	6
U 3.03		Y	Y	Y	Y			3
U 3.04		Y	Y	Y	Y			3
U 3.05		Y	Y	Y				2
U 3.06								0
B02-B. LEVEL 4								
U 4.01				Y	Y	Y	Y	4
U 4.02		Y	Y	Y	Y	Y	Y	6
U 4.03		Y	Y	Y				2
U 4.04		Y	Y	Y				2
U 4.05		Y	Y	Y	Y			3
U 4.06								0
B02-B. LEVEL 5								
U 5.01				Y	Y	Y	Y	4
U 5.02		Y	Y	Y	Y	Y	Y	6
U 5.03		Y	Y	Y				2
U 5.04		Y	Y	Y				2
U 5.05		Y	Y	Y	Y			3
U 5.06								0
B02-B. LEVEL 6								
U 6.01		Y	Y	Y	Y	Y	Y	6
U 6.02		Y	Y	Y	Y			3

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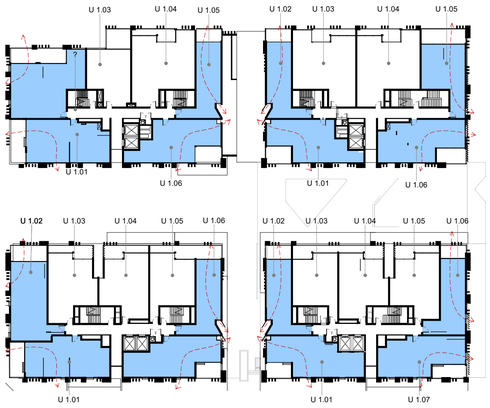
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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

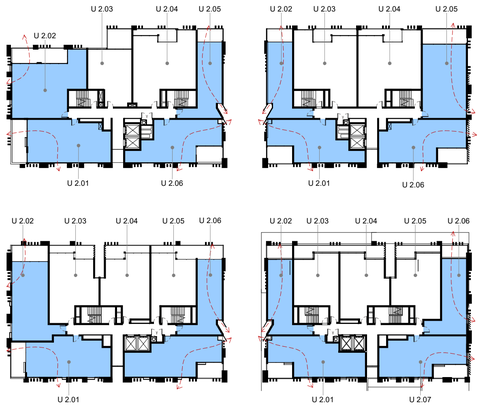
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
SOLAR ACCESS DIAGRAM

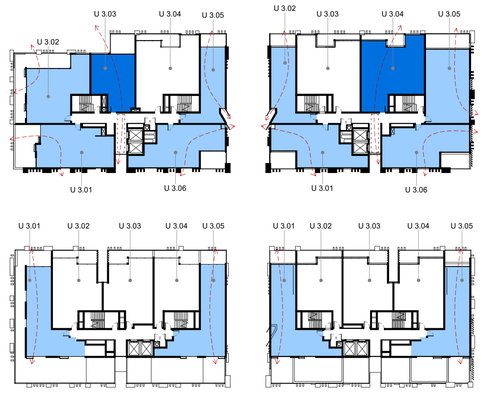
SCALE	DATE	DRAWN	CHECKED
1:500 @A1 1:1000 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA8.01		C



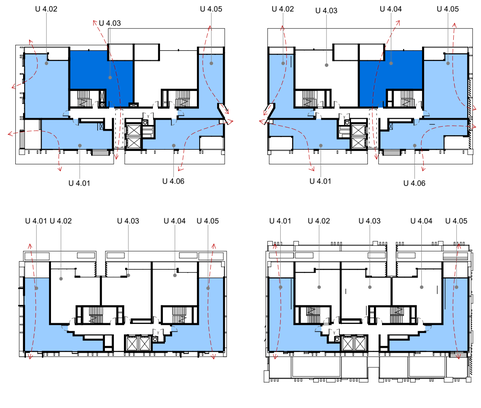
1 - CROSS VENT. LEVEL 1



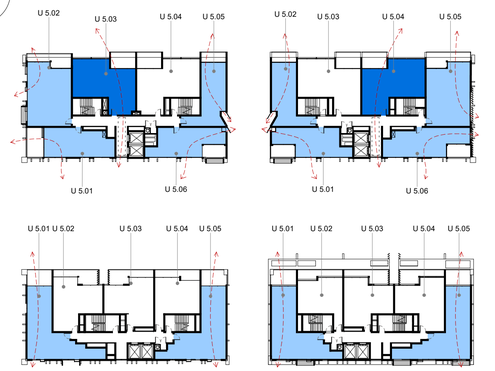
2 - CROSS VENT. LEVEL 2



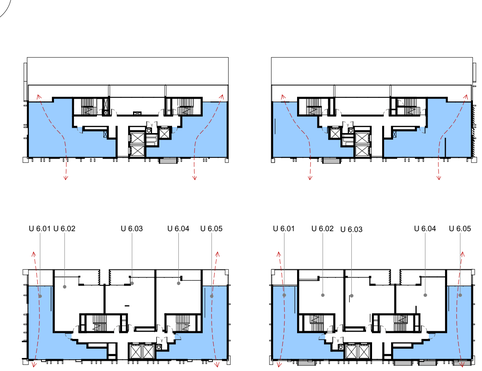
3 - CROSS VENT. LEVEL 3



4 - CROSS VENT. LEVEL 4



5 - CROSS VENT. LEVEL 5



6 - CROSS VENT. LEVEL 6



7 - CROSS VENT. LEVEL 7

KEY

NATURAL CROSS VENTILATION

CROSS OVER VENT THROUGH PLENUM DUCT

REFER TO WINDTECH´S NATURAL CROSS VENTILATION ASSESSMENT REPORT

UNITS ACHIEVE CROOS-FLOW	
LEVEL 1	16
LEVEL 2	16
LEVEL 3	14
LEVEL 4	14
LEVEL 5	14
LEVEL 6	8
LEVEL 7	4
TOTAL: 142	86

UNITS ACHIEVE CROSS-FLOW	TOTAL UNITS	%
86	142	**60.56**

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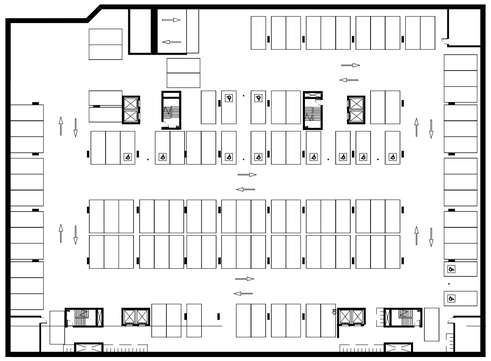
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
CROSS VENTILATION DIAGRAM

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:500 @A1 1:1000 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA8.02	C



B3 BASEMENT B3
-



B2 BASEMENT B2
DA3.01



B1 BASEMENT B1
DA3.01



0 LEVEL 0
DA3.01



1 LEVEL 1
DA3.01



2 LEVEL 2
DA3.01



3 LEVEL 3
DA3.01



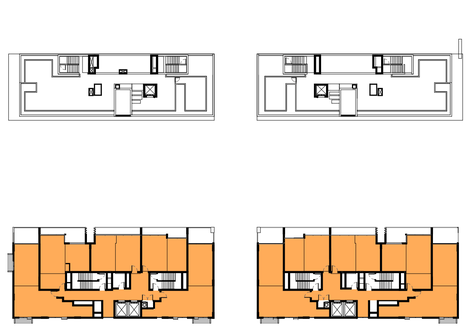
4 LEVEL 4
DA3.01



5 LEVEL 5
DA3.01



6 LEVEL 6
DA3.01



7 LEVEL 7
DA3.01

(GFA) (LEVEL)	
GFA BASEMENT B2	161.9 m²
GFA BASEMENT B1	1140.4 m²
GFA GROUND LEVEL	1298.6 m²
GFA LEVEL 1	2166.4 m²
GFA LEVEL 2	2180.9 m²
GFA LEVEL 3	1901.1 m²
GFA LEVEL 4	1486.8 m²
GFA LEVEL 5	1486.0 m²
GFA LEVEL 6	1148.0 m²
GFA LEVEL 7	669.5 m²
TOTAL GFA	13639.7 m²
RESIDENTIAL	11155.6 m²
CIRCULATION SPACE	289.0 m²
RETAIL OTHER SPECIALITIES	1164.6 m²
SUPERMARKET	1030.6 m²
TOTAL RETAIL	2484.1 m²

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REVISION	DATE	DESCRIPTION	BY
A	2021.03.30	DRAFT FOR COORDINATION	MH
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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
GFA DIAGRAM

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:500 @A1 1:1000 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA8.03	C

UNIT SCHEDULE - B01-A

		TYPE	NSA	Balcony	Floor
1	U 1.01	2B	82.4 m²	10.3 m²	B01-A. LEVEL 1
2	U 1.02	1B	53.0 m²	8.7 m²	B01-A. LEVEL 1
3	U 1.03	1B	63.0 m²	11.0 m²	B01-A. LEVEL 1
4	U 1.04	2B	72.4 m²	10.7 m²	B01-A. LEVEL 1
5	U 1.05	2B	72.2 m²	10.6 m²	B01-A. LEVEL 1
6	U 1.06	1B	56.4 m²	8.1 m²	B01-A. LEVEL 1
7	U 1.07	2B	78.9 m²	11.3 m²	B01-A. LEVEL 1
			478.2 m²	70.7 m²	
8	U 2.01	2B	82.5 m²	10.3 m²	B01-A. LEVEL 2
9	U 2.02	1B	52.9 m²	8.9 m²	B01-A. LEVEL 2
10	U 2.03	1B	63.0 m²	10.9 m²	B01-A. LEVEL 2
11	U 2.04	2B	72.4 m²	10.6 m²	B01-A. LEVEL 2
12	U 2.05	2B	72.2 m²	10.6 m²	B01-A. LEVEL 2
13	U 2.06	1B	56.4 m²	8.1 m²	B01-A. LEVEL 2
14	U 2.07	2B	78.9 m²	11.3 m²	B01-A. LEVEL 2
			478.2 m²	70.5 m²	
15	U 3.01	2B	84.4 m²	38.6 m²	B01-A. LEVEL 3
16	U 3.02	1B	63.0 m²	10.9 m²	B01-A. LEVEL 3
17	U 3.03	2B	72.3 m²	10.6 m²	B01-A. LEVEL 3
18	U 3.04	2B	74.1 m²	10.6 m²	B01-A. LEVEL 3
19	U 3.05	2B	78.2 m²	32.5 m²	B01-A. LEVEL 3
			371.9 m²	103.1 m²	
20	U 4.01	2B	72.3 m²	10.5 m²	B01-A. LEVEL 4
21	U 4.02	ST	45.2 m²	9.2 m²	B01-A. LEVEL 4
22	U 4.03	1B	52.3 m²	11.4 m²	B01-A. LEVEL 4
23	U 4.04	1B	54.0 m²	11.9 m²	B01-A. LEVEL 4
24	U 4.05	2B	73.1 m²	10.7 m²	B01-A. LEVEL 4
			296.8 m²	53.7 m²	
25	U 5.01	2B	72.3 m²	10.5 m²	B01-A. LEVEL 5
26	U 5.02	ST	45.2 m²	9.2 m²	B01-A. LEVEL 5
27	U 5.03	1B	52.3 m²	11.4 m²	B01-A. LEVEL 5
28	U 5.04	1B	54.0 m²	11.4 m²	B01-A. LEVEL 5
29	U 5.05	2B	73.2 m²	10.7 m²	B01-A. LEVEL 5
			296.9 m²	53.2 m²	
30	U 6.01	2B	72.2 m²	10.5 m²	B01-A. LEVEL 6
31	U 6.02	ST	45.2 m²	9.2 m²	B01-A. LEVEL 6
32	U 6.03	1B	52.4 m²	11.3 m²	B01-A. LEVEL 6
33	U 6.04	1B	54.0 m²	11.4 m²	B01-A. LEVEL 6
34	U 6.05	2B	73.1 m²	10.5 m²	B01-A. LEVEL 6
			296.8 m²	52.9 m²	
35	U 7.01	2B	72.3 m²	10.5 m²	B01-A. LEVEL 7
36	U 7.02	ST	41.3 m²	9.2 m²	B01-A. LEVEL 7
37	U 7.03	ST	45.8 m²	7.7 m²	B01-A. LEVEL 7
38	U 7.04	1B	53.3 m²	12.2 m²	B01-A. LEVEL 7
39	U 7.05	2B	73.1 m²	10.7 m²	B01-A. LEVEL 7
			285.7 m²	50.3 m²	

UNIT SCHEDULE - B01-B

		TYPE	NSA	Balcony	Floor
1	U 1.01	2B	82.2 m²	13.5 m²	B01-B. LEVEL 1
2	U 1.02	2B	81.0 m²	14.3 m²	B01-B. LEVEL 1
3	U 1.03	2B	74.1 m²	10.5 m²	B01-B. LEVEL 1
4	U 1.04	2B	72.3 m²	10.6 m²	B01-B. LEVEL 1
5	U 1.05	1B	63.0 m²	10.8 m²	B01-B. LEVEL 1
6	U 1.06	1B	53.0 m²	8.8 m²	B01-B. LEVEL 1
7	U 1.07	2B	82.2 m²	10.3 m²	B01-B. LEVEL 1
			507.8 m²	78.8 m²	
8	U 2.01	2B	82.2 m²	13.8 m²	B01-B. LEVEL 2
9	U 2.02	2B	81.0 m²	14.3 m²	B01-B. LEVEL 2
10	U 2.03	2B	74.1 m²	10.5 m²	B01-B. LEVEL 2
11	U 2.04	2B	72.3 m²	10.6 m²	B01-B. LEVEL 2
12	U 2.05	1B	63.0 m²	10.8 m²	B01-B. LEVEL 2
13	U 2.06	1B	53.0 m²	8.8 m²	B01-B. LEVEL 2
14	U 2.07	2B	82.2 m²	10.1 m²	B01-B. LEVEL 2
			507.8 m²	78.9 m²	
15	U 3.01	2B	78.4 m²	85.8 m²	B01-B. LEVEL 3
16	U 3.02	2B	74.1 m²	10.5 m²	B01-B. LEVEL 3
17	U 3.03	2B	72.3 m²	10.6 m²	B01-B. LEVEL 3
18	U 3.04	1B	63.0 m²	10.8 m²	B01-B. LEVEL 3
19	U 3.05	2B	84.4 m²	39.4 m²	B01-B. LEVEL 3
			372.2 m²	157.1 m²	
20	U 4.01	2B	73.2 m²	10.6 m²	B01-B. LEVEL 4
21	U 4.02	1B	54.0 m²	11.4 m²	B01-B. LEVEL 4
22	U 4.03	1B	52.3 m²	11.4 m²	B01-B. LEVEL 4
23	U 4.04	ST	45.2 m²	9.2 m²	B01-B. LEVEL 4
24	U 4.05	2B	72.2 m²	10.7 m²	B01-B. LEVEL 4
			297.0 m²	53.3 m²	
25	U 5.01	2B	73.3 m²	10.5 m²	B01-B. LEVEL 5
26	U 5.02	1B	54.0 m²	11.4 m²	B01-B. LEVEL 5
27	U 5.03	1B	52.3 m²	11.4 m²	B01-B. LEVEL 5
28	U 5.04	ST	45.2 m²	9.2 m²	B01-B. LEVEL 5
29	U 5.05	2B	72.2 m²	10.5 m²	B01-B. LEVEL 5
			297.1 m²	53.0 m²	
30	U 6.01	2B	73.3 m²	10.4 m²	B01-B. LEVEL 6
31	U 6.02	1B	54.0 m²	11.4 m²	B01-B. LEVEL 6
32	U 6.03	1B	52.4 m²	11.4 m²	B01-B. LEVEL 6
33	U 6.04	ST	45.1 m²	9.2 m²	B01-B. LEVEL 6
34	U 6.05	2B	72.2 m²	10.5 m²	B01-B. LEVEL 6
			296.9 m²	52.9 m²	
35	U 7.01	2B	73.3 m²	10.5 m²	B01-B. LEVEL 7
36	U 7.02	1B	53.3 m²	12.2 m²	B01-B. LEVEL 7
37	U 7.03	ST	46.4 m²	7.7 m²	B01-B. LEVEL 7
38	U 7.04	ST	41.3 m²	9.2 m²	B01-B. LEVEL 7
39	U 7.05	2B	72.2 m²	10.5 m²	B01-B. LEVEL 7
			286.5 m²	50.1 m²	

UNIT SCHEDULE - B02-A

		TYPE	NSA	Balcony	Floor
1	U 1.01	2B	0.0 m²	11.2 m²	B02-A. LEVEL 1
2	U 1.02	1B	53.5 m²	8.1 m²	B02-A. LEVEL 1
3	U 1.03	2B	101.7 m²	11.1 m²	B02-A. LEVEL 1
4	U 1.04	2B	101.7 m²	10.0 m²	B02-A. LEVEL 1
5	U 1.05	1B	63.7 m²	16.6 m²	B02-A. LEVEL 1
6	U 1.06	2B	83.4 m²	11.1 m²	B02-A. LEVEL 1
			403.9 m²	68.1 m²	
7	U 2.01	2B	79.7 m²	11.2 m²	B02-A. LEVEL 2
8	U 2.02	1B	55.4 m²	8.1 m²	B02-A. LEVEL 2
9	U 2.03	2B	101.7 m²	11.1 m²	B02-A. LEVEL 2
10	U 2.04	2B	101.7 m²	10.0 m²	B02-A. LEVEL 2
11	U 2.05	2B	86.0 m²	16.6 m²	B02-A. LEVEL 2
12	U 2.06	2B	83.4 m²	11.1 m²	B02-A. LEVEL 2
			507.8 m²	68.1 m²	
13	U 3.01	2B	79.5 m²	11.1 m²	B02-A. LEVEL 3
14	U 3.02	1B	53.5 m²	8.1 m²	B02-A. LEVEL 3
15	U 3.03	2B	101.7 m²	10.5 m²	B02-A. LEVEL 3
16	U 3.04	2B	101.7 m²	10.4 m²	B02-A. LEVEL 3
17	U 3.05	2B	86.1 m²	14.9 m²	B02-A. LEVEL 3
18	U 3.06	2B	82.7 m²	11.4 m²	B02-A. LEVEL 3
			505.2 m²	66.5 m²	
19	U 4.01	1B	49.2 m²	8.6 m²	B02-A. LEVEL 4
20	U 4.02	ST	45.4 m²	4.6 m²	B02-A. LEVEL 4
21	U 4.03	2B	70.8 m²	10.5 m²	B02-A. LEVEL 4
22	U 4.04	2B	70.2 m²	10.5 m²	B02-A. LEVEL 4
23	U 4.05	2B	71.3 m²	10.7 m²	B02-A. LEVEL 4
24	U 4.06	1B	55.2 m²	8.4 m²	B02-A. LEVEL 4
			362.1 m²	53.2 m²	
25	U 5.01	1B	49.0 m²	7.2 m²	B02-A. LEVEL 5
26	U 5.02	ST	45.4 m²	5.8 m²	B02-A. LEVEL 5
27	U 5.03	2B	70.0 m²	10.5 m²	B02-A. LEVEL 5
28	U 5.04	2B	70.0 m²	10.5 m²	B02-A. LEVEL 5
29	U 5.05	2B	71.3 m²	13.4 m²	B02-A. LEVEL 5
30	U 5.06	1B	55.8 m²	8.2 m²	B02-A. LEVEL 5
			361.4 m²	55.7 m²	
31	U 6.01	2B	75.9 m²	23.1 m²	B02-A. LEVEL 6
32	U 6.02	3B	95.5 m²	27.8 m²	B02-A. LEVEL 6
			171.4 m²	50.9 m²	

UNIT SCHEDULE - B02-B

		TYPE	NSA	Balcony	Floor
1	U 1.01	2B	90.2 m²	16.4 m²	B02-B. LEVEL 1
2	U 1.02	3B	100.4 m²	21.0 m²	B02-B. LEVEL 1
3	U 1.03	1B	58.5 m²	12.3 m²	B02-B. LEVEL 1
4	U 1.04	2B	101.2 m²	10.7 m²	B02-B. LEVEL 1
5	U 1.05	1B	53.5 m²	8.1 m²	B02-B. LEVEL 1
6	U 1.06	2B	176.7 m²	11.2 m²	B02-B. LEVEL 1
			580.5 m²	79.7 m²	
7	U 2.01	2B	90.2 m²	16.4 m²	B02-B. LEVEL 2
8	U 2.02	3B	100.4 m²	21.0 m²	B02-B. LEVEL 2
9	U 2.03	1B	58.5 m²	12.3 m²	B02-B. LEVEL 2
10	U 2.04	2B	101.2 m²	10.7 m²	B02-B. LEVEL 2
11	U 2.05	1B	53.5 m²	8.1 m²	B02-B. LEVEL 2
12	U 2.06	2B	0.0 m²	11.2 m²	B02-B. LEVEL 2
			403.8 m²	79.7 m²	
13	U 3.01	2B	80.7 m²	24.8 m²	B02-B. LEVEL 3
14	U 3.02	2B	83.6 m²	15.9 m²	B02-B. LEVEL 3
15	U 3.03	1B	58.5 m²	12.3 m²	B02-B. LEVEL 3
16	U 3.04	2B	101.2 m²	10.7 m²	B02-B. LEVEL 3
17	U 3.05	1B	53.5 m²	8.1 m²	B02-B. LEVEL 3
18	U 3.06	2B	79.4 m²	11.1 m²	B02-B. LEVEL 3
			456.9 m²	82.9 m²	
19	U 4.01	1B	51.2 m²	12.0 m²	B02-B. LEVEL 4
20	U 4.02	2B	71.0 m²	10.7 m²	B02-B. LEVEL 4
21	U 4.03	2B	69.7 m²	10.5 m²	B02-B. LEVEL 4
22	U 4.04	2B	69.7 m²	10.5 m²	B02-B. LEVEL 4
23	U 4.05	ST	45.5 m²	4.6 m²	B02-B. LEVEL 4
24	U 4.06	1B	49.1 m²	8.1 m²	B02-B. LEVEL 4
			356.3 m²	56.4 m²	
25	U 5.01	1B	51.2 m²	12.5 m²	B02-B. LEVEL 5
26	U 5.02	2B	71.4 m²	11.6 m²	B02-B. LEVEL 5
27	U 5.03	2B	69.5 m²	10.5 m²	B02-B. LEVEL 5
28	U 5.04	2B	69.6 m²	10.5 m²	B02-B. LEVEL 5
29	U 5.05	ST	45.5 m²	6.4 m²	B02-B. LEVEL 5
30	U 5.06	1B	49.2 m²	7.1 m²	B02-B. LEVEL 5
			356.4 m²	58.6 m²	
31	U 6.01	3B	95.5 m²	27.8 m²	B02-B. LEVEL 6
32	U 6.02	2B	76.0 m²	23.1 m²	B02-B. LEVEL 6
			171.5 m²	50.9 m²	

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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
UNITS DATA SHEET

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA8.04	B



LEVEL 01



LEVEL 02

LEGEND:

PRIVACY IMPACT ZONE

PRIVACY LOUVERS

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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
SEPP 65 DIAGRAM PRIVACY PLAN

SCALE	DATE	DRAWN	CHECKED
1:300 @A1 1:600 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA8.05		C



LEVEL 03

LEGEND:

PRIVACY IMPACT ZONE

PRIVACY LOUVERS

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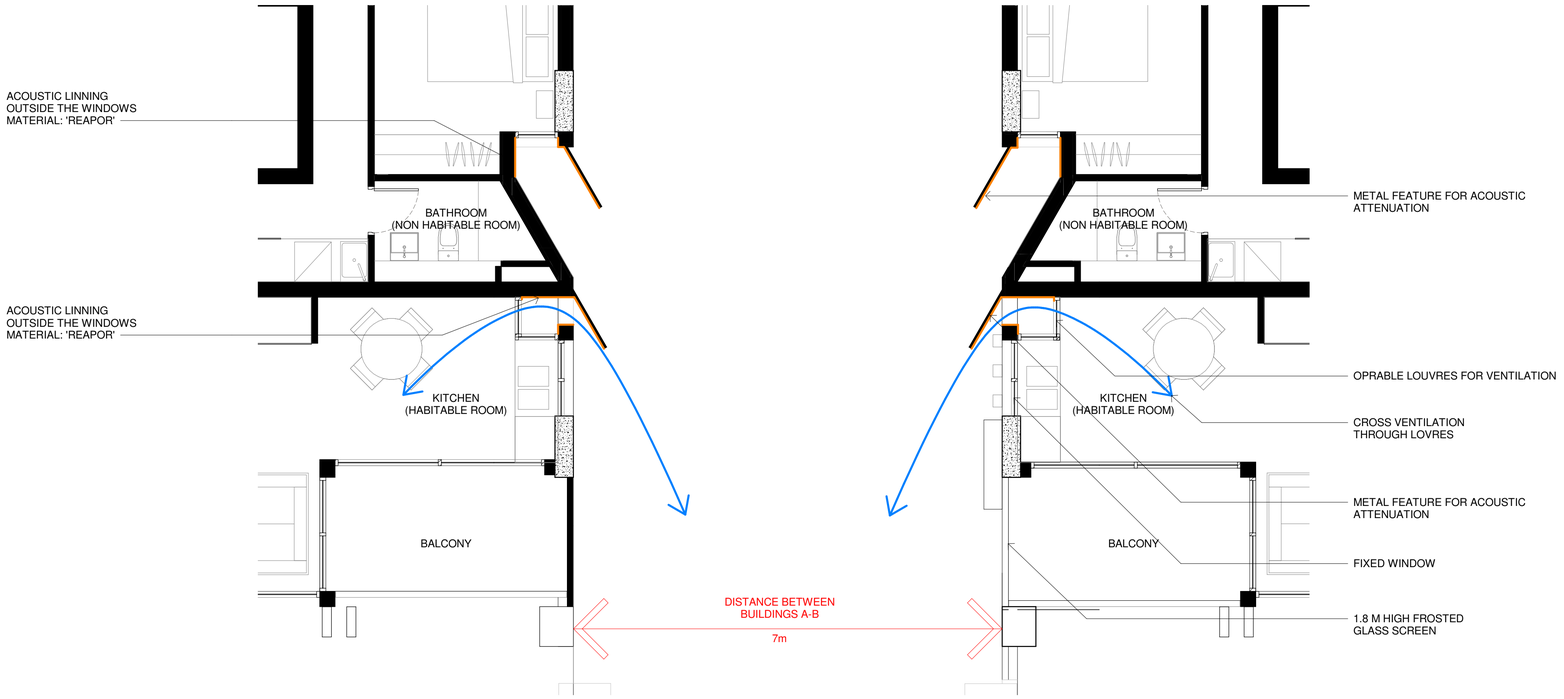
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

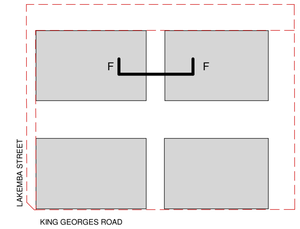
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SCALE	DATE	DRAWN	CHECKED
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JOB	DRAWING	REVISION
15063	DA8.06	C



LEVEL 04





SECTION FF

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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
PRIVACY SECTION

SCALE	DATE	DRAWN	CHECKED
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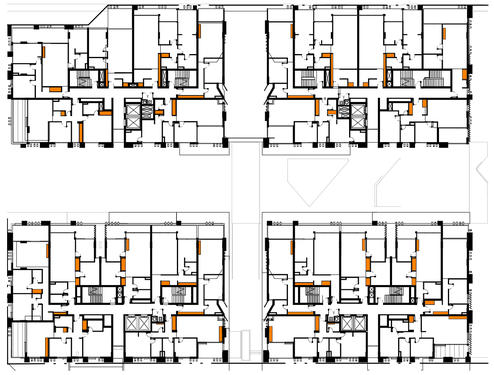
JOB	DRAWING	REVISION
15063	DA8.07	C



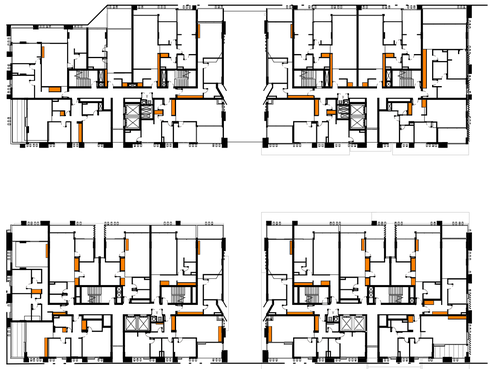
BASEMENT B03 - STORAGE



PLAN LEVEL B2 - STORAGE



LEVEL 01 - STORAGE



LEVEL 02 - STORAGE











LEVEL 03 - STORAGE



LEVEL 04 - STORAGE



LEVEL 05 - STORAGE



LEVEL 06 - STORAGE





LEVEL 07 - STORAGE

LEGEND:

INTERNAL STORAGE

BASEMENT STORAGE

IMPORTANT NOTES:
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REVISION	DATE	DESCRIPTION	BY
A	2021.03.30	DRAFT FOR COORDINATION	MH
B	2021.04.30	FOR COORDINATION	MH
C	2021.05.12	DA SUBMISSION	MH

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LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
STORAGE DIAGRAM 01

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:500 @A1 1:1000 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA8.10	C

STORAGE SCHEDULE

UNIT No.	UNIT TYPE	MIN REQUIRED (m^3)	INTERNAL STORAGE (m^3)	EXTERNAL STORAGE (m^3)	**TOTAL STORAGE (m^3)**
1A_U1.01	2B	8.0 m^3	8.1 m^3	0.0 m^3	**8.1 m^3**
1A_U1.02	1B	6.0 m^3	6.6 m^3	0.0 m^3	**6.6 m^3**
1A_U1.03	1B	6.0 m^3	6.7 m^3	0.0 m^3	**6.7 m^3**
1A_U1.04	2B	8.0 m^3	10.5 m^3	0.0 m^3	**10.5 m^3**
1A_U1.05	2B	8.0 m^3	8.1 m^3	0.0 m^3	**8.1 m^3**
1A_U1.06	1B	6.0 m^3	6.0 m^3	0.0 m^3	**6.0 m^3**
1A_U1.07	2B	8.0 m^3	6.4 m^3	7.4 m^3	**13.8 m^3**
1A_U2.01	2B	8.0 m^3	8.1 m^3	0.0 m^3	**8.1 m^3**
1A_U2.02	1B	6.0 m^3	21.5 m^3	0.0 m^3	**21.5 m^3**
1A_U2.03	1B	6.0 m^3	6.7 m^3	0.0 m^3	**6.7 m^3**
1A_U2.04	2B	8.0 m^3	8.4 m^3	0.0 m^3	**8.4 m^3**
1A_U2.05	2B	8.0 m^3	8.1 m^3	0.0 m^3	**8.1 m^3**
1A_U2.06	1B	6.0 m^3	6.0 m^3	0.0 m^3	**6.0 m^3**
1A_U2.07	2B	8.0 m^3	6.4 m^3	3.3 m^3	**9.7 m^3**
1A_U3.01	2B	8.0 m^3	6.5 m^3	6.0 m^3	**12.5 m^3**
1A_U3.02	1B	6.0 m^3	6.7 m^3	4.4 m^3	**11.2 m^3**
1A_U3.03	2B	8.0 m^3	8.4 m^3	0.0 m^3	**8.4 m^3**
1A_U3.04	2B	8.0 m^3	6.2 m^3	5.5 m^3	**11.8 m^3**
1A_U3.05	2B	8.0 m^3	5.0 m^3	7.4 m^3	**12.4 m^3**
1A_U4.01	2B	8.0 m^3	6.1 m^3	4.5 m^3	**10.7 m^3**
1A_U4.02	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1A_U4.03	1B	6.0 m^3	7.2 m^3	0.0 m^3	**7.2 m^3**
1A_U4.04	1B	6.0 m^3	6.0 m^3	0.0 m^3	**6.0 m^3**
1A_U4.05	2B	8.0 m^3	5.0 m^3	6.0 m^3	**11.0 m^3**
1A_U5.01	2B	8.0 m^3	6.1 m^3	7.4 m^3	**13.6 m^3**
1A_U5.02	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1A_U5.03	1B	6.0 m^3	7.2 m^3	0.0 m^3	**7.2 m^3**
1A_U5.04	1B	6.0 m^3	6.0 m^3	6.1 m^3	**12.1 m^3**
1A_U5.05	2B	8.0 m^3	5.0 m^3	7.4 m^3	**12.4 m^3**
1A_U6.01	2B	8.0 m^3	5.4 m^3	6.0 m^3	**11.5 m^3**
1A_U6.02	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1A_U6.03	1B	6.0 m^3	6.0 m^3	0.0 m^3	**6.0 m^3**
1A_U6.04	1B	6.0 m^3	3.4 m^3	3.7 m^3	**7.1 m^3**
1A_U6.05	2B	8.0 m^3	4.1 m^3	4.4 m^3	**8.5 m^3**
1A_U7.01	2B	8.0 m^3	5.0 m^3	3.3 m^3	**8.3 m^3**
1A_U7.02	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1A_U7.03	ST	4.0 m^3	4.8 m^3	0.0 m^3	**4.8 m^3**
1A_U7.04	1B	6.0 m^3	3.2 m^3	3.3 m^3	**6.5 m^3**
1A_U7.05	2B	8.0 m^3	4.0 m^3	4.3 m^3	**8.3 m^3**

STORAGE SCHEDULE

UNIT No.	UNIT TYPE	MIN REQUIRED (m^3)	INTERNAL STORAGE (m^3)	EXTERNAL STORAGE (m^3)	**TOTAL STORAGE (m^3)**
1B_U1.01	2B	8.0 m^3	8.8 m^3	0.0 m^3	**8.8 m^3**
1B_U1.02	2B	8.0 m^3	9.6 m^3	4.6 m^3	**14.2 m^3**
1B_U1.03	2B	8.0 m^3	6.2 m^3	4.8 m^3	**11.0 m^3**
1B_U1.04	2B	8.0 m^3	8.4 m^3	7.1 m^3	**15.5 m^3**
1B_U1.05	1B	6.0 m^3	6.7 m^3	3.2 m^3	**10.0 m^3**
1B_U1.06	1B	6.0 m^3	4.7 m^3	3.2 m^3	**7.9 m^3**
1B_U1.07	2B	8.0 m^3	8.1 m^3	0.0 m^3	**8.1 m^3**
1B_U2.01	2B	8.0 m^3	8.8 m^3	3.2 m^3	**12.1 m^3**
1B_U2.02	2B	8.0 m^3	3.9 m^3	7.6 m^3	**11.5 m^3**
1B_U2.03	2B	8.0 m^3	6.2 m^3	6.0 m^3	**12.3 m^3**
1B_U2.04	2B	8.0 m^3	8.4 m^3	7.4 m^3	**15.8 m^3**
1B_U2.05	1B	6.0 m^3	6.7 m^3	7.4 m^3	**14.2 m^3**
1B_U2.06	1B	6.0 m^3	4.7 m^3	6.0 m^3	**10.8 m^3**
1B_U2.07	2B	8.0 m^3	8.1 m^3	6.0 m^3	**14.1 m^3**
1B_U3.01	2B	8.0 m^3	5.0 m^3	5.3 m^3	**10.3 m^3**
1B_U3.02	2B	8.0 m^3	6.2 m^3	4.4 m^3	**10.7 m^3**
1B_U3.03	2B	8.0 m^3	6.3 m^3	5.4 m^3	**11.6 m^3**
1B_U3.04	1B	6.0 m^3	6.7 m^3	5.4 m^3	**12.1 m^3**
1B_U3.05	2B	8.0 m^3	6.5 m^3	5.4 m^3	**11.8 m^3**
1B_U4.01	2B	8.0 m^3	5.0 m^3	3.6 m^3	**8.5 m^3**
1B_U4.02	1B	6.0 m^3	6.0 m^3	0.0 m^3	**6.0 m^3**
1B_U4.03	1B	6.0 m^3	7.2 m^3	0.0 m^3	**7.2 m^3**
1B_U4.04	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1B_U4.05	2B	8.0 m^3	6.1 m^3	6.9 m^3	**13.0 m^3**
1B_U5.01	2B	8.0 m^3	5.0 m^3	6.0 m^3	**11.0 m^3**
1B_U5.02	1B	6.0 m^3	6.0 m^3	0.0 m^3	**6.0 m^3**
1B_U5.03	1B	6.0 m^3	7.2 m^3	0.0 m^3	**7.2 m^3**
1B_U5.04	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1B_U5.05	2B	8.0 m^3	6.1 m^3	6.0 m^3	**12.2 m^3**
1B_U6.01	2B	8.0 m^3	4.0 m^3	6.0 m^3	**10.1 m^3**
1B_U6.02	1B	6.0 m^3	3.3 m^3	6.0 m^3	**9.4 m^3**
1B_U6.03	1B	6.0 m^3	6.0 m^3	0.0 m^3	**6.0 m^3**
1B_U6.04	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1B_U6.05	2B	8.0 m^3	5.9 m^3	6.0 m^3	**12.0 m^3**
1B_U7.01	2B	8.0 m^3	4.0 m^3	6.0 m^3	**10.1 m^3**
1B_U7.02	1B	6.0 m^3	3.3 m^3	6.0 m^3	**9.4 m^3**
1B_U7.03	ST	4.0 m^3	7.5 m^3	0.0 m^3	**7.5 m^3**
1B_U7.04	ST	4.0 m^3	4.0 m^3	0.0 m^3	**4.0 m^3**
1B_U7.05	2B	8.0 m^3	5.9 m^3	6.0 m^3	**12.0 m^3**

STORAGE SCHEDULE

UNIT No.	UNIT TYPE	MIN REQUIRED (m^3)	INTERNAL STORAGE (m^3)	EXTERNAL STORAGE (m^3)	**TOTAL STORAGE (m^3)**
2A_U1.01	2B	8.0 m^3	6.7 m^3	6.0 m^3	**12.8 m^3**
2A_U1.02	1B	6.0 m^3	4.7 m^3	6.0 m^3	**10.8 m^3**
2A_U1.03	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2A_U1.04	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2A_U1.05	1B	6.0 m^3	4.4 m^3	5.2 m^3	**9.6 m^3**
2A_U1.06	2B	8.0 m^3	5.5 m^3	6.9 m^3	**12.4 m^3**
2A_U2.01	2B	8.0 m^3	6.7 m^3	6.9 m^3	**13.6 m^3**
2A_U2.02	1B	6.0 m^3	4.7 m^3	6.0 m^3	**10.8 m^3**
2A_U2.03	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2A_U2.04	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2A_U2.05	2B	8.0 m^3	10.7 m^3	0.0 m^3	**10.7 m^3**
2A_U2.06	2B	8.0 m^3	5.5 m^3	6.0 m^3	**11.6 m^3**
2A_U3.01	2B	8.0 m^3	6.7 m^3	6.0 m^3	**12.8 m^3**
2A_U3.02	1B	6.0 m^3	4.7 m^3	6.0 m^3	**10.8 m^3**
2A_U3.03	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2A_U3.04	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2A_U3.05	2B	8.0 m^3	10.7 m^3	0.0 m^3	**10.7 m^3**
2A_U3.06	2B	8.0 m^3	5.5 m^3	6.0 m^3	**11.6 m^3**
2A_U4.01	1B	6.0 m^3	3.8 m^3	7.4 m^3	**11.2 m^3**
2A_U4.02	ST	4.0 m^3	4.9 m^3	0.0 m^3	**4.9 m^3**
2A_U4.03	2B	8.0 m^3	8.7 m^3	0.0 m^3	**8.7 m^3**
2A_U4.04	2B	8.0 m^3	8.7 m^3	0.0 m^3	**8.7 m^3**
2A_U4.05	2B	8.0 m^3	4.0 m^3	7.4 m^3	**11.4 m^3**
2A_U4.06	1B	6.0 m^3	1.7 m^3	7.4 m^3	**9.1 m^3**
2A_U5.01	1B	6.0 m^3	3.8 m^3	7.4 m^3	**11.2 m^3**
2A_U5.02	ST	4.0 m^3	4.9 m^3	0.0 m^3	**4.9 m^3**
2A_U5.03	2B	8.0 m^3	8.7 m^3	0.0 m^3	**8.7 m^3**
2A_U5.04	2B	8.0 m^3	8.7 m^3	0.0 m^3	**8.7 m^3**
2A_U5.05	2B	8.0 m^3	4.0 m^3	4.5 m^3	**8.5 m^3**
2A_U5.06	1B	6.0 m^3	1.7 m^3	4.5 m^3	**6.2 m^3**
2A_U6.01	2B	8.0 m^3	4.9 m^3	4.5 m^3	**9.5 m^3**
2A_U6.02	3B	10.0 m^3	5.4 m^3	14.9 m^3	**20.3 m^3**

STORAGE SCHEDULE

UNIT No.	UNIT TYPE	MIN REQUIRED (m^3)	INTERNAL STORAGE (m^3)	EXTERNAL STORAGE (m^3)	**TOTAL STORAGE (m^3)**
2B_U1.01	2B	8.0 m^3	7.9 m^3	4.5 m^3	**12.5 m^3**
2B_U1.02	3B	10.0 m^3	5.7 m^3	14.5 m^3	**20.3 m^3**
2B_U1.03	1B	6.0 m^3	4.3 m^3	6.0 m^3	**10.3 m^3**
2B_U1.04	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2B_U1.05	1B	6.0 m^3	4.7 m^3	6.0 m^3	**10.8 m^3**
2B_U1.06	2B	8.0 m^3	6.7 m^3	6.0 m^3	**12.8 m^3**
2B_U2.01	2B	8.0 m^3	4.3 m^3	4.5 m^3	**8.8 m^3**
2B_U2.02	3B	10.0 m^3	5.7 m^3	14.9 m^3	**20.7 m^3**
2B_U2.03	1B	6.0 m^3	4.3 m^3	4.5 m^3	**8.8 m^3**
2B_U2.04	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2B_U2.05	1B	6.0 m^3	4.7 m^3	4.5 m^3	**9.3 m^3**
2B_U2.06	2B	8.0 m^3	6.7 m^3	4.9 m^3	**11.6 m^3**
2B_U3.01	2B	8.0 m^3	5.8 m^3	6.1 m^3	**12.0 m^3**
2B_U3.02	2B	8.0 m^3	6.6 m^3	13.2 m^3	**19.7 m^3**
2B_U3.03	1B	6.0 m^3	4.3 m^3	4.9 m^3	**9.2 m^3**
2B_U3.04	2B	8.0 m^3	9.1 m^3	0.0 m^3	**9.1 m^3**
2B_U3.05	1B	6.0 m^3	4.7 m^3	3.8 m^3	**8.5 m^3**
2B_U3.06	2B	8.0 m^3	6.7 m^3	3.2 m^3	**9.9 m^3**
2B_U4.01	1B	6.0 m^3	5.1 m^3	3.2 m^3	**8.3 m^3**
2B_U4.02	2B	8.0 m^3	4.0 m^3	7.4 m^3	**11.4 m^3**
2B_U4.03	2B	8.0 m^3	8.2 m^3	0.0 m^3	**8.2 m^3**
2B_U4.04	2B	8.0 m^3	8.2 m^3	0.0 m^3	**8.2 m^3**
2B_U4.05	ST	4.0 m^3	4.9 m^3	0.0 m^3	**4.9 m^3**
2B_U4.06	1B	6.0 m^3	3.8 m^3	6.9 m^3	**10.7 m^3**
2B_U5.01	1B	6.0 m^3	1.7 m^3	12.3 m^3	**14.0 m^3**
2B_U5.02	2B	8.0 m^3	4.0 m^3	14.5 m^3	**18.5 m^3**
2B_U5.03	2B	8.0 m^3	8.7 m^3	14.7 m^3	**23.3 m^3**
2B_U5.04	2B	8.0 m^3	8.7 m^3	14.7 m^3	**23.3 m^3**
2B_U5.05	ST	4.0 m^3	4.9 m^3	14.8 m^3	**19.7 m^3**
2B_U5.06	1B	6.0 m^3	3.8 m^3	12.3 m^3	**16.2 m^3**
2B_U6.01	3B	10.0 m^3	5.4 m^3	12.3 m^3	**17.7 m^3**
2B_U6.02	2B	8.0 m^3	4.9 m^3	14.3 m^3	**19.2 m^3**

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REVISION	DATE	DESCRIPTION	BY
A	2021.04.30	FOR COORDINATION	MH
B	2021.05.12	DA SUBMISSION	MH

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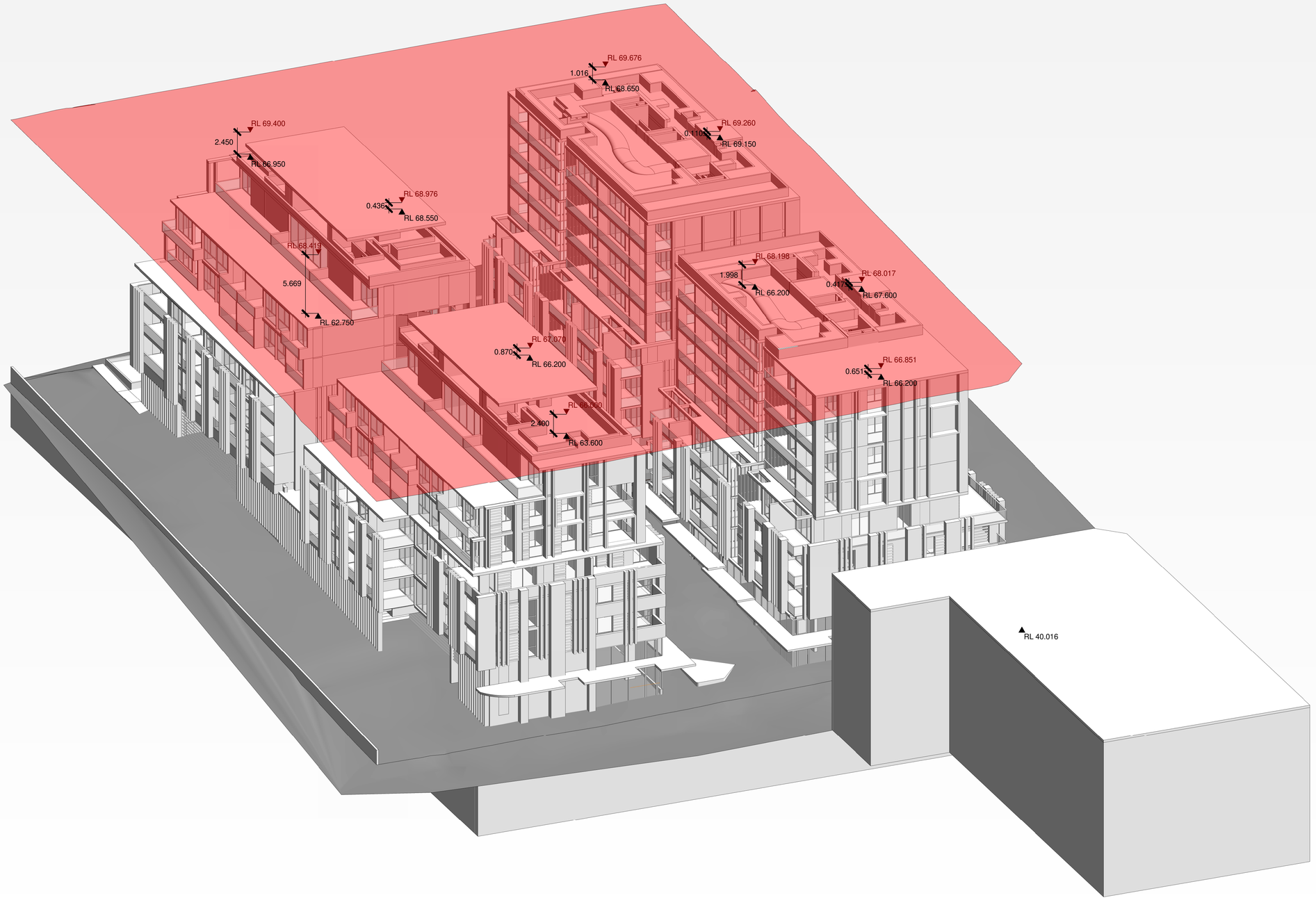
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
STORAGE DIAGRAM 02

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:500 @A1 1:1000 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA8.11	B



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C	2021.05.12	DA SUBMISSION	MH

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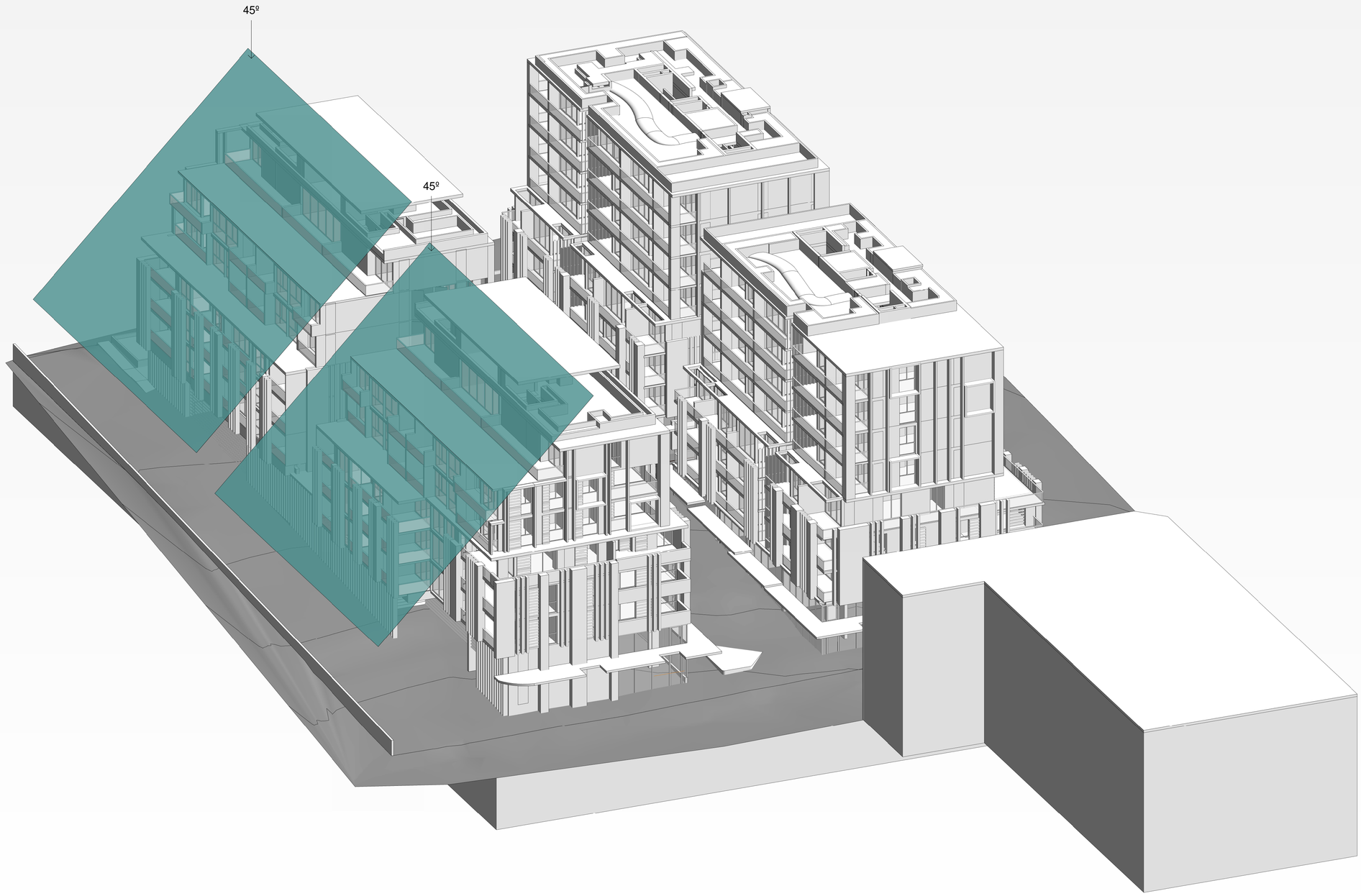
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DRAWING TITLE
HEIGHT LIMIT PLANE DIAGRAM

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
NTS	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA8.12	C



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REVISION	DATE	DESCRIPTION	BY
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B	2021.04.30	FOR COORDINATION	MH
C	2021.05.12	DA SUBMISSION	MH

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LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
45 DEGREE SETBACK DIAGRAM

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
NTS	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA8.13	C

NOTE:THIS DRAWING SHOWS THAT ONLY ARCHITECTURE FEATURES ENCROACH THE PODIUM SETBACK PLANE SHOWN IN GREEN. THE ENCROACHMENT OF THE ARCHITECTURE FEATURES IS IN THE REGION OF 19% OF THE RELATED FACADE AREA.



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C	2021.05.12	DA SUBMISSION	MH

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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
STREET SETBACK DIAGRAM

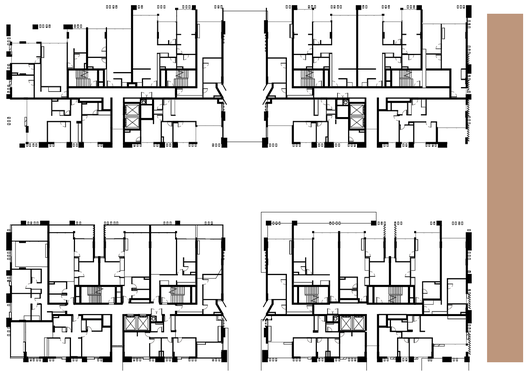
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

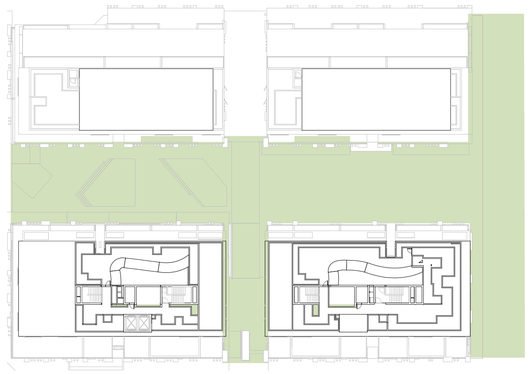
JOB	DRAWING	REVISION
15063	DA8.14	C



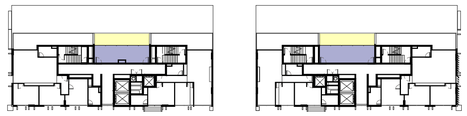
SHARED COMMUNAL OPEN SPACE



DEEP SOIL

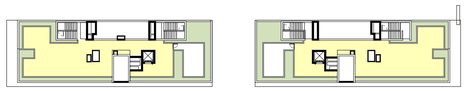


LEVEL 0 - LANDSCAPE



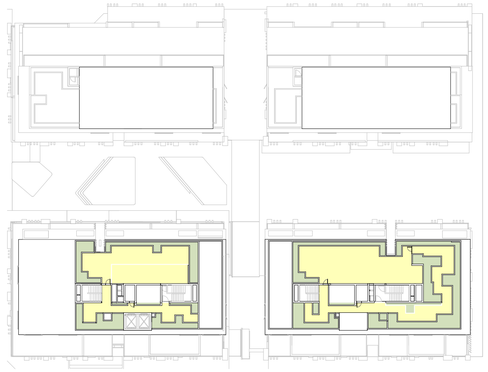


LEVEL 6 - EXTERIOR





LEVEL 7 - EXTERIOR



LEVEL 8 - EXTERIOR

	PROPOSED LANDSCAPE	**1995.3 m²**	**40.7%**
	LEVEL 0	**1699.0 m²**	
	LEVEL ROOF	**296.3 m²**	
	PROPOSED DEEP SOIL AREA	**332.6 m²**	**6.8%**
	COMMUNAL ROOMS	**50.1 m²**	**1.0%**
	SHARED COMMUNAL OPEN SPACE	**1197.3 m²**	**24.5%**
	PRIVATE COMMUNAL OPEN SPACE	**595.3 m²**	**12.1%**
	TOTAL COMMUNAL OPEN SPACE (SHARED + PRIVATE)	**1792.6m2**	**36.6%**

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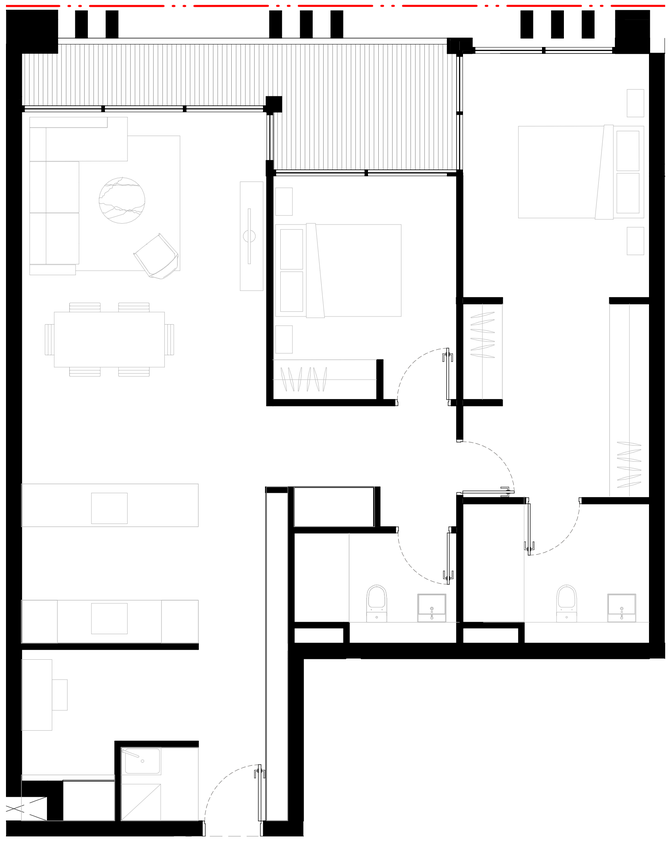
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

DRAWING TITLE
COMMON OPEN SPACE DIAGRAM

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

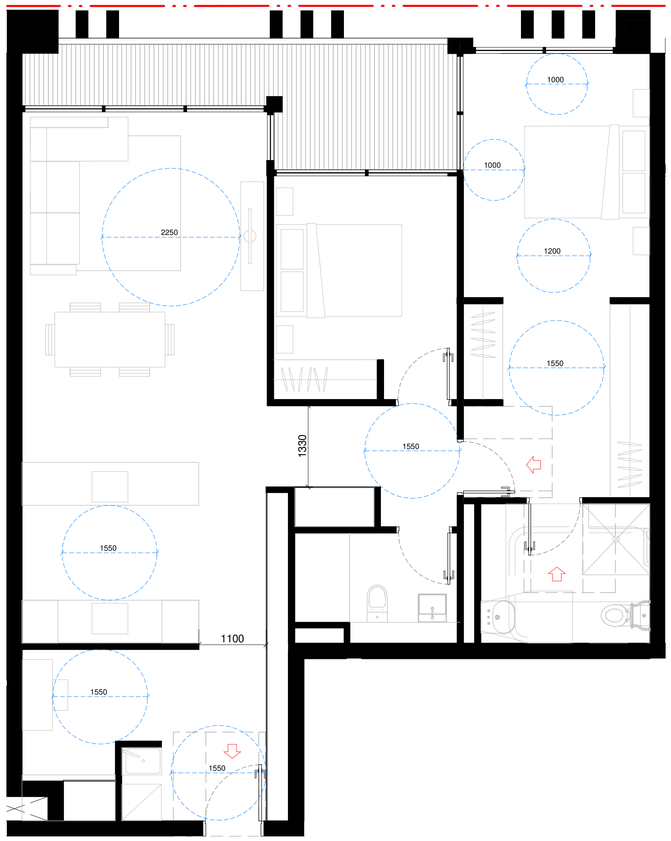
SCALE	DATE	DRAWN	CHECKED
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JOB	DRAWING	REVISION
15063	DA8.15	C



ADAPTABLE UNIT A - PRE ADAPTATION LEVEL 1

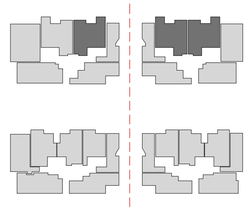
BUILDING 02.A - 1.03, 1.04 - 2.03, 2.04 - 3.03, 3.04
BUILDING 02.B - 1.03, 1.04 - 2.03, 2.04 - 3.03, 3.04
AT LEVEL 1-3



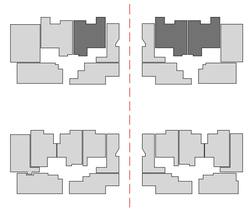
2B TYPE - POST ADAPTATION

BUILDING 02.A - 1.03, 1.04 - 2.03, 2.04 - 3.03, 3.04
BUILDING 02.B - 1.03, 1.04 - 2.03, 2.04 - 3.03, 3.04
AT LEVEL 1-3

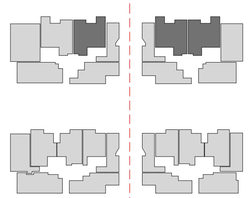
LEVEL 01



LEVEL 02



LEVEL 03



9 UNITS

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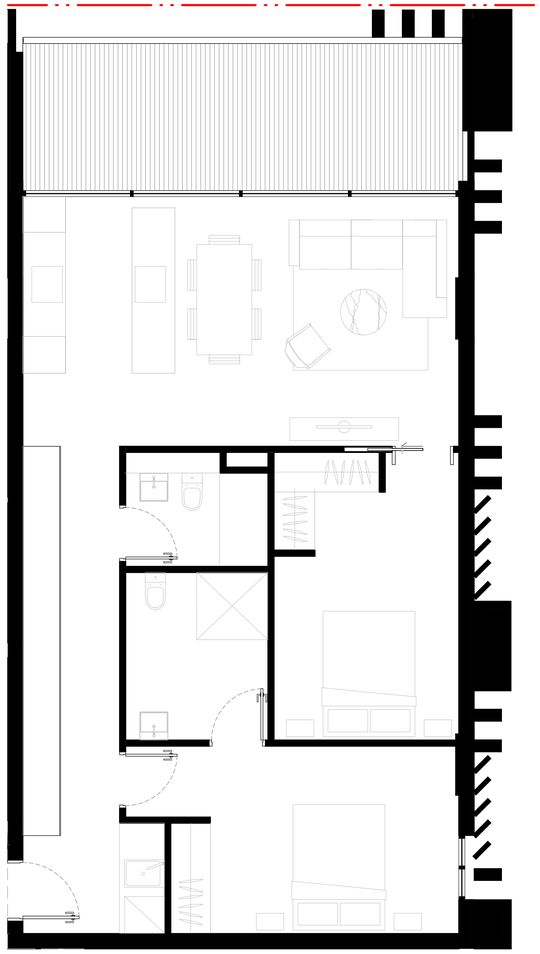
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CLIENT
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DRAWING TITLE
ADAPTABLE UNIT A

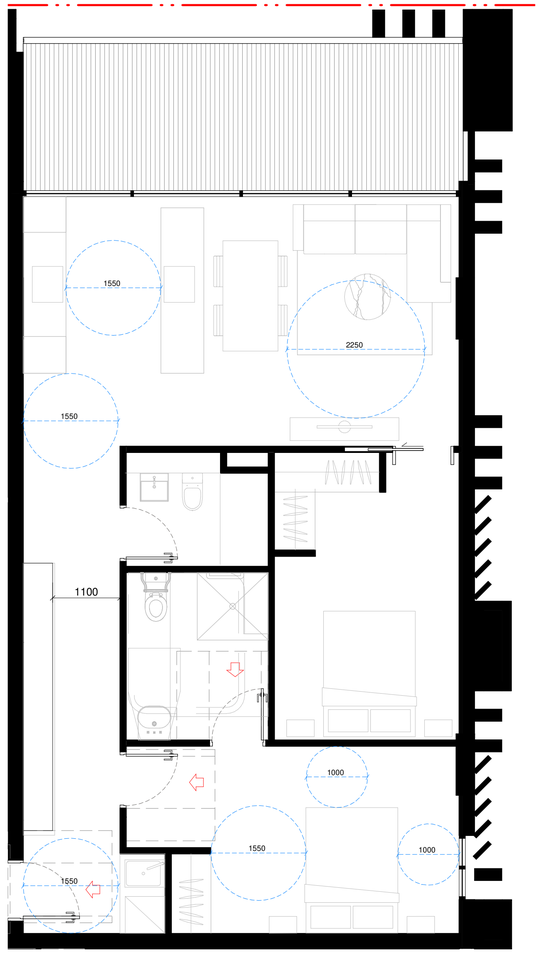
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

SCALE	DATE	DRAWN	CHECKED
1:50 @A1 1:100 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA9.01		C



2B TYPE - PRE ADAPTATION

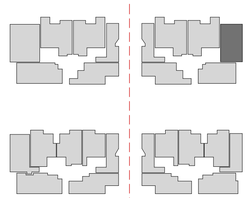
BUILDING 02.A - 2.05, 3.05
AT LEVEL 2-3



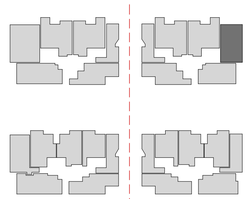
2B TYPE - POST ADAPTATION

BUILDING 02.A - 2.05, 3.05
AT LEVEL 2-3

LEVEL 02



LEVEL 03



2 UNITS

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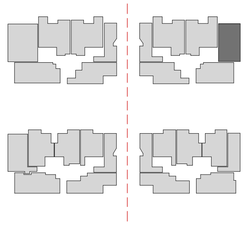
DRAWING TITLE
ADAPTABLE UNIT B

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

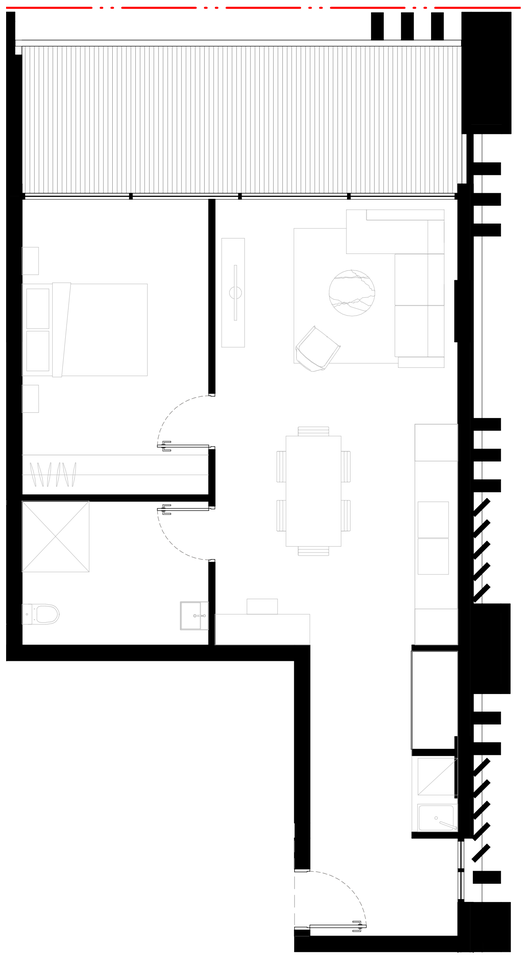
SCALE	DATE	DRAWN	CHECKED
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JOB	DRAWING	REVISION
15063	DA9.02	C

LEVEL 01

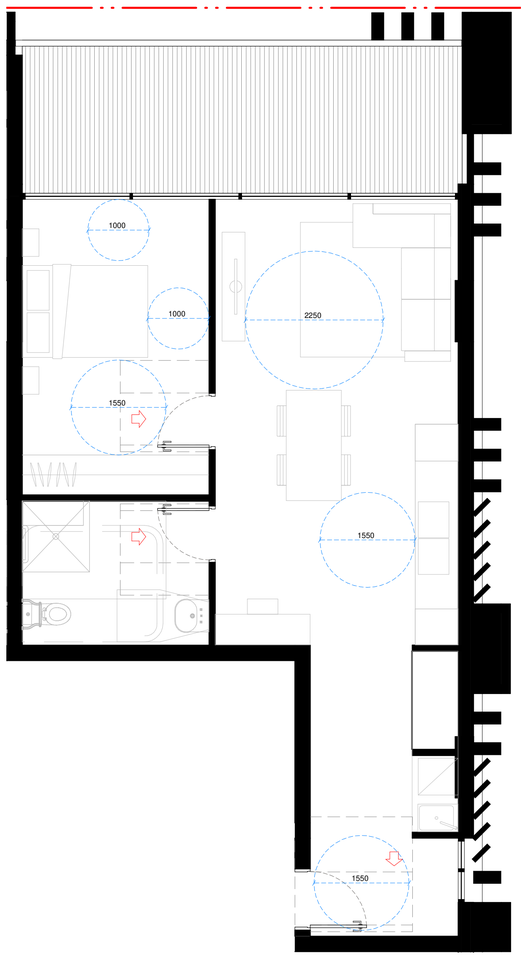


1 UNIT



1B TYPE - PRE ADAPTATION

BUILDING 02.A - 1.05
AT LEVEL 1



1B TYPE - POST ADAPTATION

BUILDING 02.A - 1.05
AT LEVEL 1

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DRAWING TITLE
ADAPTABLE UNIT C

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

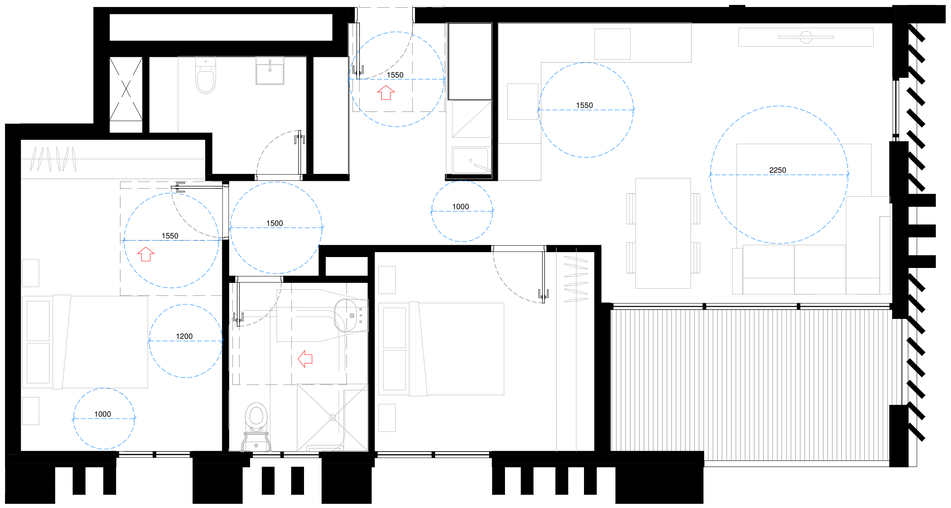
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JOB	DRAWING	REVISION
15063	DA9.03	C



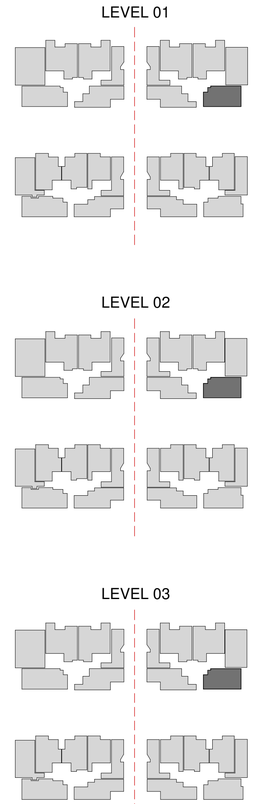
1B TYPE - PRE ADAPTATION

BUILDING 02.A - 1.06, 2.06, 3.06
AT LEVEL 1-3



1B TYPE - POST ADAPTATION

BUILDING 02.A - 1.06, 2.06, 3.06
AT LEVEL 1-3



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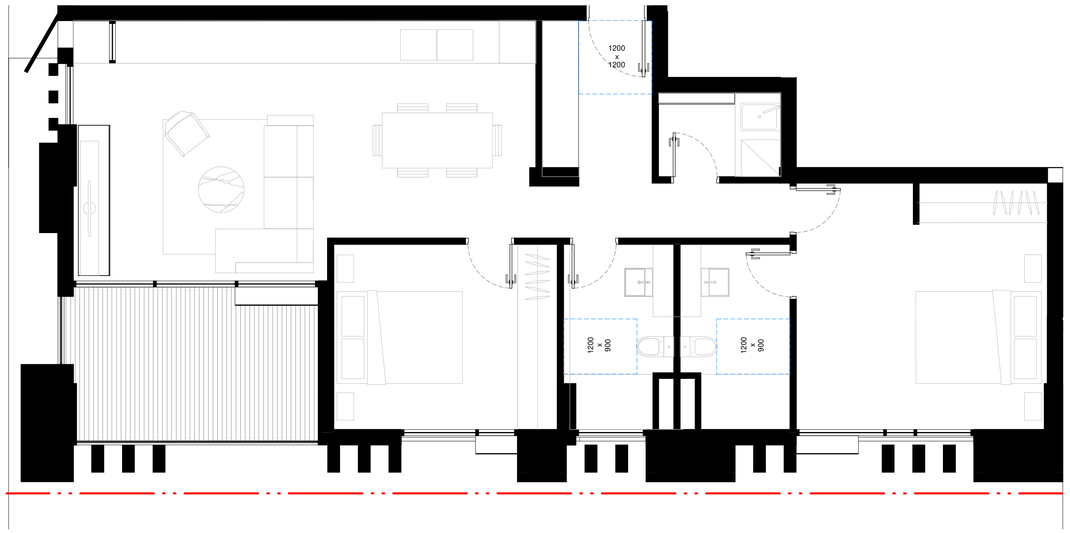
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
ADAPTABLE UNIT D

SCALE	DATE	DRAWN	CHECKED
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JOB	DRAWING	REVISION
15063	DA9.04	C



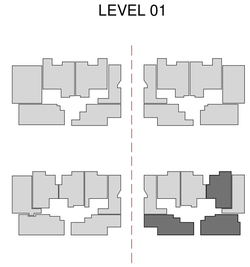
LIVABLE B01A_1.01&2.01- LEVEL1&2



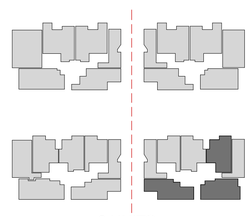
LIVABLE B01A_1.04&2.04- LEVEL1&2

LIVABLE B01A_1.07&2.07- LEVEL1&2

LEVEL 01



LEVEL 02



6 UNITS

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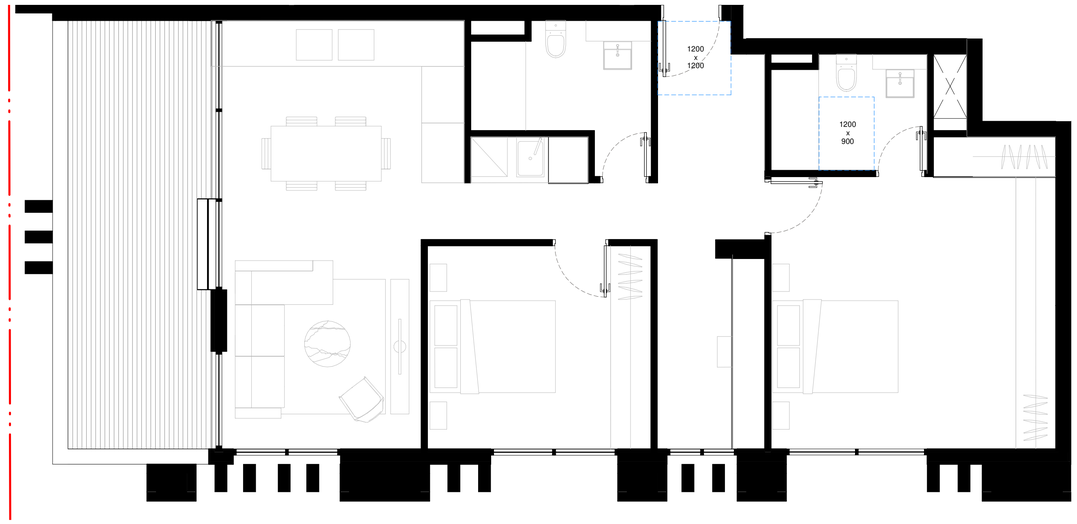
CLIENT
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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

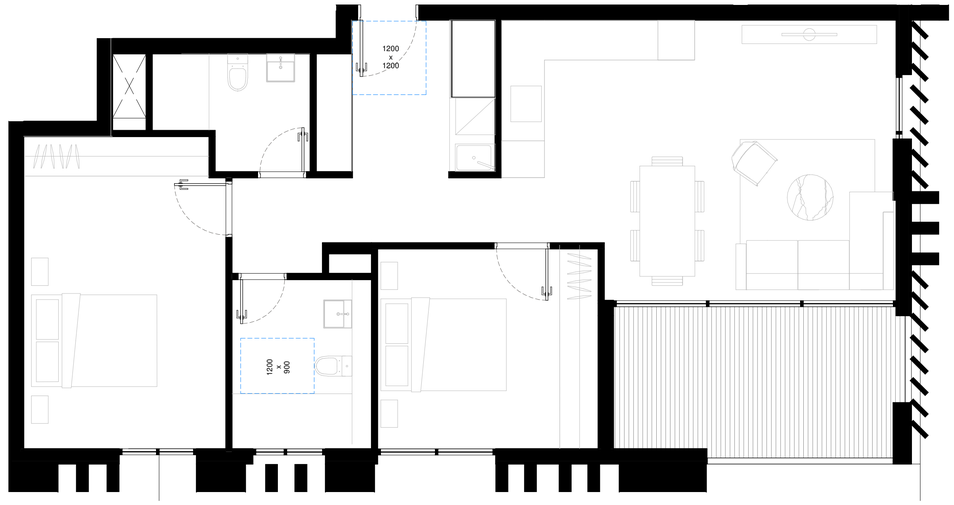
DRAWING TITLE
LIVABLE UNITS LEVELS1&2

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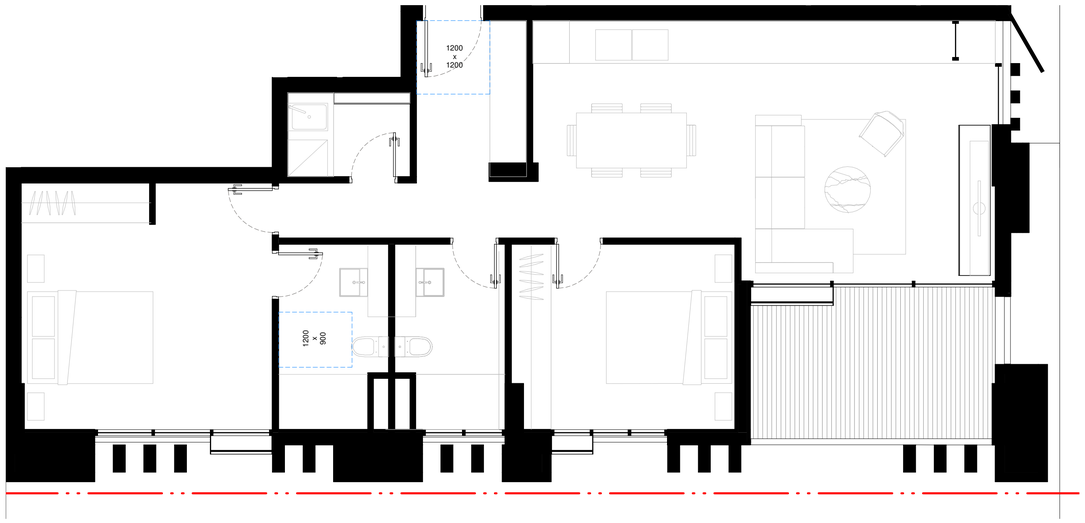
JOB	DRAWING	REVISION
15063	DA9.05	A



LIVABLE B02B_1.01&2.01- LEVEL1&2

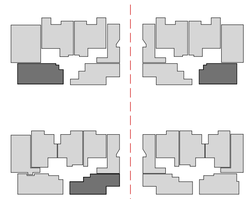


LIVABLE B02A_1.06&2.06- LEVEL1&2

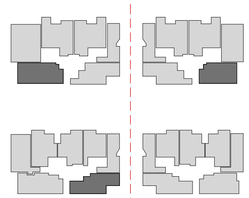


LIVABLE B01B_1.07&2.07- LEVEL1&2

LEVEL 01



LEVEL 02



6 UNITS

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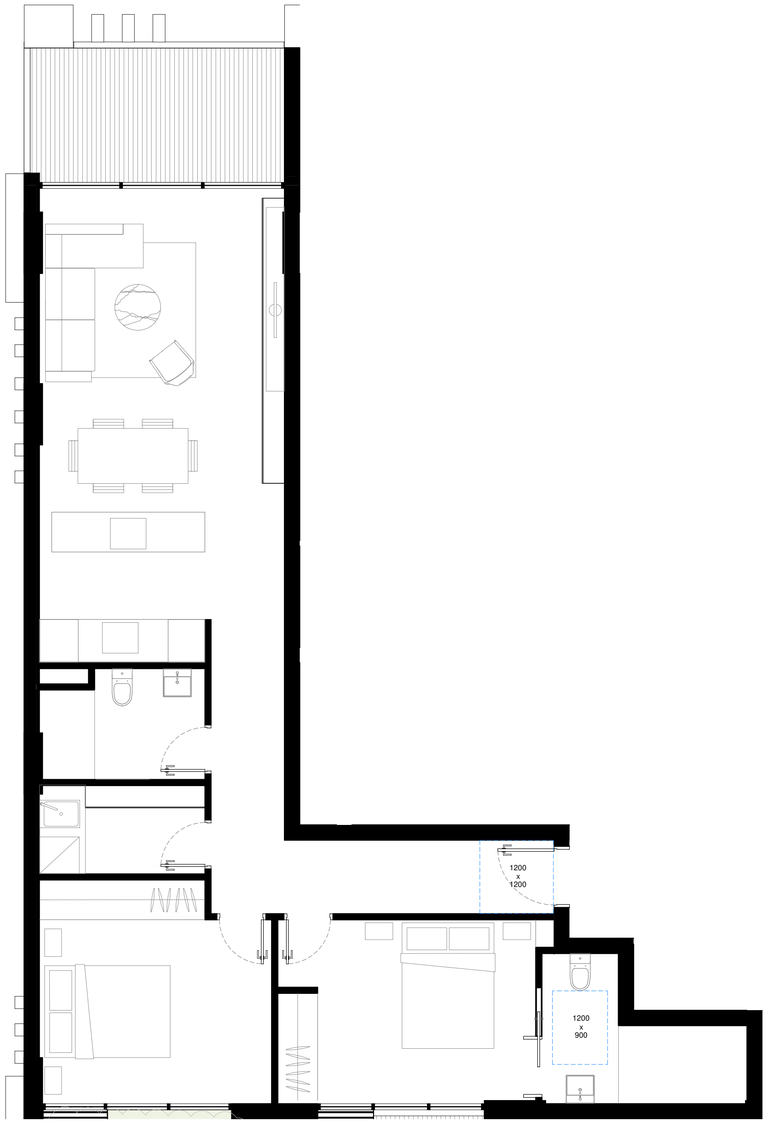
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

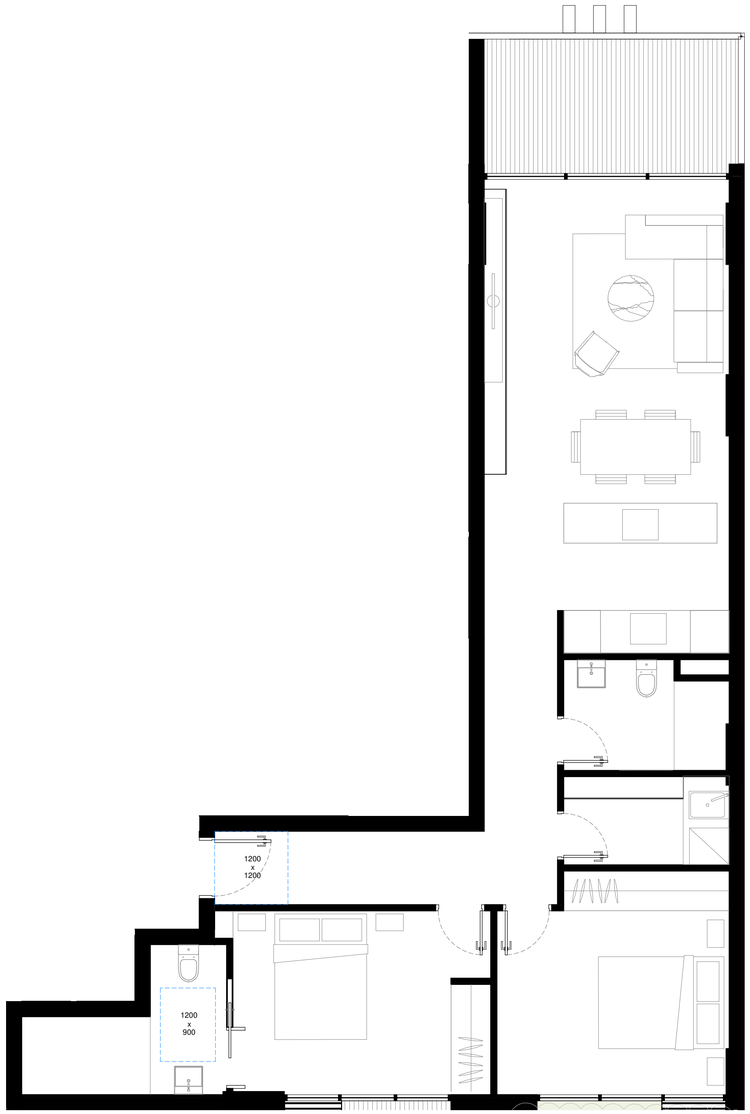
DRAWING TITLE
LIVABLE UNITS LEVELS1&2

SCALE	DATE	DRAWN	CHECKED
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JOB	DRAWING	REVISION
15063	DA9.06	A

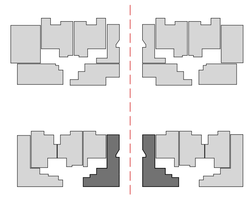


LIVABLE B01A_3.01- LEVEL3



LIVABLE B01B_3.05- LEVEL3

LEVEL 03



2 UNITS

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CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

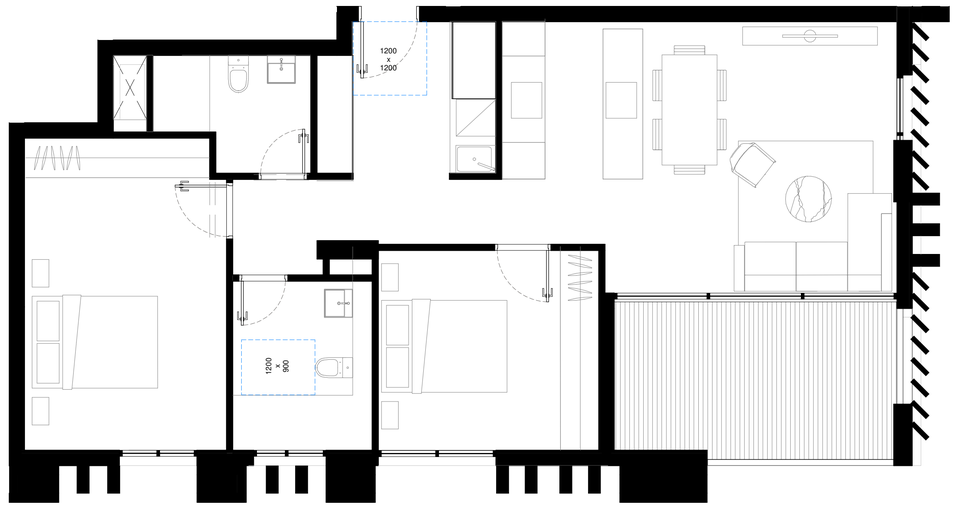
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
LIVABLE UNITS LEVEL 3

SCALE	DATE	DRAWN	CHECKED
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JOB	DRAWING		REVISION
15063	DA9.07		A



LIVABLE_B02A_3.01- LEVEL3

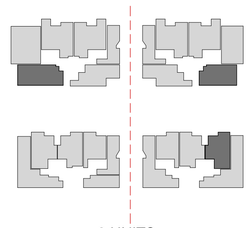


LIVABLE_B02A_3.06- LEVEL3



LIVABLE_B01A_3.04- LEVEL3

LEVEL 03



3 UNITS

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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
LIVABLE UNITS LEVEL 3

SCALE	DATE	DRAWN	CHECKED
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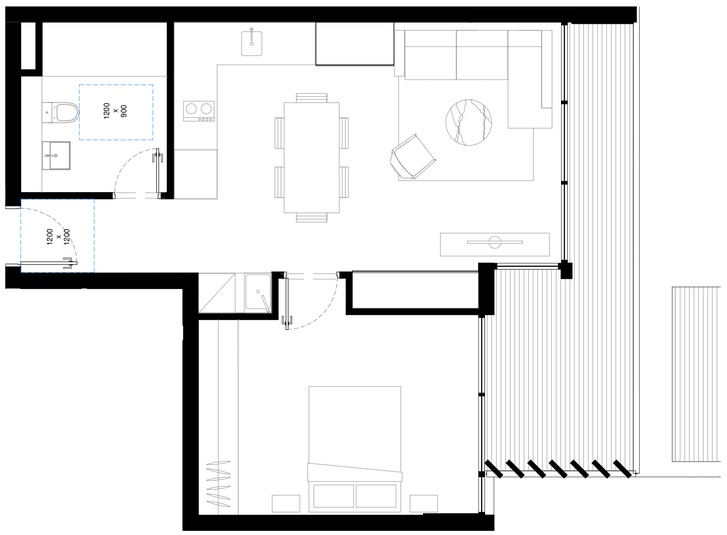
JOB	DRAWING	REVISION
15063	DA9.08	A



LIVABLE B01A_4.01- LEVEL 4



LIVABLE B01A_4.04- LEVEL 4



LIVABLE B01B_4.02- LEVEL 4



LIVABLE B01B_4.05- LEVEL 4

LEVEL 04



4 UNITS

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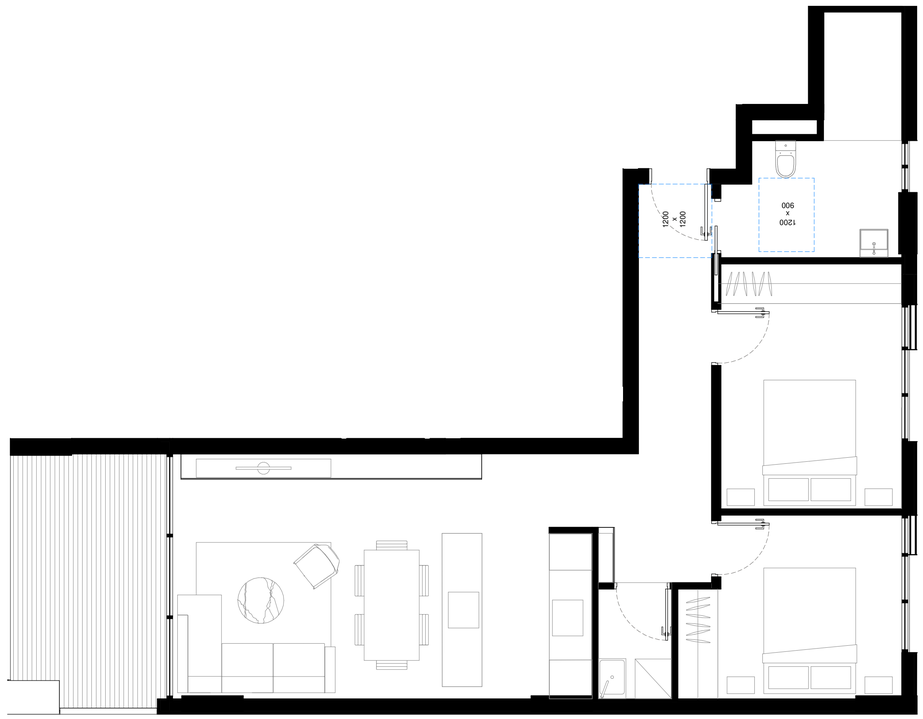
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
LIVABLE UNITS LEVEL 4

SCALE	DATE	DRAWN	CHECKED
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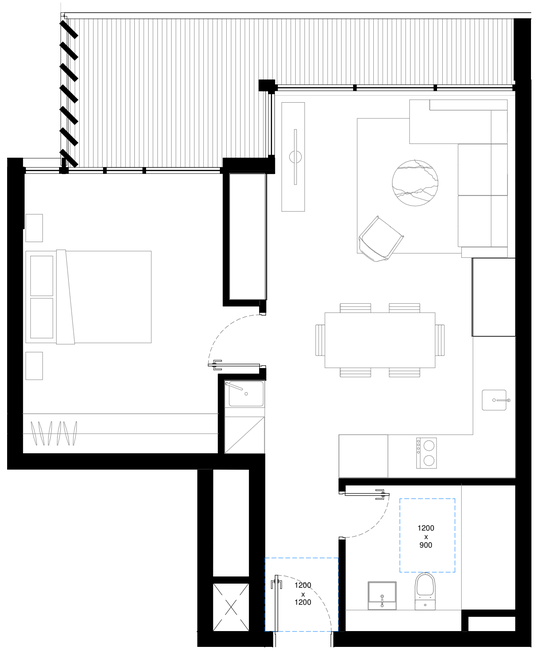
JOB	DRAWING	REVISION
15063	DA9.09	A



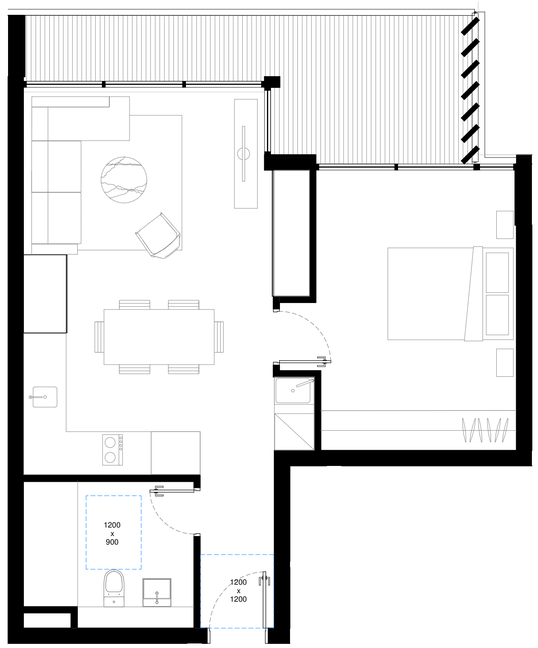
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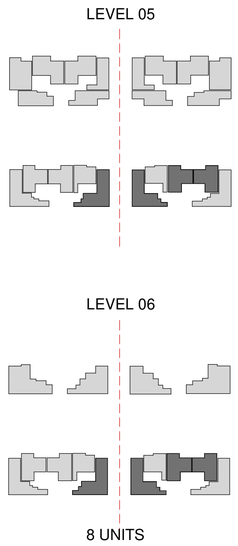
LIVABLE B01B_5.05&6.05 - LEVEL 5&6



LIVABLE B01A_5.04&6.04- LEVEL5&6



LIVABLE B01B_5.02&6.02- LEVEL5&6



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REVISION	DATE	DESCRIPTION	BY
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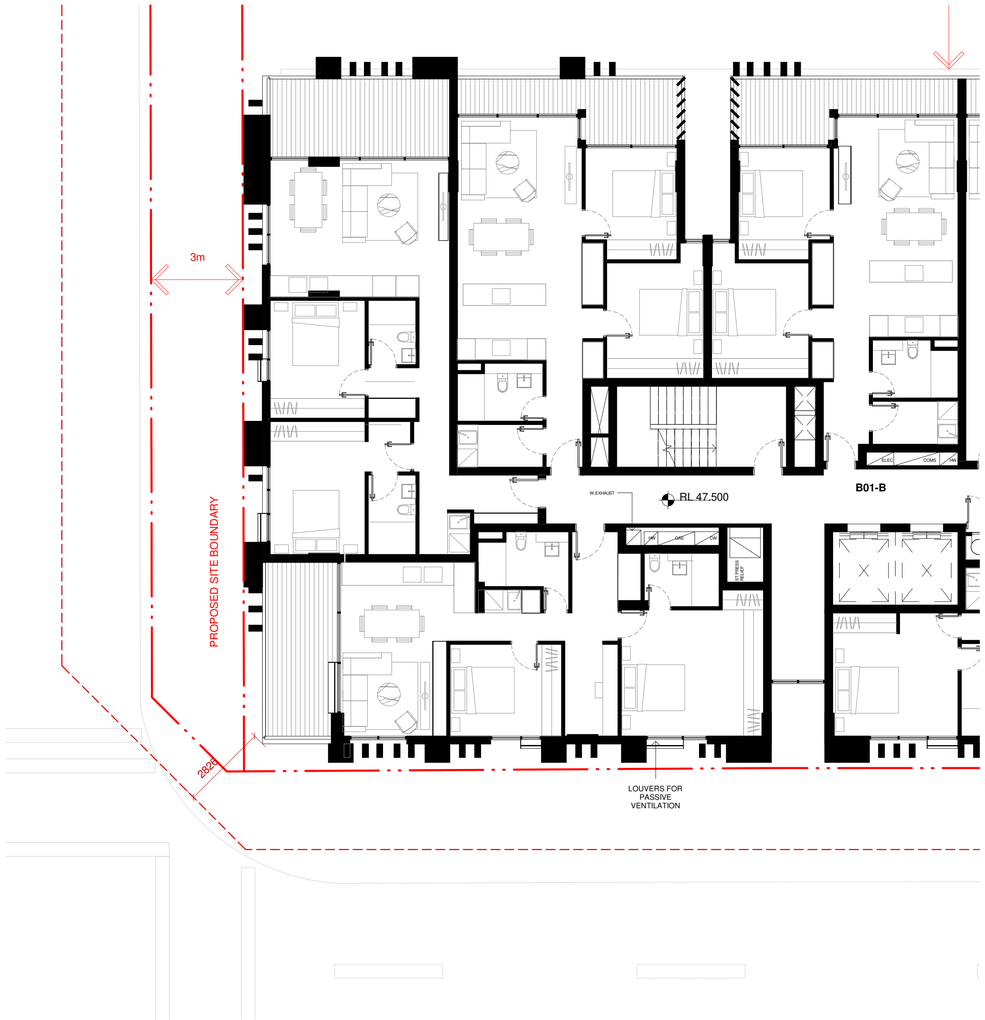
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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

DRAWING TITLE
LIVABLE UNITS LEVEL 5&6

SCALE	DATE	DRAWN	CHECKED
1 : 50 @A1 1 : 100 @A3	12/05/2021	MH	PS
JOB	DRAWING		REVISION
15063	DA9.10		A



LEVEL 2

EXISTING POWER LINE



GROUND FLOOR

INDICATIVE PROPOSED UNDERGROUND ELECTRICAL INFRASTRUCTURE
(Refer to Civil Engineer Report)

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REVISION	DATE	DESCRIPTION	BY
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B	2021.04.30	FOR COORDINATION	MH
C	2021.05.12	DA SUBMISSION	MH

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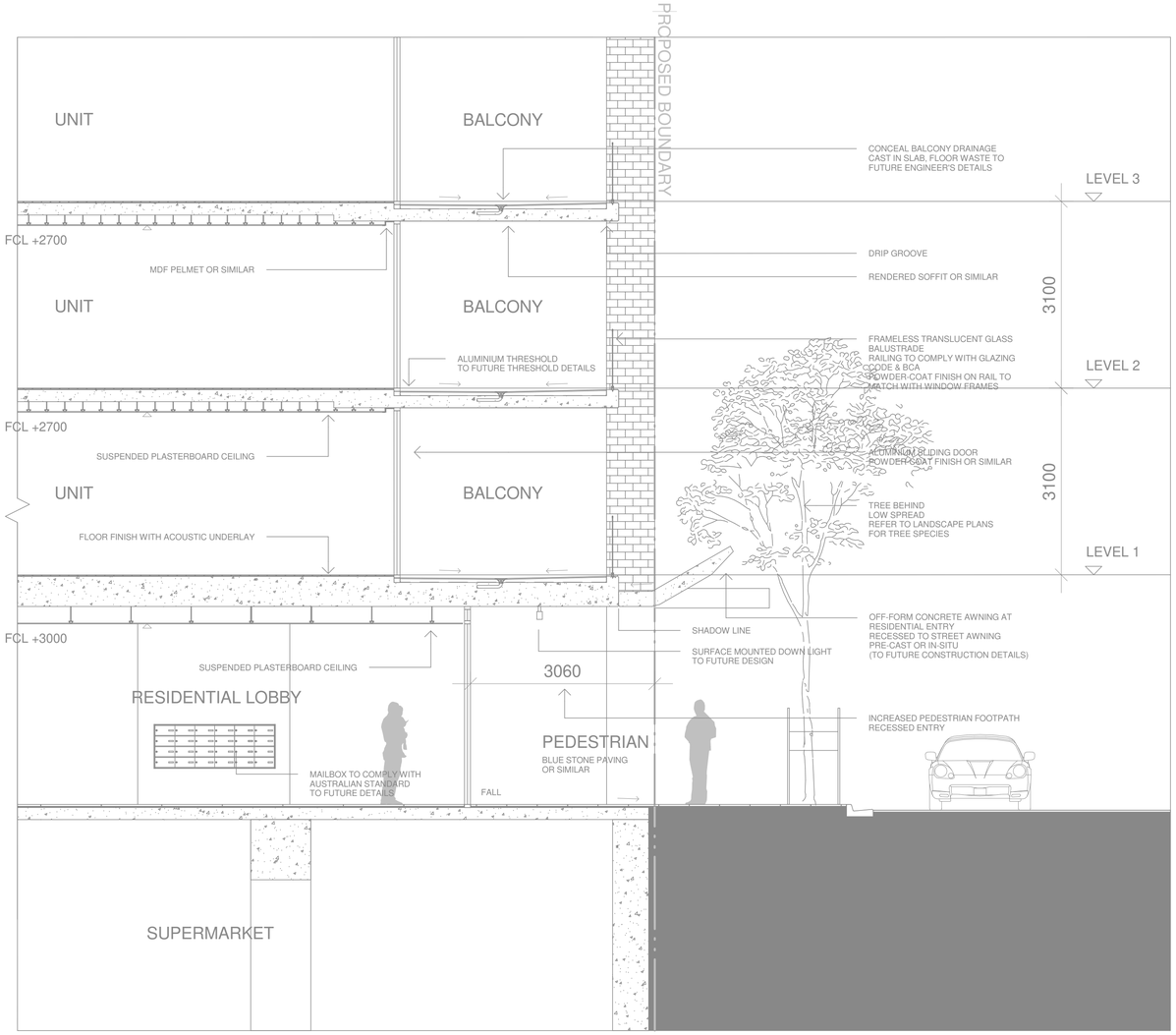
CLIENT
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PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

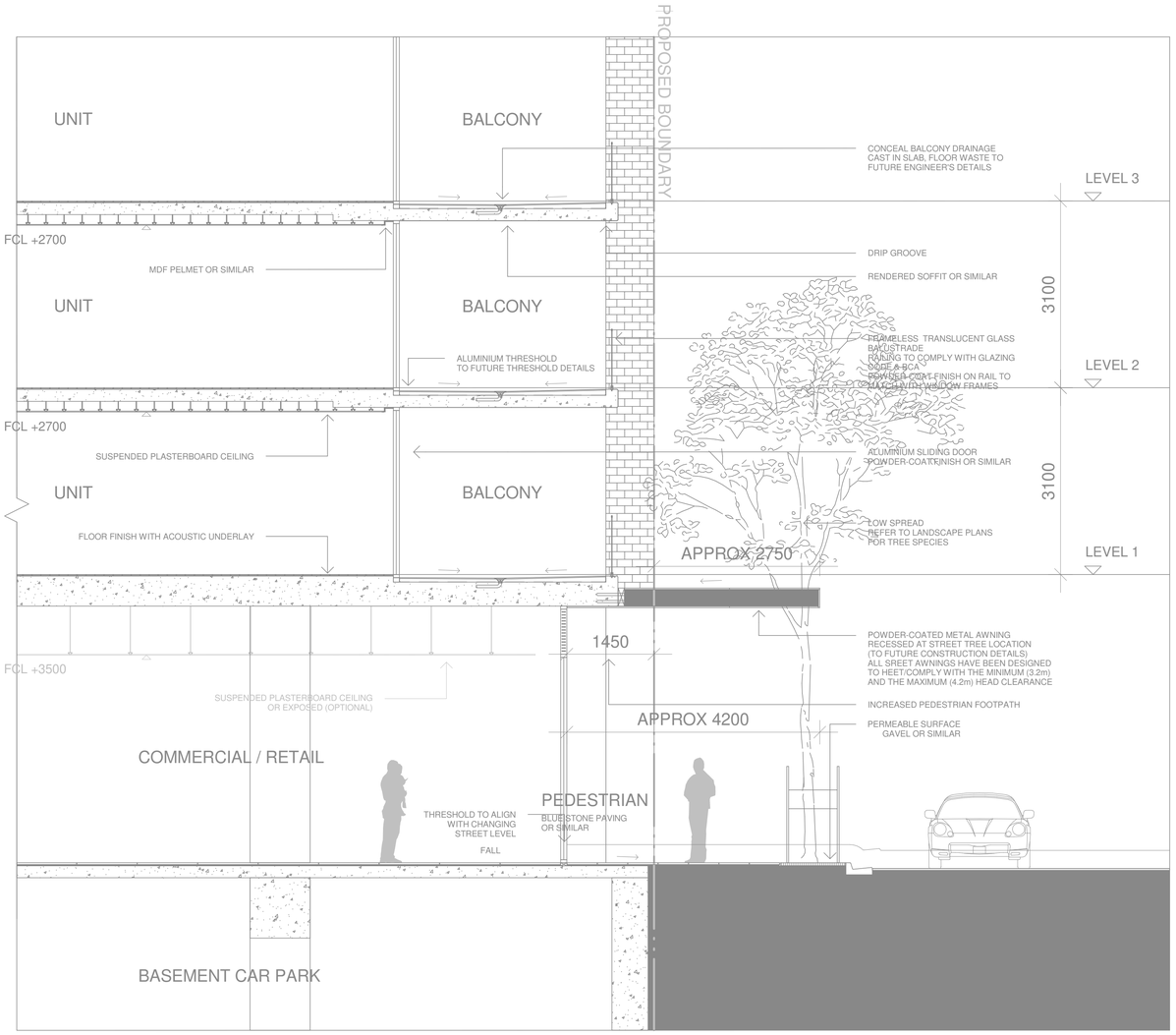
DRAWING TITLE
COUNCIL RFI - DISTANCE TO POWER LINES

SCALE	DATE	DRAWN	CHECKED
1:100 @A1 1:200 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA10.01	C



CONCEPT TYPICAL SECTION & STREET INTERFACES AT GROUND FLOOR (RETIAIL SHOPS AND AWNING)
To Future Construction Documentation



CONCEPT TYPICAL SECTION & STREET INTERFACES AT GROUND FLOOR (RESIDENTIAL ENTRIES)
To Future Construction Documentation

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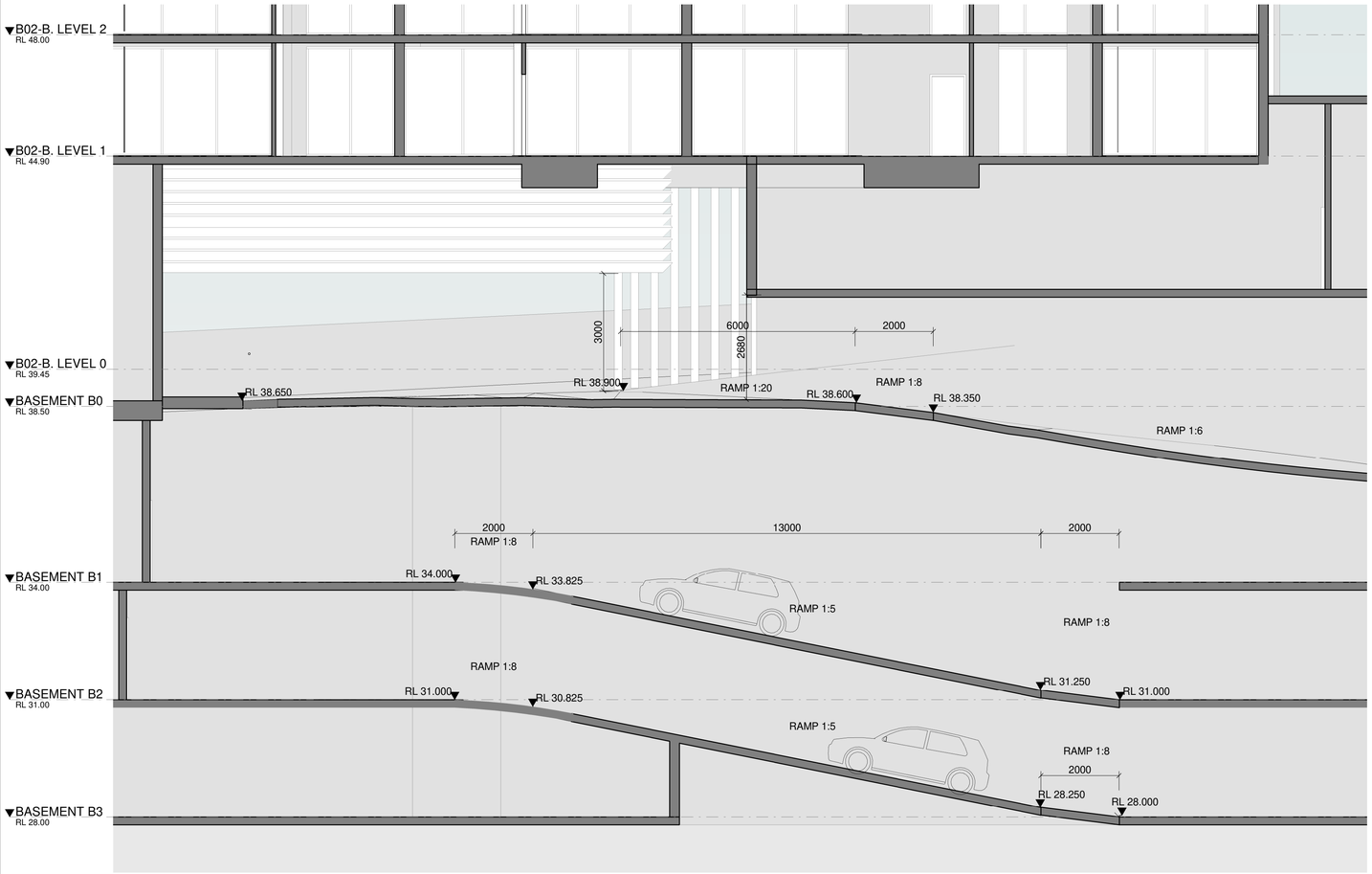
CLIENT
LAKEMBA STREET DEVELOPMENTS P/L

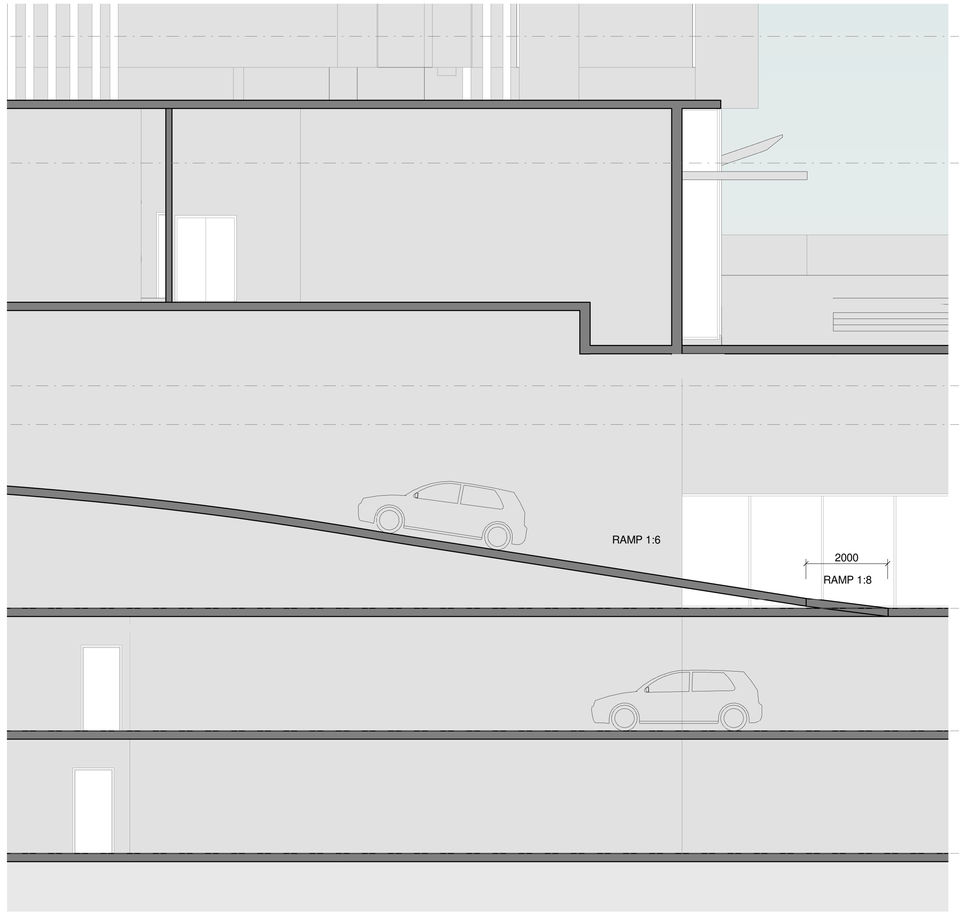
PROJECT
280-300 LAKEMBA ST & 64-70 KING GEORGES RD WILEY PARK, NSW

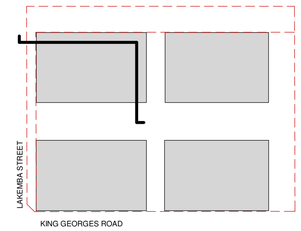
DRAWING TITLE
COUNCIL RFI - FRONTAGES SECTION

SCALE	DATE	DRAWN	CHECKED
	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA10.02	B







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REVISION	DATE	DESCRIPTION	BY
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DRAWING TITLE
COUNCIL RFI - RAMP SECTION

SCALE	DATE	DRAWN	CHECKED
1:75 @A1 1:150 @A3	12/05/2021	MH	PS

JOB	DRAWING	REVISION
15063	DA10.03	A

APPENDIX B – SITE PHOTOGRAPHS



Photograph 1. Overgrown vegetation observed at the front portion of 280 Lakemba Street (11/10/2021).



Photograph 2. Overgrown vegetation and dilapidated garage observed at the rear of 280 Lakemba Street (11/10/2021).



Photograph 3. Overgrown vegetation observed at the rear portion of 286 Lakemba Street (11/10/2021).



Photograph 4. Concrete observed to be in good condition as well as overgrown vegetation observed at from of 290 Lakemba Street (11/10/2021).



Photograph 5. Internal area of 70 King George Road (11/10/2021).



Photograph 6. Internal area of White Heaven Turkish Cuisine (11/10/2021).

APPENDIX C – BOREHOLE LOGS

BOREHOLE: BH201M

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Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park			Date Started	15/10/21
Position	Refer to Figure 2			Date Completed	15/10/21
Job No.	E25377.E03	Contractor	Hartgeo Drilling Pty Ltd	Logged	AS
Client	Lakemba St Development Pty Ltd	Drill Rig	UTE-mounted drilling Rig	Checked	
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS ID / Static Water Level
HA			0	0.30	BH201M_0.2-0.3 QD1&QT1 PID=4.3ppm			-	FILL: Silty CLAY; medium plasticity, dark brown, with rootlets, no odour.			BH201M
					BH201M_0.5-0.6 PID=4.1ppm			CI-CH	CLAY; medium to high plasticity, red, with trace rootlets, no odour.	M		Cuttings
AD/T	-	▽	1	1.00				-	SHALE; extremely weathered, pale brown, no odour.	D	-	Bentonite uPVC 50 mm Casing uPVC 50 mm Screen Sand
			2									
			3									
			4	4.80								
			5						Hole Terminated at 4.80 mBGL; Refusal on shale bedrock.			
			6									
			7									
			8									
			9									
			10									

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

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BOREHOLE: BH202

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Project	Additional Site Investigation			Sheet	1 OF 1
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park			Date Started	15/10/21
Position	Refer to Figure 2			Date Completed	15/10/21
Job No.	E25377.E03	Contractor	Hartgeo Drilling Pty Ltd	Logged	AS
Client	Lakemba St Development Pty Ltd	Drill Rig	UTE-mounted drilling Rig	Checked	
		Inclination	-90°		

Drilling					Sampling		Field Material Description				
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.05				-	ASPHALT.	D	-	FILL
								-	FILL: Silty CLAY; medium plasticity, brown and grey, with trace fine grained and sub-angular gravels, with trace tile, no odour.			
				0.40	BH202_0.3-0.4							
			0.5		PID=4.4ppm			CI-CH	CLAY; medium to high plasticity, red, with trace rootlets, no odour.			NATURAL
					BH202_0.9-1.0							
			1.0	1.00	PID=4.0ppm				From 1.0m, orange mottled grey.			
				1.20				-	SHALE; extremely weathered, pale brown, no odour.			BEDROCK
			1.5									
			2.0									
			2.5	2.60					Hole Terminated at 2.60 mBGL; Refusal on shale bedrock.			
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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BOREHOLE: BH203M

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Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park			Date Started	15/10/21
Position	Refer to Figure 2			Date Completed	15/10/21
Job No.	E25377.E03	Contractor	Hartgeo Drilling Pty Ltd	Logged	AS
Client	Lakemba St Development Pty Ltd	Drill Rig	UTE-mounted drilling Rig	Checked	
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS ID / Static Water Level
AD/T	-	GWNE	0	0.10				-	CONCRETE; 100mm thickness.	M - W	-	BH203M
				0.30	BH203M_0.2-0.3 PID=4.1ppm			-	FILL: Gravelly CLAY; low to medium plasticity, brown, with fine to coarse grained and sub-angular gravels, with fine to medium grained sand, with brick and concrete fragments, no odour.			
					BH203M_0.7-0.8			CI-CH	CLAY; medium to high plasticity, orange, with trace rootlets, no odour.			
			1	1.00	PID=3.8ppm				From 1.0m, pale red.	M		Cuttings
				1.60				-	SHALE; extremely weathered, pale brown, no odour.			Bentonite
			2	2.50					From 2.5m, brown.	D		uPVC 50 mm Casing
			3								-	uPVC 50 mm Screen
			4									Sand
			5	5.90								
			6						Hole Terminated at 5.90 mBGL; Refusal on shale bedrock.			
			7									
			8									
			9									
			10									

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

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BOREHOLE: HA1

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Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park			Date Started	15/10/21
Position	Refer to Figure 2			Date Completed	15/10/21
Job No.	E25377.E03	Contractor	-	Logged	AS
Client	Lakemba St Development Pty Ltd	Drill Rig	Hand Auger	Checked	
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	-	GWNE	0.0	0.15				-	CONCRETE; 150mm thickness.			CONCRETE HARDSTAND
				0.20				-	FILL: SAND; fine to medium grained, brownish yellow, no odour.	M	-	FILL
				0.40	HA1_0.3-0.4 PID=3.6ppm			-	FILL: Sandy GRAVEL; fine to coarse grained, sub-angular, brown, with fine to medium grained, no odour. Hole Terminated at 0.40 mBGL; Refusal on coarse gravel.			
			0.5									
			1.0									
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

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BOREHOLE: HA2

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Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park			Date Started	15/10/21
Position	Refer to Figure 2			Date Completed	15/10/21
Job No.	E25377.E03	Contractor	-	Logged	AS
Client	Lakemba St Development Pty Ltd	Drill Rig	Hand Auger	Checked	
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	-	GWNE	0.0					-	Timber floor.			FILL
									VOID	-		
			0.5	0.50				-	FILL: Silty CLAY; medium plasticity, brown and grey, with trace fine grained and sub-angular gravels, with trace tile, no odour.	D	-	FILL
					HA2_0.6-0.7							
					PID=5.7ppm							
				0.80				CI	CLAY; medium plasticity, reddish orange, with silt, no odour.	M		NATURAL
			1.0		HA2_1.1-1.2							
				1.20	PID=4.7ppm				Hole Terminated at 1.20 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E25377.GPJ <<DrawingFile>> 01/11/2021 13:24 10.0.000 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: HA3

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Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park			Date Started	15/10/21
Position	Refer to Figure 2			Date Completed	15/10/21
Job No.	E25377.E03	Contractor	-	Logged AS	Date:
Client	Lakemba St Development Pty Ltd	Drill Rig	Hand Auger	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	-	GWNE	0.0					-	Timber floor.	M	-	FILL
				0.40				-	FILL: Silty CLAY; medium plasticity, brown and grey, with trace fine grained and sub-angular gravels, with trace tile, no odour.	D - M		FILL
			0.5	0.60	HA3_0.5-0.6 PID=4.7ppm HA3_0.7-0.8 PID=4.1ppm			CI	CLAY; medium plasticity, reddish orange, with silt, no odour.			NATURAL
				0.80					Hole Terminated at 0.80 mBGL; Target depth reached			
			1.0									
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E25377.GPJ <<DrawingFile>> 01/11/2021 13:31 10.0.000 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: HA4

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Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park			Date Started	15/10/21
Position	Refer to Figure 2			Date Completed	15/10/21
Job No.	E25377.E03	Contractor	-	Logged	AS
Client	Lakemba St Development Pty Ltd	Drill Rig	Hand Auger	Checked	
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	-	GWNE	0.0	0.12				-	CONCRETE; 120mm thickness.			CONCRETE HARDSTAND
				0.20	HA4_0.12-0.2			-	FILL: fine to medium grained, orange, with slag, no odour.			FILL
					PID=3.3ppm			-	FILL: Clayey SAND; fine to medium grained, brown, with low plasticity clay, no odour.	D		
			0.5	0.50	HA4_0.4-0.5							
					PID=4.0ppm			CI-CH	CLAY; medium to high plasticity, red, with trace rootlets, no odour.	M	-	NATURAL
					HA4_0.6-0.7							
				0.70					From 0.7m, grey.			
					PID=4.5ppm					W		
			1.0	1.00					Hole Terminated at 1.00 mBGL; Target depth reached			
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E25377.GPJ <<DrawingFile>> 01/11/2021 13:24 10.0.000 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: HA5

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Contamination | Remediation | Geotechnical

Project	Additional Site Investigation		
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park		
Position	Refer to Figure 2		
Job No.	E25377.E03	Contractor	-
Client	Lakemba St Development Pty Ltd	Drill Rig	Hand Auger
		Inclination	-90°

Sheet	1 OF 1
Date Started	15/10/21
Date Completed	15/10/21
Logged	AS
Checked	

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	-	GWNE	0.0	0.10				-	CONCRETE; 100mm thickness.	M	-	CONCRETE HARDSTAND
				0.20	HA5_0.1-0.2			-	FILL: SAND; fine to medium grained, brown, no odour.			FILL
					PID=4.0ppm			CI-CH	CLAY; medium to high plasticity, brown, with trace rootlets, no odour.			NATURAL
				0.40	HA5_0.4-0.5				From 0.4m, red			
			0.5	0.60	PID=4.0ppm				Hole Terminated at 0.60 mBGL; Target depth reached			
			1.0									
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E25377.GPJ <<DrawingFile>> 01/11/2021 13:24 10.0.000 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: HA6

Project	Additional Site Investigation		
Location	64-70 King Georges Rd & 280-300 Lakemba St, Wiley Park		
Position	Refer to Figure 2		
Job No.	E25377.E03	Contractor	-
Client	Lakemba St Development Pty Ltd	Drill Rig	Hand Auger
		Inclination	-90°

Sheet	1 OF 1
Date Started	15/10/21
Date Completed	15/10/21
Logged	AS
Checked	

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	-	GWNE	0.0	0.18				-	CONCRETE; 180mm thickness.			CONCRETE HARDSTAND
				0.30	HA6_0.2-0.3			-	FILL: SAND; fine to medium grained, brown, no odour.	M		FILL
					PID=3.9ppm			CI-CH	CLAY; medium to high plasticity, red, with trace rootlets, no odour.			NATURAL
				0.50	HA6_0.4-0.5							
			0.5		PID=3.4ppm				Hole Terminated at 0.50 mBGL; Target depth reached			
			1.0									
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E25377.GPJ <<DrawingFile>> 01/11/2021 13:24 10.0.000 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

APPENDIX D – FIELD DATA SHEETS

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

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

CALIBRATION CERTIFICATE FOR PHOTO IONISATION DETECTOR

Instrument: Mini RAE 3000

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

Instrument Conditions: Good

Calibration gas species: Isobutylene.

Calibration gas concentration: 100 ppm

Gas bottle number: Lot: 985570 Cyl: 70

This PID has been calibrated to Isobutylene gas with the span concentration displayed as 100.0 ppm at 100 ppm span setting (allowable range +/-10ppm from span setting).

The PID is initially zero calibrated in fresh air.

Remaining gas in bottle: 125 psi (if reading is <250 psi, notify Equipment Manager to arrange new gas bottle order)

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

Signed: [signature]

Date: 15/10/21

Time: 8:20

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:	E25377	Engineer Name:	AS	Page:	___ of ___
Date:	21/10/21	Time ON Site:	9:30		
Travel Time:	30+45	Time OFF Site:	3:00		

Site Address/Location: 62-70 King Georges Rd, 280-292 Calendar St, Wiley Park

Climatic Conditions: Sunny.

Completed Works:

- 4 Wells sampled for TRH, VOCs - CME

GW-QD1/QT1

EI Wells: ~~BH205M~~ BH201M, BH203M

Previously installed wells: BH1/MW3A, BH109/MW2

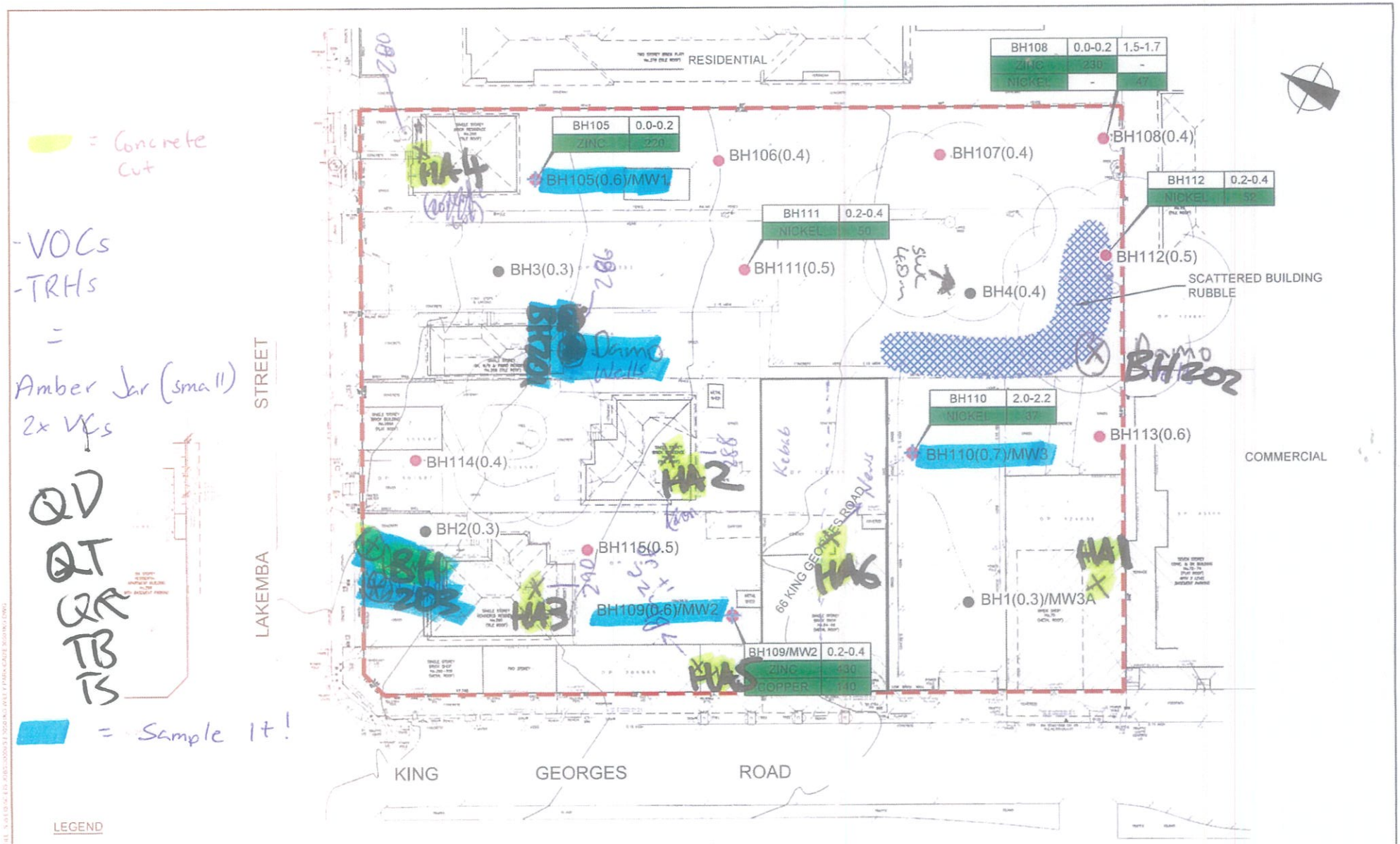
GW-QR1, rinsate ran off low flow pump

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

- BH105/MW1 - no longer exists
- ~~BH9~~ BH110/MW3 - Too little water to sample

Signed by:

EI Australia
Suite 6.01, 55 Miller Street



= Concrete Cut

- VOCs
- TRHs

=

Amber Jar (small)

2x VFs

QD
QT
QR
TB
TS

= Sample It!

Qty 62536 730

LEGEND

- APPROXIMATE SITE BOUNDARY
- BH (Fill Depth) BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m). (MAY 2017)
- BH (Fill Depth) BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m). (SEPTEMBER 2017)
- BH/MW(Fill Depth) BOREHOLE AND GROUND WATER MONITORING WELL LOCATION, NUMBER AND DEPTH OF FILL (m). (SEPTEMBER 2017)

SAMPLE ID	DEPTH (metres)
CHEMICAL	CONCENTRATION

SOIL CONTAMINATION ABOVE THE EILs CRITERIA (mg/kg)

SCALE 1:400 @A3 METRES (0 4 8 12 16 20)

This plan should be read in conjunction with the EIS report.

Title: SAMPLE LOCATION PLAN

Location: 62-70 KING GEORGES ROAD & 280-292 LAKEMBA STREET, WILEY PARK, NSW

Report No: E30501KG

Figure No: 2

ENVIRONMENTAL INVESTIGATION SERVICES

EIS

© EIS

WATER SAMPLING FIELD SHEET

eiaustralia

Site Address:	62-70 King Georges Rd & 280-292 Lakemba St, Wiley Park	Job Number:	E25377
Client:		Date:	21-Oct-21
Field Staff:	AS	Sampling Location ID	BH201M
Well Location:	Back of house 286 Lakemba St	Round No:	1

MEDIUM ☒Groundwater ☐Surface Water ☐Stormwater ☐Other:

SAMPLING POINT INFO

Well Installation Date:		Stick (up) / down (m):	+0.900 (+ above ground - below ground)
Initial Well Depth (mBTOC):		Screen Interval (mBTOC):	
Previous Sampling Date:		Previous SWL (mBTOC):	

PID READINGS

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

PRE PURGE

Total Well Depth (mBTOC):	5.31	Well Head Condition:	Good
SWL (mBTOC):	3.36	Water Column (m):	1.45

PHASE SEPARATED HYDROCARBONS (PSH)

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

Field Filtered

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

PURGE AND SAMPLE

Sampling Method ☒Bladder ☐Peristaltic ☐Submersible ☐Other:

Depth of Pump Inlet (mBTOC):	5.0m	Fill Timer:	55s
Pump Pressure Regulator (psi):	20	Discharge Timer:	5
Weather Conditions:	Sunny	Cycle:	CPM1
Pump on time:	1:55	Pump off time:	2:22

WATER QUALITY PARAMETERS

Probe Make and Model: WQM006 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.)
1:59	0.5	3.38	24.72	4436	74.8	0.00	6.60	clear, slow, no, no
2:03	1.0	3.46	22.96	4408	153.6	0.00	5.66	↓ ↓ ↓ ↓
2:07	1.5	3.52	22.81	4316	181.8	0.00	5.40	
2:11	2.0	3.59	22.67	4288	192.1	0.00	5.36	
2:15	2.5	3.66	22.62	4251	195.3	0.00	5.29	
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2	

OTHER COMMENTS/OBSERVATIONS:

SIGNATURE:

WATER SAMPLING FIELD SHEET

eiaustralia

Site Address:	62-70 King Georges Rd & 280-292 Lakemba St, Wiley Park	Job Number:	E25377
Client:		Date:	21-Oct-21
Field Staff:	AS	Sampling Location ID	~~BH MW3~~ BH110/MW3
Well Location:	Parking lot next to 70 King Georges Rd	Round No:	1

MEDIUM ☐Groundwater ☐Surface Water ☐Stormwater ☐Other:

SAMPLING POINT INFO

Well Installation Date:	Stick up / ~~down~~ (m): -0.10 (+ above ground - below ground)
Initial Well Depth (mBTOC):	Screen Interval (mBTOC):
Previous Sampling Date:	Previous SWL (mBTOC):

PID READINGS

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

PRE PURGE

Total Well Depth (mBTOC): 2.85	Well Head Condition: Good
SWL (mBTOC): 2.69	Water Column (m): 0.16m

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.)
								Not enough volume to sample with bailer or low flow pump
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2	

OTHER COMMENTS/OBSERVATIONS:

Soil covering J-Cap, screen visible at ground level => likely screen from 2.85 → 0m => screening fill.

SIGNATURE:

WATER SAMPLING FIELD SHEET

eiaustralia

Site Address:	62-70 King Georges Rd & 280-292 Lakemba St, Wiley Park	Job Number:	E25377
Client:		Date:	21-Oct-21
Field Staff:	AS	Sampling Location ID	BH 1/MW3A
Well Location:	Parking lot next to 70 King Georges Rd	Round No:	1
MEDIUM	☒Groundwater ☐Surface Water	☐Stormwater	☐Other:

SAMPLING POINT INFO			
Well Installation Date:		Stick up / down (m):	-0.07 (+ above ground - below ground)
Initial Well Depth (mBTOC):		Screen Interval (mBTOC):	
Previous Sampling Date:		Previous SWL (mBTOC):	
PID READINGS			
PID Headspace (ppm):		PID Background (ppm):	
PID Breathing Space (ppm):			
PRE PURGE			
Total Well Depth (mBTOC):	7.95	Well Head Condition:	Good
SWL (mBTOC):	3.35	Water Column (m):	4.60
PHASE SEPARATED HYDROCARBONS (PSH)			
Depth to PSH (mBTOC):		PSH Visually Confirmed (Bailer):	
PSH Thickness (mm):			
Field Filtered			
Yes (0.45 µm) ☐	N/A	No ☐	(Request lab 0.45 µm filter the sample)
PURGE AND SAMPLE			
Sampling Method	☒Bladder ☐Peristaltic	☐Submersible	☐Other:
Depth of Pump Inlet (mBTOC):	6.45	Fill Timer:	55s
Pump Pressure Regulator (psi):	20	Discharge Timer:	5
Weather Conditions:	Sunny	Cycle:	CBM
Pump on time:	12:56	Pump off time:	1:23
WATER QUALITY PARAMETERS			
Probe Make and Model:	WQM666	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.)
1:00	0.5	3.31	25.90	3947	10.0	0.00	7.28	clear, low, no, no
1:04	1.0	3.39	25.61	3900	-5.0	0.00	7.42	↓ ↓ ↓ ↓
1:08	1.5	3.47	25.01	3406	-1.7	0.00	7.40	
1:12	2.0	3.55	24.90	3307	7.0	0.00	7.39	
1:16	2.5	3.62	24.81	3241	9.9	0.00	7.37	
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2	

OTHER COMMENTS/OBSERVATIONS:

SIGNATURE:

WATER SAMPLING FIELD SHEET

eiaustralia

Site Address:	62-70 King Georges Rd & 280-292 Lakemba St, Wiley Park	Job Number:	E25377
Client:		Date:	21-Oct-21
Field Staff:	AS	Sampling Location ID	BH07/MW2
Well Location:	Rear of 290 Lakemba St	Round No:	1

MEDIUM ☒Groundwater ☐Surface Water ☐Stormwater ☐Other:

SAMPLING POINT INFO

Well Installation Date:		Stick up / down (m):	-0.09 (+ above ground - below ground)
Initial Well Depth (mBTOC):		Screen Interval (mBTOC):	
Previous Sampling Date:		Previous SWL (mBTOC):	

PID READINGS

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

PRE PURGE

Total Well Depth (mBTOC):	5.28	Well Head Condition:	Good
SWL (mBTOC):	1.15	Water Column (m):	4.13 m

PHASE SEPARATED HYDROCARBONS (PSH)

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

Field Filtered

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

PURGE AND SAMPLE

Sampling Method ☒Bladder ☐Peristaltic ☐Submersible ☐Other:

Depth of Pump Inlet (mBTOC):	4.0m	Fill Timer:	5
Pump Pressure Regulator (psi):	20	Discharge Timer:	55s
Weather Conditions:	Sunny	Cycle:	CPM 1
Pump on time:	11:59	Pump off time:	12:21

WATER QUALITY PARAMETERS

Probe Make and Model: WQM 006 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.)
11:59	0.5	~~1.20~~ 1.25	25.06	736	110.9	0.10	5.76	Pale brown, mud, no, no
12:03	1.0	1.26	24.63	707	137.2	0.09	4.91	↓
12:07	1.5	1.32	24.41	684	163.3	0.05	4.71	↓
12:11	2.0	1.39	24.32	674	174.4	0.07	4.72	↓
12:15	2.5	1.45	24.26	666	179.2	009	4.72	↓
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2	

OTHER COMMENTS/OBSERVATIONS:

SIGNATURE: A. Sulaiman

WATER SAMPLING FIELD SHEET

eiaustralia

Site Address:	62-70 King Georges Rd & 280-292 Lakemba St, Wiley Park	Job Number:	E25377
Client:		Date:	21-Oct-21
Field Staff:	AS	Sampling Location ID	BH203M
Well Location:	290 Lakemba driveway	Round No:	1

MEDIUM ☒Groundwater ☐Surface Water ☐Stormwater ☐Other:

SAMPLING POINT INFO

Well Installation Date:	15/10/21	Stick up / (down) (m):	-0.07 (+ above ground - below ground)
Initial Well Depth (mBTOC):		Screen Interval (mBTOC):	
Previous Sampling Date:		Previous SWL (mBTOC):	

PID READINGS

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

PRE PURGE

Total Well Depth (mBTOC):	5.83	Well Head Condition:	Good
SWL (mBTOC):	2.09	Water Column (m):	3.74

PHASE SEPARATED HYDROCARBONS (PSH)

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

Field Filtered

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

PURGE AND SAMPLE

Sampling Method ☒Bladder ☐Peristaltic ☐Submersible ☐Other:

Depth of Pump Inlet (mBTOC):	4.3m	Fill Timer:	10, 25, 55
Pump Pressure Regulator (psi):	20	Discharge Timer:	5, 5, 5
Weather Conditions:	Sunny	Cycle:	CPM4, 2, 1
Pump on time:	11:02	Pump off time:	11:32

WATER QUALITY PARAMETERS

Probe Make and Model: WQM006 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.)
CPM 4 11:03	0.5	2.05	24.40	7587	157.7	0.05	5.64	clear, low, no, no
11:04	1.0	2.15	23.46	7165	167.4	0.20	5.41	
CPM 1 11:06	1.5	2.30	23.59	7088	188.8	0.95	5.23	
CPM 2 11:10	2.0	2.39	24.00	7026	198.6	0.85	5.18	
CPM 4 11:14	2.5	2.45	24.15	7058	199.9	0.74	5.15	
11:18	3.0	24.9	23.95	7059	198.1	0.73	5.14	
Stabilisation range: 3 consecutive readings			±0.2°C	±3%	±20mV	±10%	±0.2	

OTHER COMMENTS/OBSERVATIONS:

GW-QD/QT taken

SIGNATURE:

APPENDIX E – LABORATORY DOCUMENTATION

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
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SGS Reference	**SE224706 R1**
Date Received	15/10/2021
Date Reported	29/10/2021

COMMENTS

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

This report cancels and supersedes the report No.SE224706 R0 dated 28/10/21 issued by SGS Environment, Health and Safety due to amended PAH results for #1 and lead results for #1, 2 following re-analysis.

Clay Content subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146-CE155457

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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VOC's in Soil [AN433] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	QD1 SOIL - 15/10/2021 SE224706.011	QTS SOIL - 15/10/2021 SE224706.013	QTB SOIL - 15/10/2021 SE224706.014
Benzene	mg/kg	0.1	<0.1	[95%]	<0.1
Toluene	mg/kg	0.1	<0.1	[95%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	[95%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	[95%]	<0.2
o-xylene	mg/kg	0.1	<0.1	[95%]	<0.1
Total Xylenes	mg/kg	0.3	<0.3	-	<0.3
Total BTEX	mg/kg	0.6	<0.6	-	<0.6
Naphthalene	mg/kg	0.1	<0.1	-	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
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	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
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	QD1 SOIL - 15/10/2021 SE224706.011
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	**68**	<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	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
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	QD1 SOIL - 15/10/2021 SE224706.011
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
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	**0.3**	**0.3**	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	**0.3**	**0.3**	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	**0.2**	**0.1**	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	**0.2**	**0.2**	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	**0.2**	**0.1**	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	**0.2**	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	**0.3**	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	**0.3**	**0.2**	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	**1.8**	**1.4**	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	**1.8**	**1.4**	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
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

OC Pesticides in Soil [AN420] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	**0.5**	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	**0.6**	<0.1	**0.2**	<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	**0.2**	**9.6**	**0.2**	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	**1.2**	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	**0.6**	<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	**1.2**	<0.2	**0.5**	<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	**2**	**11**	<1	<1	<1
Total OC VIC EPA	mg/kg	1	**2**	**2**	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 18/10/2021 (continued)

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	**0.3**	<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	**2.8**	<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	**3.0**	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	**0.5**	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	**0.2**	<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	**0.3**	<0.2	**0.3**
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	**7**	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	**4**	<1	<1

OP Pesticides in Soil [AN420] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

pH in soil (1:5) [AN101] Tested: 22/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009
pH	pH Units	0.1	**8.8**	**7.7**

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 20/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009
Exchangeable Calcium, Ca	mg/kg	2	4400	1900
Exchangeable Calcium, Ca	meq/100g	0.01	22	9.6
Exchangeable Calcium Percentage*	%	0.1	93.0	65.1
Exchangeable Potassium, K	mg/kg	2	130	140
Exchangeable Potassium, K	meq/100g	0.01	0.32	0.35
Exchangeable Potassium Percentage*	%	0.1	1.4	2.4
Exchangeable Magnesium, Mg	mg/kg	2	91	400
Exchangeable Magnesium, Mg	meq/100g	0.02	0.74	3.3
Exchangeable Magnesium Percentage*	%	0.1	3.1	22.4
Exchangeable Sodium, Na	mg/kg	2	130	340
Exchangeable Sodium, Na	meq/100g	0.01	0.58	1.5
Exchangeable Sodium Percentage*	%	0.1	2.5	10.2
Cation Exchange Capacity	meq/100g	0.02	24	15

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 21/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
Arsenic, As	mg/kg	1	4	7	7	5	7
Cadmium, Cd	mg/kg	0.3	0.4	1.0	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	14	12	9.6	9.6
Copper, Cu	mg/kg	0.5	47	65	6.1	8.9	8.3
Lead, Pb	mg/kg	1	150	1100	18	13	40
Nickel, Ni	mg/kg	0.5	7.0	5.7	3.3	5.9	3.6
Zinc, Zn	mg/kg	2	240	640	20	9.2	13

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
Arsenic, As	mg/kg	1	4	3	12	3	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.5	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	1.7	2.1	14	5.4	15
Copper, Cu	mg/kg	0.5	11	8.9	56	54	34
Lead, Pb	mg/kg	1	<1	3	300	3	100
Nickel, Ni	mg/kg	0.5	0.9	1.1	15	48	6.1
Zinc, Zn	mg/kg	2	<2.0	6.4	590	32	130

PARAMETER	UOM	LOR	QD1 SOIL - 15/10/2021 SE224706.011
Arsenic, As	mg/kg	1	11
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	13
Copper, Cu	mg/kg	0.5	29
Lead, Pb	mg/kg	1	150
Nickel, Ni	mg/kg	0.5	9.1
Zinc, Zn	mg/kg	2	330

Mercury in Soil [AN312] Tested: 21/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	**0.16**	<0.05

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
Mercury	mg/kg	0.05	<0.05	**0.05**	<0.05	**0.07**	<0.05

PARAMETER	UOM	LOR	QD1 SOIL - 15/10/2021 SE224706.011
Mercury	mg/kg	0.05	<0.05

Moisture Content [AN002] Tested: 18/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
% Moisture	%w/w	1	8.9	9.6	13.3	13.6	16.5

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
% Moisture	%w/w	1	6.3	22.7	28.6	4.2	16.7

PARAMETER	UOM	LOR	QD1 SOIL - 15/10/2021 SE224706.011	QTB SOIL - 15/10/2021 SE224706.014
% Moisture	%w/w	1	38.3	<1.0

Fibre Identification in soil [AN602] Tested: 21/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706.002	HA3_0.5-0.6 SOIL - 15/10/2021 SE224706.003	HA4_0.12-0.2 SOIL - 15/10/2021 SE224706.004	HA4_0.4-0.5 SOIL - 15/10/2021 SE224706.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	HA5_0.1-0.2 SOIL - 15/10/2021 SE224706.006	HA6_0.2-0.3 SOIL - 15/10/2021 SE224706.007	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009	BH203M_0.2-0.3 SOIL - 15/10/2021 SE224706.010
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Particle sizing of soils by sieving [AN005] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009
Passing 75µm*	%w/w	1	**5**	**30**
Retained 75µm*	%w/w	1	**95**	**70**

Particle sizing of soils <75µm by hydrometer [AN005] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706.001	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706.009
Clay (<0.002mm)*	%w/w	0.1	**3.0**	**16**

VOCs in Water [AN433] Tested: 19/10/2021

PARAMETER	UOM	LOR	QR1 WATER - 15/10/2021 SE224706.012
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
m/p-xylene	µg/L	1	<1
o-xylene	µg/L	0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 19/10/2021

PARAMETER	UOM	LOR	QR1 WATER - 15/10/2021 SE224706.012
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: 19/10/2021

PARAMETER	UOM	LOR	QR1 WATER - 15/10/2021 SE224706.012
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: 18/10/2021

PARAMETER	UOM	LOR	QR1 WATER - 15/10/2021 SE224706.012
Arsenic, As	µg/L	1	<1
Cadmium, Cd	µg/L	0.1	<0.1
Chromium, Cr	µg/L	1	<1
Copper, Cu	µg/L	1	<1
Lead, Pb	µg/L	1	<1
Nickel, Ni	µg/L	1	<1
Zinc, Zn	µg/L	5	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 18/10/2021

PARAMETER	UOM	LOR	QR1 WATER - 15/10/2021 SE224706.012
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.
AN005	The particle size distribution of a soil is determined by wet sieving, using a maximum of 900 mL of deionised water to sieve all fractions down to 75 µm. Referenced to AS1289.3.6.1 and AS1141.11.
AN005	Following wet sieving of the sample,(particles smaller than 75 µm) a dispersing solution is added and a hydrometer is used to measure sedimentation. Soil density is determined and the percentage of each size fraction calculated. Referenced to AS1289.3.6.3.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
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.-
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).

AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

*	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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STATEMENT OF QA/QC PERFORMANCE

SE224706 R1

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
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Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224706 R1**
Date Received	15 Oct 2021
Date Reported	29 Oct 2021

COMMENTS

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

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

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

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

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	13 Soil, 1 Water
Date documentation received	15/10/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE224706 R1

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
HA1_0.3-0.4	SE224706.001	LB235119	15 Oct 2021	15 Oct 2021	12 Nov 2021	20 Oct 2021	12 Nov 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235119	15 Oct 2021	15 Oct 2021	12 Nov 2021	20 Oct 2021	12 Nov 2021	20 Oct 2021

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235222	15 Oct 2021	15 Oct 2021	15 Oct 2022	21 Oct 2021	15 Oct 2022	22 Oct 2021

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
QR1	SE224706.012	LB234949	15 Oct 2021	15 Oct 2021	12 Nov 2021	18 Oct 2021	12 Nov 2021	18 Oct 2021

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
QD1	SE224706.011	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
QD1	SE224706.011	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021
QTB	SE224706.014	LB235028	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	23 Oct 2021	20 Oct 2021

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021

HOLDING TIME SUMMARY

SE224706 R1

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

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

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

OC Pesticides in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QD1	SE224706.011	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
QD1	SE224706.011	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
QD1	SE224706.011	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
QD1	SE224706.011	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235309	15 Oct 2021	15 Oct 2021	22 Oct 2021	22 Oct 2021	23 Oct 2021	22 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235309	15 Oct 2021	15 Oct 2021	22 Oct 2021	22 Oct 2021	23 Oct 2021	22 Oct 2021

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
QD1	SE224706.011	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021

HOLDING TIME SUMMARY

SE224706 R1

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

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
QR1	SE224706.012	LB235044	15 Oct 2021	15 Oct 2021	13 Apr 2022	18 Oct 2021	13 Apr 2022	20 Oct 2021

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021
QD1	SE224706.011	LB235005	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	27 Nov 2021	20 Oct 2021

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE224706.012	LB235053	15 Oct 2021	15 Oct 2021	22 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
QD1	SE224706.011	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
QTS	SE224706.013	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
QTB	SE224706.014	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE224706.012	LB235063	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	20 Oct 2021

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706.001	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA2_0.6-0.7	SE224706.002	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA3_0.5-0.6	SE224706.003	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA4_0.12-0.2	SE224706.004	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA4_0.4-0.5	SE224706.005	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA5_0.1-0.2	SE224706.006	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
HA6_0.2-0.3	SE224706.007	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
BH201M_0.2-0.3	SE224706.008	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
BH202M_0.3-0.4	SE224706.009	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
BH203M_0.2-0.3	SE224706.010	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
QD1	SE224706.011	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
QTS	SE224706.013	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021
QTB	SE224706.014	LB235018	15 Oct 2021	15 Oct 2021	29 Oct 2021	18 Oct 2021	29 Oct 2021	20 Oct 2021

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE224706.012	LB235063	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	20 Oct 2021

HOLDING TIME SUMMARY

SE224706 R1

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

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)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	106
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	99
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	106
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	107
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	107
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	105
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	112
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	118
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	100
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	124

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	82
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	82
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	79
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	78
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	82
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	88
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	82
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	90
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	82
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	84
d14-p-terphenyl (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	87
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	89
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	90
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	86
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	93
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	99
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	92
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	95
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	91
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	HA1_0.3-0.4	SE224706.001	%	70 - 130%	84
	HA2_0.6-0.7	SE224706.002	%	70 - 130%	82
	HA3_0.5-0.6	SE224706.003	%	70 - 130%	79
	HA4_0.12-0.2	SE224706.004	%	70 - 130%	78
	HA4_0.4-0.5	SE224706.005	%	70 - 130%	82
	HA5_0.1-0.2	SE224706.006	%	70 - 130%	88
	HA6_0.2-0.3	SE224706.007	%	70 - 130%	82
	BH201M_0.2-0.3	SE224706.008	%	70 - 130%	90
	BH202M_0.3-0.4	SE224706.009	%	70 - 130%	82
	BH203M_0.2-0.3	SE224706.010	%	70 - 130%	84
d14-p-terphenyl (Surrogate)	HA1_0.3-0.4	SE224706.001	%	70 - 130%	104
	HA2_0.6-0.7	SE224706.002	%	70 - 130%	89
	HA3_0.5-0.6	SE224706.003	%	70 - 130%	90
	HA4_0.12-0.2	SE224706.004	%	70 - 130%	86
	HA4_0.4-0.5	SE224706.005	%	70 - 130%	93
	HA5_0.1-0.2	SE224706.006	%	70 - 130%	99
	HA6_0.2-0.3	SE224706.007	%	70 - 130%	92
	BH201M_0.2-0.3	SE224706.008	%	70 - 130%	95
	BH202M_0.3-0.4	SE224706.009	%	70 - 130%	91
	BH203M_0.2-0.3	SE224706.010	%	70 - 130%	94
d5-nitrobenzene (Surrogate)	HA1_0.3-0.4	SE224706.001	%	70 - 130%	85
	HA2_0.6-0.7	SE224706.002	%	70 - 130%	79
	HA3_0.5-0.6	SE224706.003	%	70 - 130%	81
	HA4_0.12-0.2	SE224706.004	%	70 - 130%	76
	HA4_0.4-0.5	SE224706.005	%	70 - 130%	80
	HA5_0.1-0.2	SE224706.006	%	70 - 130%	84

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	HA6_0.2-0.3	SE224706.007	%	70 - 130%	78
	BH201M_0.2-0.3	SE224706.008	%	70 - 130%	81
	BH202M_0.3-0.4	SE224706.009	%	70 - 130%	82
	BH203M_0.2-0.3	SE224706.010	%	70 - 130%	84

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	106
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	99
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	106
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	107
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	107
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	105
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	112
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	118
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	100
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	124

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	88
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	76
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	76
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	74
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	71
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	73
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	68
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	86
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	90
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	75
	QD1	SE224706.011	%	60 - 130%	67
	QTS	SE224706.013	%	60 - 130%	70
	QTB	SE224706.014	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	118
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	85
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	84
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	83
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	80
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	82
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	78
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	118
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	122
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	85
	QD1	SE224706.011	%	60 - 130%	76
	QTS	SE224706.013	%	60 - 130%	84
	QTB	SE224706.014	%	60 - 130%	95
d8-toluene (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	118
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	82
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	83
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	80
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	76
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	79
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	75
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	120
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	124
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	82
	QD1	SE224706.011	%	60 - 130%	73
	QTS	SE224706.013	%	60 - 130%	82
	QTB	SE224706.014	%	60 - 130%	94

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units

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

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

VOCs in Water (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE224706.012	%	40 - 130%	97
d4-1,2-dichloroethane (Surrogate)	QR1	SE224706.012	%	40 - 130%	98
d8-toluene (Surrogate)	QR1	SE224706.012	%	40 - 130%	99

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	88
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	76
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	76
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	74
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	71
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	73
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	68
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	86
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	90
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	75
	QD1	SE224706.011	%	60 - 130%	67
d4-1,2-dichloroethane (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	118
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	85
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	84
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	83
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	80
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	82
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	78
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	118
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	122
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	85
	QD1	SE224706.011	%	60 - 130%	76
d8-toluene (Surrogate)	HA1_0.3-0.4	SE224706.001	%	60 - 130%	118
	HA2_0.6-0.7	SE224706.002	%	60 - 130%	82
	HA3_0.5-0.6	SE224706.003	%	60 - 130%	83
	HA4_0.12-0.2	SE224706.004	%	60 - 130%	80
	HA4_0.4-0.5	SE224706.005	%	60 - 130%	76
	HA5_0.1-0.2	SE224706.006	%	60 - 130%	79
	HA6_0.2-0.3	SE224706.007	%	60 - 130%	75
	BH201M_0.2-0.3	SE224706.008	%	60 - 130%	120
	BH202M_0.3-0.4	SE224706.009	%	60 - 130%	124
	BH203M_0.2-0.3	SE224706.010	%	60 - 130%	82
	QD1	SE224706.011	%	60 - 130%	73

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE224706.012	%	40 - 130%	97
d4-1,2-dichloroethane (Surrogate)	QR1	SE224706.012	%	60 - 130%	98
d8-toluene (Surrogate)	QR1	SE224706.012	%	40 - 130%	99

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
LB235119.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury (dissolved) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB234949.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB235238.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB235005.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	100

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB235005.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	84
		d14-p-terphenyl (Surrogate)	%	-	93

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB235005.001		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)	%	-	87
		2-fluorobiphenyl (Surrogate)	%	-	84
		d14-p-terphenyl (Surrogate)	%	-	93

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB235005.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	100

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

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

Sample Number	Parameter	Units	LOR	Result
LB235232.001	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
LB235044.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB235005.001	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

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

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

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result
LB235053.001		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
LB235018.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	87
		d8-toluene (Surrogate)	%	-	90
		Bromofluorobenzene (Surrogate)	%	-	86
	Totals	Total BTEX	mg/kg	0.6	<0.6

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB235063.001	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5
	Hydrocarbons	Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	93

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB235018.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	87

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB235063.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	93

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 (dissolved) in Water

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224679.008	LB234949.014	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	167
SE224706.012	LB234949.018	Mercury	µg/L	0.0001	<0.0001	<0.0001	121	85

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224703.004	LB235238.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE224706.006	LB235238.014	Mercury	mg/kg	0.05	<0.05	<0.05	181	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.001	LB235028.011	% Moisture	%w/w	1	8.9	7.7	42	15
SE224706.011	LB235028.022	% Moisture	%w/w	1	38.3	32.6	33	16
SE224706.014	LB235028.024	% Moisture	%w/w	1	<1	<1	200	0

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.002	LB235005.027		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	0.5	0.7	47	22
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	0.1	0.1	112	22
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	9.6	9.8	31	2
			Alpha Chlordane	mg/kg	0.1	1.2	1.2	38	1
			trans-Nonachlor	mg/kg	0.1	0.6	0.7	46	7
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	11	12	39	3
			Total OC VIC EPA	mg/kg	1	2	2	81	9
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.16	30	10
SE224706.006	LB235005.028		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0

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 %
SE224706.006	LB235005.028		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16	30	1

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.002	LB235005.027		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	6
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
SE224706.006	LB235005.028		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	5

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.002	LB235005.027	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.1	<0.1	137	6
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	0.3	0.2	69	12
		Pyrene	mg/kg	0.1	0.3	0.3	68	9
		Benzo(a)anthracene	mg/kg	0.1	0.1	0.1	113	9

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

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

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

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

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 %
SE224706.002	LB235005.027		Chrysene	mg/kg	0.1	0.2	0.2	78	2
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.2	91	3
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	140	0
			Benzo(a)pyrene	mg/kg	0.1	0.1	0.1	104	6
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	147	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	139	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	125	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	115	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.2	0.2	97	4
			Total PAH (18)	mg/kg	0.8	1.4	1.2	92	15
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	6
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
SE224706.006	LB235005.028		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	7
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	5

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.002	LB235005.027		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	10
SE224706.006	LB235005.028		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0

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 %
SE224706.006	LB235005.028		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	1

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.009	LB235309.006	pH	pH Units	0.1	7.7	8.0	31	5

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 %
SE224703.004	LB235232.024	Arsenic, As	mg/kg	1	2	1	89	47
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	3.7	4.8	42	24
		Copper, Cu	mg/kg	0.5	4.7	4.9	40	6
		Nickel, Ni	mg/kg	0.5	1.0	1.3	74	30
		Lead, Pb	mg/kg	1	5	5	51	5
		Zinc, Zn	mg/kg	2	48	40	35	17
SE224706.006	LB235232.014	Arsenic, As	mg/kg	1	4	4	56	6
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	1.7	1.9	58	11
		Copper, Cu	mg/kg	0.5	11	1.7	38	144 ②
		Nickel, Ni	mg/kg	0.5	0.9	1.0	85	10
		Lead, Pb	mg/kg	1	<1	<1	150	0
		Zinc, Zn	mg/kg	2	<2	2.2	129	9

Trace Metals (Dissolved) in Water by ICPMS

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224675.043	LB235044.014	Arsenic, As	µg/L	1	2	1	84	12
		Cadmium, Cd	µg/L	0.1	0.3	0.2	56	31
		Chromium, Cr	µg/L	1	<1	<1	200	0
		Copper, Cu	µg/L	1	2	2	63	1
		Lead, Pb	µg/L	1	<1	<1	200	0
		Nickel, Ni	µg/L	1	15	16	21	2
		Zinc, Zn	µg/L	5	28	29	33	1
SE224731.001	LB235044.024	Zinc, Zn	µg/L	5	<5	<5	155	0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.002	LB235005.027		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
SE224706.006	LB235005.028		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

TRH (Total Recoverable Hydrocarbons) in Water

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

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | 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 %
SE224732.002	LB235053.024		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.001	LB235018.015	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.8	12.2	50	4
			d8-toluene (Surrogate)	mg/kg	-	11.8	12.4	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	9.1	50	3
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE224706.011	LB235018.034	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	7.6	50	0
			d8-toluene (Surrogate)	mg/kg	-	7.3	7.3	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.7	6.9	50	3
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224706.001	LB235018.015		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.8	12.2	30	4
			d8-toluene (Surrogate)	mg/kg	-	11.8	12.4	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	9.1	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE224706.011	LB235018.034		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	7.6	30	0
			d8-toluene (Surrogate)	mg/kg	-	7.3	7.3	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.7	6.9	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224752.024	LB235063.022	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.8	10.1	30	3
			d8-toluene (Surrogate)	µg/L	-	9.8	9.6	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	9.7	30	1
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0

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

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

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235119.002	Exchangeable Sodium, Na	meq/100g	0.01	0.19	0.194	80 - 120	98
	Exchangeable Potassium, K	meq/100g	0.01	0.57	0.63	80 - 120	90
	Exchangeable Calcium, Ca	meq/100g	0.01	6.2	6.3	80 - 120	98
	Exchangeable Magnesium, Mg	meq/100g	0.02	1.1	1.11	80 - 120	100

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235238.002	Mercury	mg/kg	0.05	0.25	0.2	70 - 130	125

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235005.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	99
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	94
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	95
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	94
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	90
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	119
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	102

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235005.002		Dichlorvos	mg/kg	0.5	1.6	2	60 - 140	78
		Diazinon (Dimpylate)	mg/kg	0.5	1.7	2	60 - 140	87
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	2	60 - 140	89
		Ethion	mg/kg	0.2	1.5	2	60 - 140	75
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	81
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235005.002		Naphthalene	mg/kg	0.1	4.0	4	60 - 140	100
		Acenaphthylene	mg/kg	0.1	4.1	4	60 - 140	102
		Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	104
		Phenanthrene	mg/kg	0.1	4.1	4	60 - 140	102
		Anthracene	mg/kg	0.1	4.0	4	60 - 140	100
		Fluoranthene	mg/kg	0.1	4.0	4	60 - 140	99
		Pyrene	mg/kg	0.1	4.2	4	60 - 140	104
		Benzo(a)pyrene	mg/kg	0.1	4.0	4	60 - 140	100
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	81
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235005.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	101

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235309.003	pH	pH Units	0.1	7.4	7.415	98 - 102	99

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235232.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	4.3	4.81	70 - 130	89
	Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	97
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	99
	Lead, Pb	mg/kg	1	90	89.9	80 - 120	100

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

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

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235232.002	Zinc, Zn	mg/kg	2	270	273	80 - 120	99

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235044.002	Arsenic, As	µg/L	1	20	20	80 - 120	101
	Cadmium, Cd	µg/L	0.1	21	20	80 - 120	107
	Chromium, Cr	µg/L	1	22	20	80 - 120	112
	Copper, Cu	µg/L	1	22	20	80 - 120	109
	Lead, Pb	µg/L	1	21	20	80 - 120	103
	Nickel, Ni	µg/L	1	22	20	80 - 120	108
	Zinc, Zn	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 %
LB235005.002		TRH C10-C14	mg/kg	20	34	40	60 - 140	85
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	90
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	78
	TRH F Bands	TRH >C10-C16	mg/kg	25	36	40	60 - 140	90
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	83
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235053.002		TRH C10-C14	µg/L	50	890	1200	60 - 140	74
		TRH C15-C28	µg/L	200	1200	1200	60 - 140	97
		TRH C29-C36	µg/L	200	1200	1200	60 - 140	102
	TRH F Bands	TRH >C10-C16	µg/L	60	1000	1200	60 - 140	85
		TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	103
		TRH >C34-C40 (F4)	µg/L	500	610	600	60 - 140	102

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235018.002	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.9	5	60 - 140	78
		Toluene	mg/kg	0.1	4.0	5	60 - 140	80
		Ethylbenzene	mg/kg	0.1	4.1	5	60 - 140	82
		m/p-xylene	mg/kg	0.2	9.1	10	60 - 140	91
		o-xylene	mg/kg	0.1	4.4	5	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
		d8-toluene (Surrogate)	mg/kg	-	9.1	10	70 - 130	91
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	10	70 - 130	82

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235063.002	Monocyclic Aromatic	Benzene	µg/L	0.5	52	45.45	60 - 140	114
		Toluene	µg/L	0.5	51	45.45	60 - 140	113
		Ethylbenzene	µg/L	0.5	52	45.45	60 - 140	115
		m/p-xylene	µg/L	1	100	90.9	60 - 140	115
		o-xylene	µg/L	0.5	52	45.45	60 - 140	114
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	10	60 - 140	99
		d8-toluene (Surrogate)	µg/L	-	10.0	10	70 - 130	100
		Bromofluorobenzene (Surrogate)	µg/L	-	9.6	10	70 - 130	96

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235018.002		TRH C6-C10	mg/kg	25	69	92.5	60 - 140	74
		TRH C6-C9	mg/kg	20	61	80	60 - 140	76
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	10	70 - 130	82
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	43	62.5	60 - 140	69

Volatile Petroleum Hydrocarbons in Water

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

Sample Number	Parameter	Units	LOR

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

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

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235063.002		TRH C6-C10	µg/L	50	900	946.63	60 - 140	96
		TRH C6-C9	µg/L	40	790	818.71	60 - 140	97
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	10	60 - 140	99
		d8-toluene (Surrogate)	µg/L	-	10.0	10	70 - 130	100
		Bromofluorobenzene (Surrogate)	µg/L	-	9.6	10	70 - 130	96
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	590	639.67	60 - 140	93

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

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason 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%
SE224567A.009	LB234949.004	Mercury	mg/L	0.0001	0.0020	<0.0001	0.008	95

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224707.001	LB235238.004	Mercury	mg/kg	0.05	0.26	<0.05	0.2	118

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224231A.012	LB235005.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	100
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	95
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	97
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	<0.2	<0.2	0.2	92
			Endrin	mg/kg	0.2	<0.2	<0.2	0.2	91
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	103
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16	-	104

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224231A.012	LB235005.004		Dichlorvos	mg/kg	0.5	1.6	<0.5	2	80
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	1.7	<0.5	2	85
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	<0.2	2	89
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.5	<0.2	2	77
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	6.6	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	81
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR

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

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason 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%
SE224231A.012	LB235005.004		Naphthalene	mg/kg	0.1	4.2	<0.1	4	104
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.3	<0.1	4	107
			Acenaphthene	mg/kg	0.1	4.3	<0.1	4	108
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.2	<0.1	4	105
			Anthracene	mg/kg	0.1	4.2	<0.1	4	104
			Fluoranthene	mg/kg	0.1	4.1	<0.1	4	103
			Pyrene	mg/kg	0.1	4.4	<0.1	4	110
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.0	<0.1	4	100
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	4.0	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.2	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.1	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	34	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	80
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	81
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224231A.012	LB235005.004		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	96
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	104

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224707.001	LB235232.004	Arsenic, As	mg/kg	1	43	8	50	70 ⑨
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	82
		Chromium, Cr	mg/kg	0.5	58	19	50	78
		Copper, Cu	mg/kg	0.5	49	4.6	50	89
		Nickel, Ni	mg/kg	0.5	43	1.4	50	84
		Lead, Pb	mg/kg	1	49	11	50	77
		Zinc, Zn	mg/kg	2	55	14	50	83

Trace Metals (Dissolved) in Water by ICPMS

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224605.043	LB235044.004	Lead, Pb	µg/L	1	20	<1	20	98

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224231A.012	LB235005.004	TRH C10-C14	mg/kg	20	39	<20	40	98
		TRH C15-C28	mg/kg	45	<45	<45	40	105
		TRH C29-C36	mg/kg	45	<45	<45	40	75
		TRH C37-C40	mg/kg	100	<100	<100	-	-

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224231A.012	LB235005.004		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F	TRH >C10-C16	mg/kg	25	41	<25	40	103
		Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	41	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	88
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224231A.012	LB235018.004	Monocyclic	Benzene	mg/kg	0.1	3.2	<0.1	5	63
		Aromatic	Toluene	mg/kg	0.1	3.3	<0.1	5	67
			Ethylbenzene	mg/kg	0.1	3.6	<0.1	5	71
			m/p-xylene	mg/kg	0.2	7.9	<0.2	10	79
			o-xylene	mg/kg	0.1	3.9	<0.1	5	77
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.1	7.9	10	81
			d8-toluene (Surrogate)	mg/kg	-	7.9	7.6	10	79
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.2	7.3	10	72
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-
			Total BTEX	mg/kg	0.6	22	<0.6	-	-

VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224679.007	LB235063.023	Monocyclic	Benzene	µg/L	0.5	55	<0.5	45.45	121
		Aromatic	Toluene	µg/L	0.5	54	<0.5	45.45	120
			Ethylbenzene	µg/L	0.5	55	<0.5	45.45	120
			m/p-xylene	µg/L	1	110	<1	90.9	120
			o-xylene	µg/L	0.5	55	<0.5	45.45	121
		Polycyclic	Naphthalene	µg/L	0.5	56	<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	11	9.9	-	105
			d8-toluene (Surrogate)	µg/L	-	10	9.8	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	10	9.8	-	101

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224231A.012	LB235018.005		TRH C6-C10	mg/kg	25	62	<25	92.5	67
			TRH C6-C9	mg/kg	20	55	<20	80	69
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.1	7.9	10	81
			d8-toluene (Surrogate)	mg/kg	-	7.9	7.6	10	79
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.2	7.3	-	72
		VPH F	Benzene (F0)	mg/kg	0.1	3.2	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	<25	62.5	64

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224679.007	LB235063.023		TRH C6-C10	µg/L	50	1100	<50	946.63	112
			TRH C6-C9	µg/L	40	940	<40	818.71	115
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	9.9	-	105
			d8-toluene (Surrogate)	µg/L	-	0.0	9.8	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	9.8	-	101
		VPH F	Benzene (F0)	µg/L	0.5		<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	730	<50	639.67	114

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.

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	10

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SGS Reference	**SE224706 R1**
Date Received	15 Oct 2021
Date Reported	29 Oct 2021

COMMENTS

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

This report cancels and supersedes the report No.SE224706 R0 dated 28/10/21 issued by SGS Environment, Health and Safety due to amended PAH results for #1 and lead results for #1, 2 following re-analysis.

Clay Content subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146-CE155457

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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Chemist

Bennet LO
Senior Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
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Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE224706.001	HA1_0.3-0.4	Soil	224g Sand,Soil,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.002	HA2_0.6-0.7	Soil	99g Sand,Soil,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.003	HA3_0.5-0.6	Soil	128g Clay,Sand,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.004	HA4_0.12-0.2	Soil	98g Clay,Sand,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.005	HA4_0.4-0.5	Soil	126g Clay,Sand,Soil,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.006	HA5_0.1-0.2	Soil	142g Sand,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.007	HA6_0.2-0.3	Soil	205g Clay,Sand,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.008	BH201M_0.2-0.3	Soil	75g Sand,Soil,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE224706.009	BH202M_0.3-0.4	Soil	146g Clay,Sand,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE224706.010	BH203M_0.2-0.3	Soil	157g Clay,Sand,Soil,Rocks	15 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD SUMMARY

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

FOOTNOTES

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

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

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

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

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

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

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Admin	Manager	Anthony Nilsson
Client	SGS I&E SYDNEY	Laboratory	SGS Cairns Environmental
Address	5058 201 I&E HSE SYDNEY (EX 5258) UNIT 16 33 MADDOX STREET ALEXANDRIA NSW 2015	Address	Unit 2, 58 Comport St Portsmith QLD 4870
Telephone	0285940400	Telephone	+61 07 4035 5111
Facsimile	0285940499	Facsimile	+61 07 4035 5122
Email	au.environmental.sydney@sgs.com	Email	AU.Environmental.Cairns@sgs.com
Project	**E25377 King Georges Rd & Lakemba St**	SGS Reference	**CE155457 R0**
Order Number	**SE224706**	Date Received	18 Oct 2021
Samples	14	Date Reported	28 Oct 2021

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(3146/19038)

SIGNATORIES

Anthony NILSSON
Operations Manager

Jon DICKER
Manager Northern QLD

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name CE155457.001 Soil 15 Oct 2021 SE224706.001	CE155457.002 Soil 15 Oct 2021 SE224706.002	CE155457.003 Soil 15 Oct 2021 SE224706.003	CE155457.004 Soil 15 Oct 2021 SE224706.004
Moisture Content Method: AN002 Tested: 20/10/2021						
% Moisture	%w/w	1	**4.4**	-	-	-
Particle sizing of soils by sieving Method: AN005 Tested: 20/10/2021						
Passing 75µm	%w/w	1	**5**	-	-	-
Retained 75µm	%w/w	1	**95**	-	-	-
Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 28/10/2021						
Clay (<0.002mm)	%w/w	0.1	**3.0**	-	-	-

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name CE155457.005 Soil 15 Oct 2021 SE224706.005	CE155457.006 Soil 15 Oct 2021 SE224706.006	CE155457.007 Soil 15 Oct 2021 SE224706.007	CE155457.008 Soil 15 Oct 2021 SE224706.008
Moisture Content Method: AN002 Tested: 22/10/2021						
% Moisture	%w/w	1	-	-	-	-
Particle sizing of soils by sieving Method: AN005 Tested: 28/10/2021						
Passing 75µm	%w/w	1	-	-	-	-
Retained 75µm	%w/w	1	-	-	-	-
Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 28/10/2021						
Clay (<0.002mm)	%w/w	0.1	-	-	-	-

Parameter	Units	LOR	Sample Number: CE155457.009 Sample Matrix: Soil Sample Date: 15 Oct 2021 Sample Name: SE224706.009	CE155457.010 Soil 15 Oct 2021 SE224706.010	CE155457.011 Soil 15 Oct 2021 SE224706.011	CE155457.012 Water 15 Oct 2021 SE224706.012
Moisture Content Method: AN002 Tested: 20/10/2021						
% Moisture	%w/w	1	**5.1**	-	-	-
Particle sizing of soils by sieving Method: AN005 Tested: 20/10/2021						
Passing 75µm	%w/w	1	**30**	-	-	-
Retained 75µm	%w/w	1	**70**	-	-	-
Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 28/10/2021						
Clay (<0.002mm)	%w/w	0.1	**16**	-	-	-

Parameter	Units	LOR	Sample Number: CE155457.013 Sample Matrix: Soil Sample Date: 15 Oct 2021 Sample Name: SE224706.013	Sample Number: CE155457.014 Sample Matrix: Soil Sample Date: 15 Oct 2021 Sample Name: SE224706.014
Moisture Content Method: AN002 Tested: 22/10/2021				
% Moisture	%w/w	1	-	-
Particle sizing of soils by sieving Method: AN005 Tested: 28/10/2021				
Passing 75µm	%w/w	1	-	-
Retained 75µm	%w/w	1	-	-
Particle sizing of soils <75µm by hydrometer Method: AN005 Tested: 28/10/2021				
Clay (<0.002mm)	%w/w	0.1	-	-

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

No QC samples were reported for this job.

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.
AN005	The particle size distribution of a soil is determined by wet sieving, using a maximum of 900 mL of deionised water to sieve all fractions down to 75 µm. Referenced to AS1289.3.6.1 and AS1141.11.
AN005	Following wet sieving of the sample,(particles smaller than 75 µm) a dispersing solution is added and a hydrometer is used to measure sedimentation. Soil density is determined and the percentage of each size fraction calculated. Referenced to AS1289.3.6.3.

FOOTNOTES

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

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

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

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

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

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

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

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

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

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Sheet 1 of 2

Site: 64-70 King Georges Road and 280-300 Lakemba Street, Wiley Park

Project No: E25377

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	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	Clay Content	HOLD	TCLP HM [B] / PAH
HA1-0.3-0.4	1	J, ZLB	15/10/21	AM/PM	X				X													X			X		
HA2-0.6-0.7	2				X				X																		
HA3-0.5-0.6	3				X				X																		
HA4-0.12-0.2	4				X				X Cr																	TCM	
HA4-0.4-0.5	5				X				X													X			X		
HA5-0.1-0.2	6				X				X																		
HA6-0.2-0.3	7				X				X																		
BH201M-0.2-0.3	8				X				X																		
BH202M-0.3-0.4	9				X				X													X			X		
BH203M-0.2-0.3	10	↓			X				X																		
QD1	11	J			X						X																
QR1	12	SP, ZLVC	↓	↓		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
- [X] 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 (SGS):
Print: Nathan Spanos	Print: George Zhi
Signature:	Signature:
Date: 15/10/21	Date: 15/10/21 @ 5pm

Sampler's Comments:

SGS EHS Sydney COC
SE224706

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

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

source:SE_Addressed.pdf page:1 SDG Ref:SE224706_COC

Sheet 2 of 2

Site: 64-70 King George Road and 280-300 Lakemba Street, Wiley Park

Project No: E25377

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

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: 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	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	HOLD		TCLP HM [B] / PAH
QRB1		S,P,2xVC	15/10/21	AM/PM		X																			X		
QTS	13	VC	LAB PREP		X							X															
QTB	14	↓			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

- [X] 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 botile
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 (SGS):
Print: Nathan Spanos	Print: George Zhi
Signature:	Signature:
Date: 15/10/21	Date: 15/10/21 @ 5pm

Sampler's Comments:

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

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

Yin, Emily (Sydney)

From: Nathan Spanos - EIAustralia <nathan.spanos@eiaustralia.com.au>
Sent: Friday, 15 October 2021 7:41 PM
To: Yin, Emily (Sydney)
Subject: [EXTERNAL] Re: E25377
Attachments: [Untitled]_20211015195318 59.pdf

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

Hi Emily,

The amendments you made to the coc are the correct depths thank you for fixing that.

Can we please also get HA4_0.1-0.2 analysed for the first analytical suite on the cocs.

Yes can you please forward the QT sample to envirolabs.

Thank you,
Nathan Spanos

Sent from my iPhone

> On 15 Oct 2021, at 19:33, Yin, Emily (Sydney) <Emily.Yin@sgs.com> wrote:
>
> Dear Nathan,
>
> I think the depth for the two samples are wrong.
> As these are already listed on the other job.
> Also QT sample received.
> Do you want it to be forwarded to another lab.
> Please advise as soon as possible.
> Thank You.
>
> Regards,
>
> **Emily Yin**
> **Environment, Health & Safety**
> Sample Receipt
>
> **SGS Australia Pty Ltd**
> Unit 16, 33 Maddox Street
> Alexandria NSW 2015
>
> Phone: +61 (0)2 8594 0400
> Fax: +61 (0)2 8594 0499
> E-mail: **au.samplereceipt.sydney@sgs.com**

Yin, Emily (Sydney)

From: Nathan Spanos - ElAustralia <nathan.spanos@eiaustralia.com.au>
Sent: Monday, 18 October 2021 10:01 AM
To: AU.SampleReceipt.Sydney (Sydney)
Cc: AU.Environmental.Sydney (Sydney)
Subject: [EXTERNAL] RE: SGS Sample Receipt Advice (Ref: E25377 King Georges Rd & Lakemba St, Lab Ref: SE224706)

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

Hi SGS,

Can we please remove the pH/CEC and clay content analysis from HA4_0.4-0.5.

Kind Regards,

Nathan Spanos
BSc – Environmental Science, LAA
Environmental Scientist –
SafeWork NSW Licensed Asbestos Assessor

T (02) 9516 0722 M 0420 412 319
E nathan.spanos@eiaustralia.com.au

Suite 6.01, 55 Miller Street
Pyrmont, NSW 2009

www.eiaustralia.com.au

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From: AU.Samplereceipt.Sydney@SGS.com [mailto:AU.Samplereceipt.Sydney@SGS.com]
Sent: Friday, 15 October 2021 10:14 PM
To: Nathan Spanos - ElAustralia; Laboratory Results - ElAustralia
Subject: SGS Sample Receipt Advice (Ref: E25377 King Georges Rd & Lakemba St, Lab Ref: SE224706)

Dear Nathan Spanos,

Please be advised we have received samples for analysis as detailed in the attached documentation.

Covid-19 update: SGS Australia is open, with our Business Service Continuity Plans being put in place to ensure your project can be delivered as normal, please see the following links further details:
19 March 2020 Letter.
30 March 2020 Update.

Best regards,
SGS Alexandria Sample Administration Team

SAMPLE RECEIPT ADVICE

SE224706

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 15/10/2021
Report Due	Fri 22/10/2021
SGS Reference	**SE224706**

SUBMISSION DETAILS

This is to confirm that 14 samples were received on Friday 15/10/2021. Results are expected to be ready by COB Friday 22/10/2021. Please quote SGS reference SE224706 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	13 Soil, 1 Water
Date documentation received	15/10/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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

COMMENTS

Clay Content subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.
1 water sample has been placed on hold as no tests have been assigned for it. This sample will not be processed.

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SAMPLE RECEIPT ADVICE

SE224706

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd & Lakemba St

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	HA1_0.3-0.4	30	14	26	11	1	10	11	7
002	HA2_0.6-0.7	30	14	26	11	-	10	11	7
003	HA3_0.5-0.6	30	14	26	11	-	10	11	7
004	HA4_0.12-0.2	30	14	26	11	-	10	11	7
005	HA4_0.4-0.5	30	14	26	11	-	10	11	7
006	HA5_0.1-0.2	30	14	26	11	-	10	11	7
007	HA6_0.2-0.3	30	14	26	11	-	10	11	7
008	BH201M_0.2-0.3	30	14	26	11	-	10	11	7
009	BH202M_0.3-0.4	30	14	26	11	1	10	11	7
010	BH203M_0.2-0.3	30	14	26	11	-	10	11	7
011	QD1	-	-	-	-	-	10	11	7
013	QTS	-	-	-	-	-	-	11	-
014	QTB	-	-	-	-	-	-	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

SE224706

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd & Lakemba St

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	Fibre Identification in soil	Mercury in Soil	Moisture Content	Particle sizing of soils <75µm by hydrometer	Particle sizing of soils by sieving	Total Recoverable Elements in Soil/Waste
001	HA1_0.3-0.4	13	2	1	1	1	2	7
002	HA2_0.6-0.7	-	2	1	1	-	-	7
003	HA3_0.5-0.6	-	2	1	1	-	-	7
004	HA4_0.12-0.2	-	2	1	1	-	-	7
005	HA4_0.4-0.5	-	2	1	1	-	-	7
006	HA5_0.1-0.2	-	2	1	1	-	-	7
007	HA6_0.2-0.3	-	2	1	1	-	-	7
008	BH201M_0.2-0.3	-	2	1	1	-	-	7
009	BH202M_0.3-0.4	13	2	1	1	1	2	7
010	BH203M_0.2-0.3	-	2	1	1	-	-	7
011	QD1	-	-	1	1	-	-	7
014	QTB	-	-	-	1	-	-	-

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE224706

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd & Lakemba St

SUMMARY OF ANALYSIS

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

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE224706

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd & Lakemba St

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water
012	QR1	1

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

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Lance Chen
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Lance.Chen@eiaustralia.com.au
Project	**E25377 King Georges Rd&Lakemba St-Add**
Order Number	**E25377**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224706A R0**
Date Received	28/10/2021
Date Reported	29/10/2021

COMMENTS

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

SIGNATORIES



Bennet LO
Senior Chemist



Shane MCDERMOTT
Inorganic/Metals Chemist

TCLP (Toxicity Characteristic Leaching Procedure) for Organics/SVOC [AN006] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA1_0.3-0.4 SOIL - 15/10/2021 SE224706A.001
pH 1:20	pH Units	-	**9.0**
pH 1:20 plus HCL	pH Units	-	**2.1**
Extraction Solution Used	No unit	-	**1**
Mass of Sample Used*	g	-	**25**
Volume of ExtractionSolution Used*	mL	-	**500**
pH TCLP after 18 hours	pH Units	-	**5.1**

TCLP (Toxicity Characteristic Leaching Procedure) for Metals [AN006] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_0.6-0.7 SOIL - 15/10/2021 SE224706A.002	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706A.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706A.009
pH 1:20	pH Units	-	6.5	7.3	8.0
pH 1:20 plus HCL	pH Units	-	2.2	2.2	2.2
Extraction Solution Used	No unit	-	1	1	1
Mass of Sample Used*	g	-	13	13	13
Volume of ExtractionSolution Used*	mL	-	250	250	250
pH TCLP after 18 hours	pH Units	-	5.0	5.0	5.1

Metals in TCLP Extract by ICPOES [AN320] Tested: 29/10/2021

PARAMETER	UOM	LOR	BH201M_0.2-0.3 SOIL - 15/10/2021 SE224706A.008	BH202M_0.3-0.4 SOIL - 15/10/2021 SE224706A.009
Lead, Pb	mg/L	0.02	**0.08**	-
Nickel, Ni	mg/L	0.005	-	**0.060**

METHOD	METHODOLOGY SUMMARY
AN006	Contaminants of interest in a waste material are leached out of the waste with a selected leaching solution under controlled conditions. The ratio of sample to extraction fluid is 100g to 2L (1 to 20 by mass). The concentration of each contaminant of interest is determined in the leachate by appropriate methods after separation from the sample by filtering. Base on USEPA 1311.
AN006	Extraction Fluid #1: This fluid is made by combining 128.6mL of dilute sodium hydroxide solution and 11.5mL glacial acetic acid with water and diluting to a volume of 2 litres. The pH of this fluid should be 4.93 ± 0.05.
AN006	Extraction Fluid #2: This fluid is made by diluting 5.7mL glacial acetic acid with water to a volume of 1 litre. The pH of this fluid should be 2.88 ± 0.05.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN320	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components .
AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements . Reference APHA 3120 B.
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).

FOOTNOTES

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

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

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

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

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

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

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

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

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

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STATEMENT OF QA/QC PERFORMANCE

SE224706A R0

CLIENT DETAILS

Contact	Lance Chen
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Lance.Chen@eiaustralia.com.au
Project	**E25377 King Georges Rd&Lakemba St-Add**
Order Number	**E25377**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224706A R0**
Date Received	28 Oct 2021
Date Reported	29 Oct 2021

COMMENTS

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

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

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

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	4 Soil
Date documentation received	28/10/2021@10:30a	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

HOLDING TIME SUMMARY

SE224706A R0

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

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

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

Metals in TCLP Extract by ICPOES — Method: ME-(AU)-[ENV]AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH201M_0.2-0.3	SE224706A.008	LB235804	15 Oct 2021	28 Oct 2021	13 Apr 2022	29 Oct 2021	13 Apr 2022	29 Oct 2021
BH202M_0.3-0.4	SE224706A.009	LB235804	15 Oct 2021	28 Oct 2021	13 Apr 2022	29 Oct 2021	13 Apr 2022	29 Oct 2021

TCLP (Toxicity Characteristic Leaching Procedure) for Metals — Method: ME-(AU)-[ENV]AN006

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_0.6-0.7	SE224706A.002	LB235801	15 Oct 2021	28 Oct 2021	13 Apr 2022	28 Oct 2021	13 Apr 2022	29 Oct 2021
BH201M_0.2-0.3	SE224706A.008	LB235801	15 Oct 2021	28 Oct 2021	13 Apr 2022	28 Oct 2021	13 Apr 2022	29 Oct 2021
BH202M_0.3-0.4	SE224706A.009	LB235801	15 Oct 2021	28 Oct 2021	13 Apr 2022	28 Oct 2021	13 Apr 2022	29 Oct 2021

TCLP (Toxicity Characteristic Leaching Procedure) for Organics/SVOC — Method: ME-(AU)-[ENV]AN006

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA1_0.3-0.4	SE224706A.001	LB235800	15 Oct 2021	28 Oct 2021	29 Oct 2021	28 Oct 2021	29 Oct 2021	29 Oct 2021

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

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

No surrogates were required for this job.

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

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

Metals in TCLP Extract by ICPOES — **Method: ME-(AU)-[ENV]AN320**

Sample Number	Parameter	Units	LOR	Result
LB235804.001	Lead, Pb	mg/L	0.02	<0.02
	Nickel, Ni	mg/L	0.005	<0.005

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

No duplicates were required for this job.

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

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

Metals in TCLP Extract by ICPOES — **Method: ME-(AU)-[ENV]AN320**

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235804.002	Lead, Pb	mg/L	0.02	0.48	0.5	80 - 120	96
	Nickel, Ni	mg/L	0.005	0.47	0.5	80 - 120	95

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

SE224706A R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

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

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

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

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

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

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

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source: SE_Autoscan.pdf page: 1 SGS Ref: SE224706A_COC

Yin, Emily (Sydney)

From: Lance Chen - EIAustralia <lance.chen@eiaustralia.com.au>
Sent: Thursday, 28 October 2021 10:30 AM
To: Crawford, Huong (Sydney); AU.SampleReceipt.Sydney (Sydney)
Cc: Nathan Spanos - EIAustralia; Emmanuel Woelders - EIAustralia
Subject: [EXTERNAL] RE: SE224706-E25377 King Georges Rd & Lakemba St- overdue- Clay content delay

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

Hi SGS,

Please order the following tests:

- Retest Lead and B(a)P for sample HA1_0.3-0.4 and prepare TCLP B(a)P of the new extract;
- Retest Lead for sample HA2_0.6-0.7 and prepare TCLP Lead of the new extract;
- Test TCLP Lead for sample BH201M_0.2-0.3; and
- Test sample HA2_1.1-1.2 for Heavy metal, PAHs, BTEX and TRH

Thank you

Lance(Liangshi) Chen
Environmental Engineer

T 02 9516 0722 M 0415 682 248
E lance.chen@eiaustralia.com.au

Suite 6.01, 55 Miller Street
Pyrmont, NSW 2009

www.eiaustralia.com.au

SGS EHS Alexandria Laboratory
SE224706A COC
Received: 28 – Oct – 2021

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From: Crawford, Huong (Sydney) [mailto:Huong.Crawford@sgs.com]
Sent: Tuesday, 26 October 2021 7:59 PM
To: Nathan Spanos - EIAustralia
Cc: Laboratory Results - EIAustralia
Subject: SE224706-E25377 King Georges Rd & Lakemba St- overdue- Clay content delay

Hi Nathan,

I checked with Cairns lab, they have issues with particle size distribution test, aim to report on Friday 29/10.

Prelim. report was sent already, apologies for the delay.

Kind Regards,

Yin, Emily (Sydney)

From: Nathan Spanos - EIAustralia <nathan.spanos@eiaustralia.com.au>
Sent: Thursday, 28 October 2021 4:44 PM
To: AU.Environmental.Sydney (Sydney)
Cc: AU.SampleReceipt.Sydney (Sydney)
Subject: RE: [EXTERNAL] RE: SE224706-E25377 King Georges Rd & Lakemba St- overdue- Clay content delay

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

Thanks Huong,

Can we please also run TCLP analysis for Nickel on sample BH202M_0.3-0.4 on 24 TAT.

Thanks,

Nathan Spanos
BSc – Environmental Science, LAA
Environmental Scientist –
SafeWork NSW Licensed Asbestos Assessor
T (02) 9516 0722 M 0420 412 319
E nathan.spanos@eiaustralia.com.au
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Pyrmont, NSW 2009
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From: AU.Environmental.Sydney (Sydney) [mailto:AU.Environmental.Sydney@sgs.com]
Sent: Thursday, 28 October 2021 11:21 AM
To: Nathan Spanos - EIAustralia
Cc: Emmanuel Woelders - EIAustralia; Lance Chen - EIAustralia; AU.Environmental.Sydney (Sydney)
Subject: RE: [EXTERNAL] RE: SE224706-E25377 King Georges Rd & Lakemba St- overdue- Clay content delay

Hi Nathan/Lance,

Getting them booked in for tomorrow due, thanks.

Kind Regards,

Huong Crawford
Industries & Environment
Production Manager

SAMPLE RECEIPT ADVICE

SE224706A

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd&Lakemba St-Add**
Order Number	**E25377**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Thu 28/10/2021
Report Due	Fri 29/10/2021
SGS Reference	**SE224706A**

SUBMISSION DETAILS

This is to confirm that 14 samples were received on Thursday 28/10/2021. Results are expected to be ready by COB Friday 29/10/2021. Please quote SGS reference SE224706A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	4 Soil
Date documentation received	28/10/2021@10:30am	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

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

COMMENTS

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SAMPLE RECEIPT ADVICE

SE224706A

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd&Lakemba St-Add

SUMMARY OF ANALYSIS

No.	Sample ID	Metals in TCLP Extract by ICPOES	TCLP (Toxicity Characteristic Leaching	TCLP (Toxicity Characteristic Leaching
001	HA1_0.3-0.4	-	-	6
002	HA2_0.6-0.7	-	6	-
008	BH201M_0.2-0.3	1	6	-
009	BH202M_0.3-0.4	1	6	-

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

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	4

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224707 R0**
Date Received	15/10/2021
Date Reported	22/10/2021

COMMENTS

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

SIGNATORIES

Bennet LO
Senior Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Shane MCDERMOTT
Inorganic/Metals Chemist

Teresa NGUYEN
Organic Chemist

VOC's in Soil [AN433] Tested: 19/10/2021

PARAMETER	UOM	LOR	HA3_0.7-0.8 SOIL - 15/10/2021 SE224707.001	HA4_0.6-0.7 SOIL - 15/10/2021 SE224707.002	HA6_0.4-0.5 SOIL - 15/10/2021 SE224707.003	BH202M_0.9-1.0 SOIL - 15/10/2021 SE224707.004
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 19/10/2021

PARAMETER	UOM	LOR	HA3_0.7-0.8 SOIL - 15/10/2021 SE224707.001	HA4_0.6-0.7 SOIL - 15/10/2021 SE224707.002	HA6_0.4-0.5 SOIL - 15/10/2021 SE224707.003	BH202M_0.9-1.0 SOIL - 15/10/2021 SE224707.004
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 19/10/2021

PARAMETER	UOM	LOR	HA3_0.7-0.8 SOIL - 15/10/2021 SE224707.001	HA4_0.6-0.7 SOIL - 15/10/2021 SE224707.002	HA6_0.4-0.5 SOIL - 15/10/2021 SE224707.003	BH202M_0.9-1.0 SOIL - 15/10/2021 SE224707.004
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 19/10/2021

PARAMETER	UOM	LOR	HA3_0.7-0.8 SOIL - 15/10/2021 SE224707.001	HA4_0.6-0.7 SOIL - 15/10/2021 SE224707.002	HA6_0.4-0.5 SOIL - 15/10/2021 SE224707.003	BH202M_0.9-1.0 SOIL - 15/10/2021 SE224707.004
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 21/10/2021

PARAMETER	UOM	LOR	HA3_0.7-0.8 SOIL - 15/10/2021 SE224707.001	HA4_0.6-0.7 SOIL - 15/10/2021 SE224707.002	HA6_0.4-0.5 SOIL - 15/10/2021 SE224707.003	BH202M_0.9-1.0 SOIL - 15/10/2021 SE224707.004
Arsenic, As	mg/kg	1	8	9	11	11
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	19	13	14	14
Copper, Cu	mg/kg	0.5	4.6	5.7	9.0	15
Lead, Pb	mg/kg	1	11	15	11	13
Nickel, Ni	mg/kg	0.5	1.4	1.9	2.4	2.4
Zinc, Zn	mg/kg	2	14	15	15	21

Mercury in Soil [AN312] Tested: 21/10/2021

PARAMETER	UOM	LOR	HA3_0.7-0.8 SOIL - 15/10/2021 SE224707.001	HA4_0.6-0.7 SOIL - 15/10/2021 SE224707.002	HA6_0.4-0.5 SOIL - 15/10/2021 SE224707.003	BH202M_0.9-1.0 SOIL - 15/10/2021 SE224707.004
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 19/10/2021

PARAMETER	UOM	LOR	HA3_0.7-0.8 SOIL - 15/10/2021 SE224707.001	HA4_0.6-0.7 SOIL - 15/10/2021 SE224707.002	HA6_0.4-0.5 SOIL - 15/10/2021 SE224707.003	BH202M_0.9-1.0 SOIL - 15/10/2021 SE224707.004
% Moisture	%w/w	1	**22.9**	**21.1**	**25.3**	**17.1**

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all < LOR results are half the LOR and the third assuming all <LOR results are the LOR.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	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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STATEMENT OF QA/QC PERFORMANCE

SE224707 R0

CLIENT DETAILS

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Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	4

LABORATORY DETAILS

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Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224707 R0**
Date Received	15 Oct 2021
Date Reported	22 Oct 2021

COMMENTS

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

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

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

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

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	4 Soil
Date documentation received	15/10/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE224707 R0

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

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

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

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA3_0.7-0.8	SE224707.001	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA4_0.6-0.7	SE224707.002	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
HA6_0.4-0.5	SE224707.003	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021
BH202M_0.9-1.0	SE224707.004	LB235238	15 Oct 2021	15 Oct 2021	12 Nov 2021	21 Oct 2021	12 Nov 2021	22 Oct 2021

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA3_0.7-0.8	SE224707.001	LB235101	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	24 Oct 2021	21 Oct 2021
HA4_0.6-0.7	SE224707.002	LB235101	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	24 Oct 2021	21 Oct 2021
HA6_0.4-0.5	SE224707.003	LB235101	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	24 Oct 2021	21 Oct 2021
BH202M_0.9-1.0	SE224707.004	LB235101	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	24 Oct 2021	21 Oct 2021

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA3_0.7-0.8	SE224707.001	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021
HA4_0.6-0.7	SE224707.002	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021
HA6_0.4-0.5	SE224707.003	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021
BH202M_0.9-1.0	SE224707.004	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA3_0.7-0.8	SE224707.001	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA4_0.6-0.7	SE224707.002	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
HA6_0.4-0.5	SE224707.003	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021
BH202M_0.9-1.0	SE224707.004	LB235232	15 Oct 2021	15 Oct 2021	13 Apr 2022	21 Oct 2021	13 Apr 2022	21 Oct 2021

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA3_0.7-0.8	SE224707.001	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021
HA4_0.6-0.7	SE224707.002	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021
HA6_0.4-0.5	SE224707.003	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021
BH202M_0.9-1.0	SE224707.004	LB235099	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	28 Nov 2021	21 Oct 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA3_0.7-0.8	SE224707.001	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021
HA4_0.6-0.7	SE224707.002	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021
HA6_0.4-0.5	SE224707.003	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021
BH202M_0.9-1.0	SE224707.004	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA3_0.7-0.8	SE224707.001	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021
HA4_0.6-0.7	SE224707.002	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021
HA6_0.4-0.5	SE224707.003	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021
BH202M_0.9-1.0	SE224707.004	LB235100	15 Oct 2021	15 Oct 2021	29 Oct 2021	19 Oct 2021	29 Oct 2021	21 Oct 2021

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason 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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	HA3_0.7-0.8	SE224707.001	%	70 - 130%	94
	HA4_0.6-0.7	SE224707.002	%	70 - 130%	91
	HA6_0.4-0.5	SE224707.003	%	70 - 130%	94
	BH202M_0.9-1.0	SE224707.004	%	70 - 130%	93
d14-p-terphenyl (Surrogate)	HA3_0.7-0.8	SE224707.001	%	70 - 130%	105
	HA4_0.6-0.7	SE224707.002	%	70 - 130%	117
	HA6_0.4-0.5	SE224707.003	%	70 - 130%	104
	BH202M_0.9-1.0	SE224707.004	%	70 - 130%	104
d5-nitrobenzene (Surrogate)	HA3_0.7-0.8	SE224707.001	%	70 - 130%	74
	HA4_0.6-0.7	SE224707.002	%	70 - 130%	76
	HA6_0.4-0.5	SE224707.003	%	70 - 130%	73
	BH202M_0.9-1.0	SE224707.004	%	70 - 130%	74

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	HA3_0.7-0.8	SE224707.001	%	60 - 130%	83
	HA4_0.6-0.7	SE224707.002	%	60 - 130%	72
	HA6_0.4-0.5	SE224707.003	%	60 - 130%	85
	BH202M_0.9-1.0	SE224707.004	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	HA3_0.7-0.8	SE224707.001	%	60 - 130%	103
	HA4_0.6-0.7	SE224707.002	%	60 - 130%	94
	HA6_0.4-0.5	SE224707.003	%	60 - 130%	109
	BH202M_0.9-1.0	SE224707.004	%	60 - 130%	103
d8-toluene (Surrogate)	HA3_0.7-0.8	SE224707.001	%	60 - 130%	104
	HA4_0.6-0.7	SE224707.002	%	60 - 130%	95
	HA6_0.4-0.5	SE224707.003	%	60 - 130%	110
	BH202M_0.9-1.0	SE224707.004	%	60 - 130%	103

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	HA3_0.7-0.8	SE224707.001	%	60 - 130%	83
	HA4_0.6-0.7	SE224707.002	%	60 - 130%	72
	HA6_0.4-0.5	SE224707.003	%	60 - 130%	85
	BH202M_0.9-1.0	SE224707.004	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	HA3_0.7-0.8	SE224707.001	%	60 - 130%	103
	HA4_0.6-0.7	SE224707.002	%	60 - 130%	94
	HA6_0.4-0.5	SE224707.003	%	60 - 130%	109
	BH202M_0.9-1.0	SE224707.004	%	60 - 130%	103
d8-toluene (Surrogate)	HA3_0.7-0.8	SE224707.001	%	60 - 130%	104
	HA4_0.6-0.7	SE224707.002	%	60 - 130%	95
	HA6_0.4-0.5	SE224707.003	%	60 - 130%	110
	BH202M_0.9-1.0	SE224707.004	%	60 - 130%	103

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB235238.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB235099.001		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)	%	-	77
		2-fluorobiphenyl (Surrogate)	%	-	95
		d14-p-terphenyl (Surrogate)	%	-	115

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

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

Sample Number	Parameter	Units	LOR	Result
LB235232.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB235099.001	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
LB235100.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	111
		d8-toluene (Surrogate)	%	-	111
		Bromofluorobenzene (Surrogate)	%	-	96
	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
LB235100.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	111

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 %
SE224703.004	LB235238.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE224706.006	LB235238.014	Mercury	mg/kg	0.05	<0.05	<0.05	181	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224707.002	LB235101.011	% Moisture	%w/w	1	21.1	23.5	34	10
SE224797.003	LB235101.020	% Moisture	%w/w	1	6.6	5.8	46	14

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224797.003	LB235099.021		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.1	130	14
			Pyrene	mg/kg	0.1	<0.1	0.1	118	28
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	158	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	198	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.6	30	15

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 %
SE224703.004	LB235232.024	Arsenic, As	mg/kg	1	2	1	89	47
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	3.7	4.8	42	24
		Copper, Cu	mg/kg	0.5	4.7	4.9	40	6
		Nickel, Ni	mg/kg	0.5	1.0	1.3	74	30
		Lead, Pb	mg/kg	1	5	5	51	5
		Zinc, Zn	mg/kg	2	48	40	35	17
SE224706.006	LB235232.014	Arsenic, As	mg/kg	1	4	4	56	6
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	1.7	1.9	58	11
		Copper, Cu	mg/kg	0.5	11	1.7	38	144 ②
		Nickel, Ni	mg/kg	0.5	0.9	1.0	85	10
		Lead, Pb	mg/kg	1	<1	<1	150	0
		Zinc, Zn	mg/kg	2	<2	2.2	129	9

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224797.003	LB235099.021	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0

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 %
SE224797.003	LB235099.021		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 %
SE224797.003	LB235100.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	11.2	50	6
			d8-toluene (Surrogate)	mg/kg	-	10.3	11.0	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.1	9.2	50	2
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224797.003	LB235100.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	11.2	30	6
			d8-toluene (Surrogate)	mg/kg	-	10.3	11.0	30	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.1	9.2	30	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235238.002	Mercury	mg/kg	0.05	0.25	0.2	70 - 130	125

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235099.002		Naphthalene	mg/kg	0.1	3.8	4	60 - 140	95
		Acenaphthylene	mg/kg	0.1	3.8	4	60 - 140	96
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	97
		Phenanthrene	mg/kg	0.1	3.8	4	60 - 140	94
		Anthracene	mg/kg	0.1	3.8	4	60 - 140	94
		Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	95
		Pyrene	mg/kg	0.1	3.9	4	60 - 140	97
		Benzo(a)pyrene	mg/kg	0.1	3.9	4	60 - 140	98
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	81
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235232.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	4.3	4.81	70 - 130	89
	Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	97
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	99
	Lead, Pb	mg/kg	1	90	89.9	80 - 120	100
	Zinc, Zn	mg/kg	2	270	273	80 - 120	99

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235099.002		TRH C10-C14	mg/kg	20	49	40	60 - 140	123
		TRH C15-C28	mg/kg	45	47	40	60 - 140	118
		TRH C29-C36	mg/kg	45	46	40	60 - 140	115
	TRH F Bands	TRH >C10-C16	mg/kg	25	50	40	60 - 140	125
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	123
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	85

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235100.002	Monocyclic	Benzene	mg/kg	0.1	5.1	5	60 - 140	102
	Aromatic	Toluene	mg/kg	0.1	5.1	5	60 - 140	102
		Ethylbenzene	mg/kg	0.1	5.3	5	60 - 140	106
		m/p-xylene	mg/kg	0.2	12	10	60 - 140	117
		o-xylene	mg/kg	0.1	5.6	5	60 - 140	113
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.8	10	70 - 130	118
		d8-toluene (Surrogate)	mg/kg	-	11.7	10	70 - 130	117
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235100.002		TRH C6-C10	mg/kg	25	73	92.5	60 - 140	79
		TRH C6-C9	mg/kg	20	65	80	60 - 140	81
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.8	10	70 - 130	118
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	62.5	60 - 140	65

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224707.001	LB235238.004	Mercury	mg/kg	0.05	0.26	<0.05	0.2	118

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE224707.004	LB235099.023		Naphthalene	mg/kg	0.1	<0.1	4	117
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	118
			Acenaphthene	mg/kg	0.1	<0.1	4	119
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	115
			Anthracene	mg/kg	0.1	<0.1	4	117
			Fluoranthene	mg/kg	0.1	<0.1	4	116
			Pyrene	mg/kg	0.1	<0.1	4	119
			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	4	117
			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	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	-	78
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	88
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	96

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224707.001	LB235232.004	Arsenic, As	mg/kg	1	43	8	50	70 ⑨
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	82
		Chromium, Cr	mg/kg	0.5	58	19	50	78
		Copper, Cu	mg/kg	0.5	49	4.6	50	89
		Nickel, Ni	mg/kg	0.5	43	1.4	50	84
		Lead, Pb	mg/kg	1	49	11	50	77
		Zinc, Zn	mg/kg	2	55	14	50	83

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224707.001	LB235100.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.9	<0.1	5	77
			Toluene	mg/kg	0.1	4.1	<0.1	5	81
			Ethylbenzene	mg/kg	0.1	4.5	<0.1	5	90
			m/p-xylene	mg/kg	0.2	10	<0.2	10	100
			o-xylene	mg/kg	0.1	4.9	<0.1	5	98
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	10.3	10	100
			d8-toluene (Surrogate)	mg/kg	-	9.5	10.4	10	95
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.3	10	79
		Totals	Total Xylenes	mg/kg	0.3	15	<0.3	-	-
			Total BTEX	mg/kg	0.6	27	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224707.001	LB235100.004		TRH C6-C10	mg/kg	25	78	<25	92.5	85
			TRH C6-C9	mg/kg	20	70	<20	80	87
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	10.3	10	100
			d8-toluene (Surrogate)	mg/kg	-	9.5	10.4	10	95

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

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

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224707.001	LB235100.004	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.3	-	79
		VPH F	Benzene (F0)	mg/kg	0.1	3.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	51	<25	62.5	81

MATRIX SPIKE DUPLICATES

SE224707 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

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

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

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

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

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

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

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source: Sydney.pdf page: 5 SGS Ref: SE224707_COC

Sheet 1 of 1

Site: 64-70 King Georges Road and 280-300 Lakemba Street, Wiley Park

Project No: E25577

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	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	HOLD		TCLP HM[B] / PAH
HA2_1.1-1.2		J, ZLB	15/10/21	AM/PM	X																				X		
HA3_0.7-0.8	1				X					X																	
HA4_0.6-0.7	2				X					X																	
HA5_0.5-0.6					X																				X		
HA6_0.4-0.5	3				X					X																	
~~BH201M_0.2-0.3~~	0.5-0.6				X																				X		
~~BH202M_0.3-0.4~~	0.9-1.0				X					X																	
~~BH203M_0.7-0.8~~					X																				X		

4

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

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

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

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: Nathan Spanos	Print: George Zhi
Signature:	Signature:
Date: 15/10/21	Date: 15/10/21 @ 5pm

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

Sampler's Comments:

SGS EHS Sydney COC
SE224707

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

Yin, Emily (Sydney)

From: Nathan Spanos - EIAustralia <nathan.spanos@eiaustralia.com.au>
Sent: Friday, 15 October 2021 7:41 PM
To: Yin, Emily (Sydney)
Subject: [EXTERNAL] Re: E25377
Attachments: [Untitled]_20211015195318 59.pdf

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

Hi Emily,

The amendments you made to the coc are the correct depths thank you for fixing that.

Can we please also get HA4_0.12-0.2 analysed for the first analytical suite on the cocs.

Yes can you please forward the QT sample to envirolabs.

Thank you,
Nathan Spanos

Sent from my iPhone

> On 15 Oct 2021, at 19:33, Yin, Emily (Sydney) <Emily.Yin@sgs.com> wrote:
>
> Dear Nathan,
>
> I think the depth for the two samples are wrong.
> As these are already listed on the other job.
> Also QT sample received.
> Do you want it to be forwarded to another lab.
> Please advise as soon as possible.
> Thank You.
>
> Regards,
>
> **Emily Yin**
> **Environment, Health & Safety**
> Sample Receipt
>
> **SGS Australia Pty Ltd**
> Unit 16, 33 Maddox Street
> Alexandria NSW 2015
>
> Phone: +61 (0)2 8594 0400
> Fax: +61 (0)2 8594 0499
> E-mail: au.samplereceipt.sydney@sgs.com

SAMPLE RECEIPT ADVICE

SE224707

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	4

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 15/10/2021
Report Due	Fri 22/10/2021
SGS Reference	**SE224707**

SUBMISSION DETAILS

This is to confirm that 4 samples were received on Friday 15/10/2021. Results are expected to be ready by COB Friday 22/10/2021. Please quote SGS reference SE224707 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	4 Soil
Date documentation received	15/10/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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

COMMENTS

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

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SAMPLE RECEIPT ADVICE

SE224707

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd & Lakemba St

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	HA3_0.7-0.8	1	26	7	10	11	7
002	HA4_0.6-0.7	1	26	7	10	11	7
003	HA6_0.4-0.5	1	26	7	10	11	7
004	BH202M_0.9-1.0	1	26	7	10	11	7

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE224707

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd & Lakemba St

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content
001	HA3_0.7-0.8	1
002	HA4_0.6-0.7	1
003	HA6_0.4-0.5	1
004	BH202M_0.9-1.0	1

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

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	5

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224707A R0**
Date Received	28/10/2021
Date Reported	29/10/2021

COMMENTS

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

SIGNATORIES



Akheeqar BENIAMEEN
Chemist



Bennet LO
Senior Chemist



Kamrul AHSAN
Senior Chemist



Shane MCDERMOTT
Inorganic/Metals Chemist



Teresa NGUYEN
Organic Chemist

VOC's in Soil [AN433] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_1.1-1.2 SOIL - 15/10/2021 SE224707A.005
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_1.1-1.2 SOIL - 15/10/2021 SE224707A.005
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_1.1-1.2 SOIL - 15/10/2021 SE224707A.005
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_1.1-1.2 SOIL - 15/10/2021 SE224707A.005
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_1.1-1.2 SOIL - 15/10/2021 SE224707A.005
Arsenic, As	mg/kg	1	**9**
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	**21**
Copper, Cu	mg/kg	0.5	**7.0**
Lead, Pb	mg/kg	1	**18**
Nickel, Ni	mg/kg	0.5	**2.6**
Zinc, Zn	mg/kg	2	**21**

Mercury in Soil [AN312] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_1.1-1.2 SOIL - 15/10/2021 SE224707A.005
Mercury	mg/kg	0.05	<0.05

Moisture Content [AN002] Tested: 28/10/2021

PARAMETER	UOM	LOR	HA2_1.1-1.2 SOIL - 15/10/2021 SE224707A.005
% Moisture	%w/w	1	**22.8**

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all < LOR results are half the LOR and the third assuming all <LOR results are the LOR.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	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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STATEMENT OF QA/QC PERFORMANCE

SE224707A R0

CLIENT DETAILS

Contact	Nathan Spanos
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Nathan.spanos@eiaustralia.com.au
Project	**E25377 King Georges Rd & Lakemba St**
Order Number	**E25377**
Samples	5

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224707A R0**
Date Received	28 Oct 2021
Date Reported	29 Oct 2021

COMMENTS

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

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

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

Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	8 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	2 items
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	1 Soil
Date documentation received	28/10/2021@10:30a	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

HOLDING TIME SUMMARY

SE224707A R0

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

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

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

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_1.1-1.2	SE224707A.005	LB235766	15 Oct 2021	28 Oct 2021	12 Nov 2021	28 Oct 2021	12 Nov 2021	29 Oct 2021

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_1.1-1.2	SE224707A.005	LB235751	15 Oct 2021	28 Oct 2021	29 Oct 2021	28 Oct 2021	02 Nov 2021	29 Oct 2021

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_1.1-1.2	SE224707A.005	LB235749	15 Oct 2021	28 Oct 2021	29 Oct 2021	28 Oct 2021	07 Dec 2021	29 Oct 2021

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_1.1-1.2	SE224707A.005	LB235761	15 Oct 2021	28 Oct 2021	13 Apr 2022	28 Oct 2021	13 Apr 2022	29 Oct 2021

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_1.1-1.2	SE224707A.005	LB235749	15 Oct 2021	28 Oct 2021	29 Oct 2021	28 Oct 2021	07 Dec 2021	29 Oct 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_1.1-1.2	SE224707A.005	LB235750	15 Oct 2021	28 Oct 2021	29 Oct 2021	28 Oct 2021	29 Oct 2021	29 Oct 2021

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
HA2_1.1-1.2	SE224707A.005	LB235750	15 Oct 2021	28 Oct 2021	29 Oct 2021	28 Oct 2021	29 Oct 2021	29 Oct 2021

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason 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 — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	70 - 130%	82
d14-p-terphenyl (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	70 - 130%	83

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	60 - 130%	97
d8-toluene (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	60 - 130%	99

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	60 - 130%	97
d8-toluene (Surrogate)	HA2_1.1-1.2	SE224707A.005	%	60 - 130%	99

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB235766.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB235749.001		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)	%	-	88
		2-fluorobiphenyl (Surrogate)	%	-	86
		d14-p-terphenyl (Surrogate)	%	-	104

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

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

Sample Number	Parameter	Units	LOR	Result
LB235761.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB235749.001	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
LB235750.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	106
		d8-toluene (Surrogate)	%	-	105
		Bromofluorobenzene (Surrogate)	%	-	86
	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
LB235750.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	106

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 %
SE224707A.005	LB235766.022	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE224918.010	LB235766.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225163.009	LB235751.011	% Moisture	%w/w	1	17.6	17.7	36	1
SE225176.003	LB235751.020	% Moisture	%w/w	1	3.7	4.0	56	6

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225163.009	LB235749.026		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	0.2	0.1	98	33
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	0.5	0.3	54	35
			Anthracene	mg/kg	0.1	0.2	0.2	83	40
			Fluoranthene	mg/kg	0.1	1.0	0.7	41	32
			Pyrene	mg/kg	0.1	1.1	0.8	41	30
			Benzo(a)anthracene	mg/kg	0.1	0.6	0.4	51	37
			Chrysene	mg/kg	0.1	0.6	0.4	49	37
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.5	0.4	53	35
			Benzo(k)fluoranthene	mg/kg	0.1	0.3	0.2	72	25
			Benzo(a)pyrene	mg/kg	0.1	0.5	0.4	53	32
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	0.2	73	26
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.3	0.2	70	25
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	0.7	0.5	45	32
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	0.8	0.6	54	27
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.7	0.5	42	30
			Total PAH (18)	mg/kg	0.8	6.0	4.3	46	32
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0
SE225176.003	LB235749.023		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	0.2	0.2	84	27
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	0.6	1.1	41	58 ②
			Anthracene	mg/kg	0.1	0.2	0.3	68	38
			Fluoranthene	mg/kg	0.1	2.3	3.5	33	43 ②
			Pyrene	mg/kg	0.1	2.2	3.3	34	39 ②
			Benzo(a)anthracene	mg/kg	0.1	1.2	1.8	37	38 ②
			Chrysene	mg/kg	0.1	1.4	2.0	36	35
			Benzo(b&j)fluoranthene	mg/kg	0.1	1.7	2.3	35	28
			Benzo(k)fluoranthene	mg/kg	0.1	0.6	0.9	44	41
			Benzo(a)pyrene	mg/kg	0.1	1.4	1.9	36	31
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	1.1	1.4	38	29
			Dibenzo(ah)anthracene	mg/kg	0.1	0.2	0.2	83	32
			Benzo(ghi)perylene	mg/kg	0.1	1.1	1.4	38	27
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	2.1	2.8	18	32 ②
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	2.1	2.8	22	32 ②
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	2.1	2.8	18	32 ②
			Total PAH (18)	mg/kg	0.8	14	20	35	36 ②
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | 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 %
SE225176.003	LB235749.023	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

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 %
SE224706RE.00	LB235761.024		Lead, Pb	mg/kg	1	1100	710	30	40 ②
SE224918.010	LB235761.014		Arsenic, As	mg/kg	1	4	4	56	2
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.5	23	21	32	9
			Copper, Cu	mg/kg	0.5	14	13	34	5
			Nickel, Ni	mg/kg	0.5	9.5	9.1	35	4
			Lead, Pb	mg/kg	1	12	11	39	16
			Zinc, Zn	mg/kg	2	56	33	35	52 ②

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225176.003	LB235749.023		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	49	75	103	42
			TRH C29-C36	mg/kg	45	<45	56	131	22
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	130	152	17
			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	120	120	29
			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 %
SE225163.010	LB235750.027	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.2	7.2	50	1
			d8-toluene (Surrogate)	mg/kg	-	7.8	7.9	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	7.6	50	5
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE225176.003	LB235750.024	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10.9	50	3
			d8-toluene (Surrogate)	mg/kg	-	10.7	11.0	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	8.6	50	2
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225163.010	LB235750.027		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	-	7.2	7.2	30	1
			d8-toluene (Surrogate)	mg/kg	-	7.8	7.9	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	7.6	30	5
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE225176.003	LB235750.024		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	-	10.6	10.9	30	3

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 %
SE225176.003	LB235750.024	Surrogates	d8-toluene (Surrogate)	mg/kg	-	10.7	11.0	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	8.6	30	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235766.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235749.002		Naphthalene	mg/kg	0.1	4.5	4	60 - 140	112
		Acenaphthylene	mg/kg	0.1	4.2	4	60 - 140	105
		Acenaphthene	mg/kg	0.1	4.1	4	60 - 140	103
		Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	110
		Anthracene	mg/kg	0.1	4.0	4	60 - 140	100
		Fluoranthene	mg/kg	0.1	4.2	4	60 - 140	106
		Pyrene	mg/kg	0.1	4.4	4	60 - 140	110
		Benzo(a)pyrene	mg/kg	0.1	4.1	4	60 - 140	102
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235761.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	106
	Cadmium, Cd	mg/kg	0.3	3.4	4.81	70 - 130	71
	Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	96
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	106
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	100
	Lead, Pb	mg/kg	1	91	89.9	80 - 120	102
	Zinc, Zn	mg/kg	2	270	273	80 - 120	101

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235749.002		TRH C10-C14	mg/kg	20	42	40	60 - 140	105
		TRH C15-C28	mg/kg	45	49	40	60 - 140	123
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	98
	TRH F Bands	TRH >C10-C16	mg/kg	25	43	40	60 - 140	108
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	125
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235750.002	Monocyclic	Benzene	mg/kg	0.1	4.9	5	60 - 140	99
	Aromatic	Toluene	mg/kg	0.1	5.0	5	60 - 140	100
		Ethylbenzene	mg/kg	0.1	5.3	5	60 - 140	106
		m/p-xylene	mg/kg	0.2	12	10	60 - 140	117
		o-xylene	mg/kg	0.1	5.7	5	60 - 140	114
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	10	70 - 130	111
		d8-toluene (Surrogate)	mg/kg	-	10.7	10	70 - 130	107
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235750.002		TRH C6-C10	mg/kg	25	75	92.5	60 - 140	81
		TRH C6-C9	mg/kg	20	67	80	60 - 140	84
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	10	70 - 130	111
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	42	62.5	60 - 140	68

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224918.001	LB235766.004	Mercury	mg/kg	0.05	0.25	<0.05	0.2	115

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE225163.002	LB235749.025		Naphthalene	mg/kg	0.1	0.00041622630	4	110
			2-methylnaphthalene	mg/kg	0.1	0.00019109295	-	-
			1-methylnaphthalene	mg/kg	0.1	0.00016120404	-	-
			Acenaphthylene	mg/kg	0.1	0.00034792439	4	102
			Acenaphthene	mg/kg	0.1	0.00016116991	4	100
			Fluorene	mg/kg	0.1	9.00698881038	-	-
			Phenanthrene	mg/kg	0.1	0.00274662681	4	108
			Anthracene	mg/kg	0.1	0.00091249812	4	103
			Fluoranthene	mg/kg	0.1	0.00055975220	4	106
			Pyrene	mg/kg	0.1	0.00063790317	4	110
			Benzo(a)anthracene	mg/kg	0.1	0.00580896991	-	-
			Chrysene	mg/kg	0.1	0.00574030934	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.00031421248	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.00014800423	-	-
			Benzo(a)pyrene	mg/kg	0.1	0.00121452089	4	100
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	8.34627133068	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	0	-	-
			Benzo(ghi)perylene	mg/kg	0.1	1.86468422236	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	0	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.242	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.121	-	-
			Total PAH (18)	mg/kg	0.8	0	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.40244744973	-	81
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.39940407313	-	81
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.49149956373	-	88

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224918.001	LB235761.004	Arsenic, As	mg/kg	1	45	3	50	84
		Cadmium, Cd	mg/kg	0.3	43	<0.3	50	85
		Chromium, Cr	mg/kg	0.5	64	20	50	87
		Copper, Cu	mg/kg	0.5	63	16	50	94
		Nickel, Ni	mg/kg	0.5	54	11	50	87
		Lead, Pb	mg/kg	1	67	30	50	73
		Zinc, Zn	mg/kg	2	250	240	50	14 ④

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE225163.001	LB235750.026	Monocyclic Aromatic	Benzene	mg/kg	0.1	0.00432337843	5	82
			Toluene	mg/kg	0.1	0.00910803122	5	85
			Ethylbenzene	mg/kg	0.1	0.00679022246	5	79
			m/p-xylene	mg/kg	0.2	0.01499776958	10	88
			o-xylene	mg/kg	0.1	0.00749888479	5	88
		Polycyclic	Naphthalene	mg/kg	0.1	0.00149103942	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.28617594158	10	87
			d8-toluene (Surrogate)	mg/kg	-	8.05073124784	10	99
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.31447435863	10	92
		Totals	Total Xylenes	mg/kg	0.3	0.02249665438	-	-
			Total BTEX	mg/kg	0.6	0	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE225163.001	LB235750.026		TRH C6-C10	mg/kg	25	0.02699674422	92.5	82
			TRH C6-C9	mg/kg	20	0.06834045629	80	84
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.28617594158	10	87
			d8-toluene (Surrogate)	mg/kg	-	8.05073124784	10	99

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

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

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE225163.001	LB235750.026	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	8.31447435863	-	92
		VPH F	Benzene (F0)	mg/kg	0.1	0.00432337843	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	0.02699674422	62.5	80

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.

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CERTIFICATE OF ANALYSIS 280602

Client Details

Client	EI Australia
Attention	Lab Email
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E25377, Wiley Park**
Number of Samples	1 soil
Date samples received	18/10/2021
Date completed instructions received	18/10/2021

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

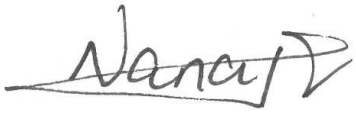
Date results requested by	25/10/2021
Date of Issue	25/10/2021

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Results Approved By
Dragana Tomas, Senior Chemist
Hannah Nguyen, Metals Supervisor
Steven Luong, Organics Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		280602-1
Your Reference	UNITS	QT1
Date Sampled		15/10/2021
Type of sample		soil
Date extracted	-	20/10/2021
Date analysed	-	20/10/2021
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	127

svTRH (C10-C40) in Soil		
Our Reference		280602-1
Your Reference	UNITS	QT1
Date Sampled		15/10/2021
Type of sample		soil
Date extracted	-	20/10/2021
Date analysed	-	21/10/2021
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	%	88

Acid Extractable metals in soil		
Our Reference		280602-1
Your Reference	UNITS	QT1
Date Sampled		15/10/2021
Type of sample		soil
Date prepared	-	20/10/2021
Date analysed	-	21/10/2021
Arsenic	mg/kg	14
Cadmium	mg/kg	0.5
Chromium	mg/kg	20
Copper	mg/kg	43
Lead	mg/kg	230
Mercury	mg/kg	<0.1
Nickel	mg/kg	20
Zinc	mg/kg	530

Moisture		
Our Reference		280602-1
Your Reference	UNITS	QT1
Date Sampled		15/10/2021
Type of sample		soil
Date prepared	-	20/10/2021
Date analysed	-	21/10/2021
Moisture	%	26

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-11	[NT]
Date extracted	-			20/10/2021	[NT]	[NT]	[NT]	[NT]	20/10/2021	[NT]
Date analysed	-			20/10/2021	[NT]	[NT]	[NT]	[NT]	20/10/2021	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	124	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	124	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	117	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	125	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	130	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	124	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	119	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	126	[NT]	[NT]	[NT]	[NT]	140	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			20/10/2021	[NT]	[NT]	[NT]	[NT]	20/10/2021	[NT]
Date analysed	-			20/10/2021	[NT]	[NT]	[NT]	[NT]	20/10/2021	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	114	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	109	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	114	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate o-Terphenyl	%		Org-020	88	[NT]	[NT]	[NT]	[NT]	122	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date prepared	-			20/10/2021	[NT]	[NT]	[NT]	[NT]	20/10/2021	[NT]
Date analysed	-			21/10/2021	[NT]	[NT]	[NT]	[NT]	21/10/2021	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	97	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	100	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	105	[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.

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.

COC rec'd: 1630

Sheet 1 of 1

Site: 64-70 King Georges Road, and 280-300 Lakemba Street, Wiley Park

Project No: E25377

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

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	Comments
1 QT1		J	15/10/21	PM/PM	X																						

Envirolab Group
Chatswood NSW
Ph: (02) 9910 6200

Job No: 280602
Date Received: 18/10/21
Time Received: 14:40
Received By: NV
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None 12 °C.

Comments

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

HM[A]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

TCLP HM[B] / PAH

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

LABORATORY TURNAROUND

- [x] 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

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

COC June 2021 FORM v.5 - Envirolab

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

Sampler's Name (EI):	Received by (Envirolab)
Print: Nathan Spanos	Print: Nancy Zhang
Signature:	Signature:
Date: 15/10/21	Date: 18/10/21 14:40

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

Report with EI Waste Classification Table ☐

Sampler's Comments:

COC received at 16:30

Yin, Emily (Sydney)

From: Nathan Spanos - EIAustralia <nathan.spanos@eiaustralia.com.au>
Sent: Friday, 15 October 2021 7:41 PM
To: Yin, Emily (Sydney)
Subject: [EXTERNAL] Re: E25377
Attachments: [Untitled]_20211015195318 59.pdf

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

Hi Emily,

The amendments you made to the coc are the correct depths thank you for fixing that.

Can we please also get HA4_0.12-0.2 analysed for the first analytical suite on the cocs.

Yes can you please forward the QT sample to envirolabs.

Thank you,
Nathan Spanos

Sent from my iPhone

> On 15 Oct 2021, at 19:33, Yin, Emily (Sydney) <Emily.Yin@sgs.com> wrote:
>
> Dear Nathan,
>
> I think the depth for the two samples are wrong.
> As these are already listed on the other job.
> Also QT sample received.
> Do you want it to be forwarded to another lab.
> Please advise as soon as possible.
> Thank You.
>
> Regards,
>
> **Emily Yin**
> **Environment, Health & Safety**
> Sample Receipt
>
> **SGS Australia Pty Ltd**
> Unit 16, 33 Maddox Street
> Alexandria NSW 2015
>
> Phone: +61 (0)2 8594 0400
> Fax: +61 (0)2 8594 0499
> E-mail: au.samplereceipt.sydney@sgs.com

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Andrew Schmidt
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	andrew.schmidt@eiaustralia.com.au
Project	**E25377 King Georges Rd&Lakemba St,Wiley**
Order Number	**E25377**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224914 R0**
Date Received	21/10/2021
Date Reported	28/10/2021

COMMENTS

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

SIGNATORIES

Ly Kim HA
Organic Section Head

VOCs in Water [AN433] Tested: 26/10/2021

PARAMETER	UOM	LOR	BH201M WATER - 21/10/2021 SE224914.001	BH203M WATER - 21/10/2021 SE224914.002	BH1/MW34 WATER - 21/10/2021 SE224914.003	BH109/MW2 WATER - 21/10/2021 SE224914.004
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	<5	<5
Allyl chloride	µg/L	2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

VOCs in Water [AN433] Tested: 26/10/2021 (continued)

PARAMETER	UOM	LOR	BH201M WATER - 21/10/2021 SE224914.001	BH203M WATER - 21/10/2021 SE224914.002	BH1/MW34 WATER - 21/10/2021 SE224914.003	BH109/MW2 WATER - 21/10/2021 SE224914.004
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	µg/L	3	<3	<3	<3	<3
Total VOC	µg/L	10	<10	<10	<10	<10

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 26/10/2021

PARAMETER	UOM	LOR	BH201M WATER - 21/10/2021 SE224914.001	BH203M WATER - 21/10/2021 SE224914.002	BH1/MW34 WATER - 21/10/2021 SE224914.003	BH109/MW2 WATER - 21/10/2021 SE224914.004	GW-QD1 WATER - 21/10/2021 SE224914.005
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	GW-QR1 WATER - 21/10/2021 SE224914.006	GW-QTB1 WATER - 21/10/2021 SE224914.007	GW-QTS1 WATER - 21/10/2021 SE224914.008
Benzene (F0)	µg/L	0.5	<0.5	<0.5	[99%]
TRH C6-C9	µg/L	40	<40	<40	-
TRH C6-C10	µg/L	50	<50	<50	-
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	-

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 26/10/2021

PARAMETER	UOM	LOR	BH201M WATER - 21/10/2021 SE224914.001	BH203M WATER - 21/10/2021 SE224914.002	BH1/MW34 WATER - 21/10/2021 SE224914.003	BH109/MW2 WATER - 21/10/2021 SE224914.004	GW-QD1 WATER - 21/10/2021 SE224914.005
TRH C10-C14	µg/L	50	**55**	**57**	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320	<320	<320

PARAMETER	UOM	LOR	GW-QR1 WATER - 21/10/2021 SE224914.006
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

METHOD	METHODOLOGY SUMMARY
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 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.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

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

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 falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

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STATEMENT OF QA/QC PERFORMANCE

SE224914 R0

CLIENT DETAILS

Contact	Andrew Schmidt
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	andrew.schmidt@eiaustralia.com.au
Project	**E25377 King Georges Rd&Lakemba St,Wiley**
Order Number	**E25377**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE224914 R0**
Date Received	21 Oct 2021
Date Reported	28 Oct 2021

COMMENTS

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

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

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

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	8 Water
Date documentation received	21/10/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	18°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE224914 R0

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

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

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH201M	SE224914.001	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021
BH203M	SE224914.002	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021
BH1/MW34	SE224914.003	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021
BH109/MW2	SE224914.004	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021
GW-QD1	SE224914.005	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021
GW-QR1	SE224914.006	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021
GW-QTB1	SE224914.007	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021
GW-QTS1	SE224914.008	LB235540	21 Oct 2021	21 Oct 2021	28 Oct 2021	26 Oct 2021	05 Dec 2021	27 Oct 2021

VOCs in Water — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH201M	SE224914.001	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
BH203M	SE224914.002	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
BH1/MW34	SE224914.003	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
BH109/MW2	SE224914.004	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
GW-QD1	SE224914.005	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	28 Oct 2021
GW-QR1	SE224914.006	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	28 Oct 2021
GW-QTB1	SE224914.007	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	28 Oct 2021
GW-QTS1	SE224914.008	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	28 Oct 2021

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH201M	SE224914.001	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
BH203M	SE224914.002	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
BH1/MW34	SE224914.003	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
BH109/MW2	SE224914.004	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
GW-QD1	SE224914.005	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
GW-QR1	SE224914.006	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
GW-QTB1	SE224914.007	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021
GW-QTS1	SE224914.008	LB235578	21 Oct 2021	21 Oct 2021	04 Nov 2021	26 Oct 2021	04 Nov 2021	27 Oct 2021

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

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

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH201M	SE224914.001	%	40 - 130%	98
	BH203M	SE224914.002	%	40 - 130%	100
	BH1/MW34	SE224914.003	%	40 - 130%	100
	BH109/MW2	SE224914.004	%	40 - 130%	101
d4-1,2-dichloroethane (Surrogate)	BH201M	SE224914.001	%	40 - 130%	100
	BH203M	SE224914.002	%	40 - 130%	100
	BH1/MW34	SE224914.003	%	40 - 130%	99
	BH109/MW2	SE224914.004	%	40 - 130%	100
d8-toluene (Surrogate)	BH201M	SE224914.001	%	40 - 130%	98
	BH203M	SE224914.002	%	40 - 130%	98
	BH1/MW34	SE224914.003	%	40 - 130%	94
	BH109/MW2	SE224914.004	%	40 - 130%	97

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH201M	SE224914.001	%	40 - 130%	98
	BH203M	SE224914.002	%	40 - 130%	100
	BH1/MW34	SE224914.003	%	40 - 130%	100
	BH109/MW2	SE224914.004	%	40 - 130%	101
	GW-QD1	SE224914.005	%	40 - 130%	100
	GW-QR1	SE224914.006	%	40 - 130%	99
	GW-QTB1	SE224914.007	%	40 - 130%	97
	GW-QTS1	SE224914.008	%	40 - 130%	96
d4-1,2-dichloroethane (Surrogate)	BH201M	SE224914.001	%	60 - 130%	100
	BH203M	SE224914.002	%	60 - 130%	100
	BH1/MW34	SE224914.003	%	60 - 130%	99
	BH109/MW2	SE224914.004	%	60 - 130%	100
	GW-QD1	SE224914.005	%	60 - 130%	101
	GW-QR1	SE224914.006	%	60 - 130%	96
	GW-QTB1	SE224914.007	%	60 - 130%	100
	GW-QTS1	SE224914.008	%	60 - 130%	100
d8-toluene (Surrogate)	BH201M	SE224914.001	%	40 - 130%	98
	BH203M	SE224914.002	%	40 - 130%	98
	BH1/MW34	SE224914.003	%	40 - 130%	94
	BH109/MW2	SE224914.004	%	40 - 130%	97
	GW-QD1	SE224914.005	%	40 - 130%	99
	GW-QR1	SE224914.006	%	40 - 130%	94
	GW-QTB1	SE224914.007	%	40 - 130%	96
	GW-QTS1	SE224914.008	%	40 - 130%	102

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

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

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB235540.001	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
LB235578.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		Iodomethane	µg/L	5	<5
		1,1-dichloroethene	µg/L	0.5	<0.5
		Dichloromethane (Methylene chloride)	µg/L	5	<5
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		cis-1,4-dichloro-2-butene	µg/L	1	<1
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
		1,2,3-trichloropropane	µg/L	0.5	<0.5
		trans-1,4-dichloro-2-butene	µg/L	1	<1
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5
		2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		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

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
LB235578.001	Monocyclic Aromatic Hydrocarbons	1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	2	<1
		Vinyl acetate	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	92
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	98
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result
LB235578.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	92
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	98

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

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224976.031	LB235578.023	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	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	200	0
		Aliphatics	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
			Iodomethane	µg/L	5	<5	<5	200	0
			1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	200	0
			Allyl chloride	µg/L	2	<2	<2	200	0
			trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	200	0
			Bromochloromethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	200	0
			Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	200	0
			Dibromomethane	µg/L	0.5	<0.5	<0.5	200	0
			Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	200	0
			1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	143	0
			1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	200	0
			trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	200	0
			Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	200	0
		Halogenated	Chlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatics	Bromobenzene	µg/L	0.5	<0.5	<0.5	200	0
			2-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			4-chlorotoluene	µg/L	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	200	0
			1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
			1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	200	0
		Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatic	Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	200	0
			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	Acrylonitrile	µg/L	0.5	<0.5	<0.5	200	0
		Oxygenated	Acetone (2-propanone)	µg/L	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	200	0

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

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

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

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

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 %
SE224976.031	LB235578.023	Oxygenated	Vinyl acetate	µg/L	10	<10	<10	200	0
		Compounds	MEK (2-butanone)	µg/L	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	200	0
			2-hexanone (MBK)	µg/L	5	<5	<5	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	<0.5	200	0
		Sulphonated	Carbon disulfide	µg/L	2	<2	<2	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	9.8	30	1
			d8-toluene (Surrogate)	µg/L	-	9.5	9.8	30	3
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	9.4	30	4
		Trihalomethan	Chloroform (THM)	µg/L	0.5	<0.5	<0.5	200	0
		es	Bromodichloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Dibromochloromethane (THM)	µg/L	0.5	<0.5	<0.5	200	0
			Bromoform (THM)	µg/L	0.5	<0.5	<0.5	200	0

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE224976.031	LB235578.023		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	9.8	30	1
			d8-toluene (Surrogate)	µg/L	-	9.5	9.8	30	3
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	9.4	30	4
		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.

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235540.002		TRH C10-C14	µg/L	50	1100	1200	60 - 140	88
		TRH C15-C28	µg/L	200	1300	1200	60 - 140	105
		TRH C29-C36	µg/L	200	1200	1200	60 - 140	100
	TRH F Bands	TRH >C10-C16	µg/L	60	1100	1200	60 - 140	95
		TRH >C16-C34 (F3)	µg/L	500	1400	1200	60 - 140	114
		TRH >C34-C40 (F4)	µg/L	500	540	600	60 - 140	90

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235578.002	Halogenated	1,1-dichloroethene	µg/L	0.5	57	45.45	60 - 140	126
	Aliphatics	1,2-dichloroethane	µg/L	0.5	52	45.45	60 - 140	114
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	49	45.45	60 - 140	109
	Halogenated	Chlorobenzene	µg/L	0.5	54	45.45	60 - 140	119
	Monocyclic	Benzene	µg/L	0.5	52	45.45	60 - 140	113
	Aromatic	Toluene	µg/L	0.5	52	45.45	60 - 140	113
		Ethylbenzene	µg/L	0.5	52	45.45	60 - 140	115
		m/p-xylene	µg/L	1	100	90.9	60 - 140	114
		o-xylene	µg/L	0.5	52	45.45	60 - 140	114
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.3	10	60 - 140	103
		d8-toluene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
		Bromofluorobenzene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
	Trihalomethan	Chloroform (THM)	µg/L	0.5	59	45.45	60 - 140	131

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB235578.002		TRH C6-C10	µg/L	50	970	946.63	60 - 140	102
		TRH C6-C9	µg/L	40	850	818.71	60 - 140	104
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.3	10	60 - 140	103
		d8-toluene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
		Bromofluorobenzene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	660	639.67	60 - 140	103

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

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

VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE224914.001	LB235578.024	Monocyclic Aromatic	Benzene	µg/L	0.5		<0.5	45.45	124
			Toluene	µg/L	0.5		<0.5	45.45	128
			Ethylbenzene	µg/L	0.5		<0.5	45.45	123
			m/p-xylene	µg/L	1		<1	90.9	122
			o-xylene	µg/L	0.5		<0.5	45.45	122
		Polycyclic	Naphthalene	µg/L	0.5		<0.5	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.2	10.0	-	102
			d8-toluene (Surrogate)	µg/L	-	10.3	9.8	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	10.0	9.8	-	100

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE224914.001	LB235578.024		TRH C6-C10	µg/L	50	<50	946.63	93
			TRH C6-C9	µg/L	40	<40	818.71	98
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.0	-	102
			d8-toluene (Surrogate)	µg/L	-	9.8	-	103
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	-	100
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	-	-
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	639.67	85

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.

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Sheet ___ of

Site: 62-70 King Georges Rd, 280-292 Lakemba St, Wiley Park

Project No: E23792

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

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: 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 TRH	VOCs, TRH	Asbestos	Asbestos Quantification	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
BH201M	1	S,2VC	21/10/21	am/pm		X							X														
BH203M	2	↓	↓	↓		↓							X														
BH1/MW34	3												X														
BH109/MW2	4												X														
GW-QD1	5	↓										X															
GW-QR1	6	S,P,2VC										X															
GW-QRB1		↓	↓	↓																							
GW-QTB1	7	VC	Lab Prepared									X															
GW-QTS1	8	↓	↓	↓		↓						X															

SGS EHS Sydney COC
SE224914

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
- [x] 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

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

COC June 2021 FORM v.5 - SGS

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

Sampler's Name (EI):		Received by (SGS):
Print	Andrew Schmidt	Print: George Zhi
Signature	A. Schmidt	Signature
Date	21/10/2021	Date: 21/10/21 @ 3:15 pm

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

Report with EI Waste Classification Table ☐

Sampler's Comments:
Please cc: Emmanuel.Woelders @ Nathan.Spanos
Please forward GW-QT1 to envirolab

source:SE_Admin.pdf page 1 SGS Ref: SE224914_COC

Yin, Emily (Sydney)

From: Nathan Spanos - EIAustralia <nathan.spanos@eiaustralia.com.au>
Sent: Friday, 22 October 2021 12:01 PM
To: AU.SampleReceipt.Sydney (Sydney)
Cc: AU.Environmental.Sydney (Sydney); Emmanuel Woelders - EIAustralia; Andrew Schmidt - EIAustralia
Subject: [EXTERNAL] RE: SGS Sample Receipt Advice (Ref: E23792 King Georges Rd&Lakemba St,Wiley, Lab Ref: SE224914)

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

Hi SGS,

The job number for this one is E25377. Can you please amend this and make sure when the report is issued it is done under E25377 not E23792.

Thank you,

Nathan Spanos
BSc – Environmental Science, LAA
Environmental Scientist –
SafeWork NSW Licensed Asbestos Assessor
T (02) 9516 0722 M 0420 412 319
E nathan.spanos@eiaustralia.com.au
Suite 6.01, 55 Miller Street
Pyrmont, NSW 2009
www.eiaustralia.com.au

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From: AU.Samplereceipt.Sydney@SGS.com [mailto:AU.Samplereceipt.Sydney@SGS.com]
Sent: Thursday, 21 October 2021 10:04 PM
To: Andrew Schmidt - EIAustralia; Emmanuel Woelders - EIAustralia; Nathan Spanos - EIAustralia
Subject: SGS Sample Receipt Advice (Ref: E23792 King Georges Rd&Lakemba St,Wiley, Lab Ref: SE224914)

Dear Andrew Schmidt,

Please be advised we have received samples for analysis as detailed in the attached documentation.

Covid-19 update: SGS Australia is open, with our Business Service Continuity Plans being put in place to ensure your project can be delivered as normal, please see the following links further details:

SAMPLE RECEIPT ADVICE

SE224914

CLIENT DETAILS

Contact	Andrew Schmidt
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	andrew.schmidt@eiaustralia.com.au
Project	**E25377 King Georges Rd&Lakemba St,Wiley**
Order Number	**E25377**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Thu 21/10/2021
Report Due	Thu 28/10/2021
SGS Reference	**SE224914**

SUBMISSION DETAILS

This is to confirm that 8 samples were received on Thursday 21/10/2021. Results are expected to be ready by COB Thursday 28/10/2021.
Please quote SGS reference SE224914 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	8 Water
Date documentation received	21/10/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	18°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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

COMMENTS

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

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SAMPLE RECEIPT ADVICE

SE224914

CLIENT DETAILS

Client EI AUSTRALIA

Project E25377 King Georges Rd&Lakemba St,Wiley

SUMMARY OF ANALYSIS

No.	Sample ID	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH201M	9	78	7
002	BH203M	9	78	7
003	BH1/MW34	9	78	7
004	BH109/MW2	9	78	7
005	GW-QD1	9	-	7
006	GW-QR1	9	-	7
007	GW-QTB1	9	-	7
008	GW-QTS1	9	-	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 .

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

CERTIFICATE OF ANALYSIS 280993

Client Details

Client	EI Australia
Attention	Lab Email, Nathan Spanos
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E25377, Wiley Park**
Number of Samples	1 Water
Date samples received	22/10/2021
Date completed instructions received	27/10/2021

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

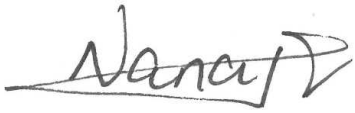
Date results requested by	29/10/2021
Date of Issue	29/10/2021

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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
Steven Luong, Organics Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

vTRH in Water (C6-C9) NEPM		
Our Reference		280993-1
Your Reference	UNITS	GW-QT1
Date Sampled		21/10/2021
Type of sample		Water
Date extracted	-	26/10/2021
Date analysed	-	26/10/2021
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
Surrogate Dibromofluoromethane	%	99
Surrogate toluene-d8	%	98
Surrogate 4-BFB	%	104

svTRH (C10-C40) in Water		
Our Reference		280993-1
Your Reference	UNITS	GW-QT1
Date Sampled		21/10/2021
Type of sample		Water
Date extracted	-	28/10/2021
Date analysed	-	28/10/2021
TRH C_{10} - C_{14}	µg/L	81
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	80
TRH >C_{10} - C_{16}	µg/L	80
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	80
Surrogate o-Terphenyl	%	87

Method ID	Methodology Summary
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	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 in Water (C6-C9) NEPM						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/10/2021	[NT]	[NT]	[NT]	[NT]	26/10/2021	[NT]
Date analysed	-			26/10/2021	[NT]	[NT]	[NT]	[NT]	26/10/2021	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	83	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	83	[NT]
Surrogate Dibromofluoromethane	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	117	[NT]
Surrogate toluene-d8	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate 4-BFB	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	102	[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	-			28/10/2021	[NT]	[NT]	[NT]	[NT]	28/10/2021	[NT]
Date analysed	-			28/10/2021	[NT]	[NT]	[NT]	[NT]	28/10/2021	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	116	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	109	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	116	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate o-Terphenyl	%		Org-020	89	[NT]	[NT]	[NT]	[NT]	91	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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

280993

Sheet 1 of 1

Site:	Project No:
62-70 King Georges Rd, 280-292 Lakemba St, Wiley Park	E25377

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

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~~ TRH	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
GW-QT1		5,2xVC	21/10/21	am/pm		X						X															

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, Co, Pb, Hg, Ni, Zn); TRH (F1, F2, F3, F4); BTEX; PAH

LABORATORY TURNAROUND

- [X] 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: Andrew Schmidt	Print:
Signature:	Signature:
Date: 21/10/21	Date:

Sampler's Comments:
Please cc: Emmanuel.Woelders & Nathan.spanos@eiaustralia.com.au

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

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

Sheet ___ of

Site: 62-70 King Georges Rd, 280-292 Lakemba St, Wiley Park

Project No: E23792

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	HM[A] /TRH/BTEX	BTEX TRH	VOCs, TRH	Asbestos	Asbestos Quantification	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
BH201M		S,2xVC	21/10/21	am/pm		X							X															
BH203M		↓	↓	↓		↓							X															
BH1/MW34		↓	↓	↓		↓							X															
BH109/MW2		↓	↓	↓		↓							X															
GW-Q01		↓	↓	↓		↓						X																
GW-QR1		S,P,2VC	↓	↓		↓						X																
GW-QRB1		↓	↓	↓		↓																						
GW-QTB1		VC	Lab Prepared	↓		↓						X																
GW-QTS1		↓	↓	↓		↓						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

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

Job No: 280993
Date Received: 22-10-21
Time Received: 1600
Received By: JHAW
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

LABORATORY TURNAROUND
- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other ____

Container Type:
J = solvent washed, acid rinsed, Teflon sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Teflon Septum
ZLB = Zip-Lock Bag 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: Andrew Schmidt	Print: JJHAW
Signature:	Signature:
Date: 21/10/2021	Date: 22-10-21 1600

Sampler's Comments:
Please cc: Emmanuel.Woelders @ Nathan.Spanos
Please forward GW-QT1 to envirolab

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

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

#280993

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

Job No:
Date Received:
Time Received:
Received By:
Temp: Cool/Ambient

APPENDIX F – QA/QC ASSESSMENT

F1 Summary of 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 ASI is presented in **Table F1**.

Table F1 Project QA/QC Measure

QA/QC Component	Data Quality Indicators	DQIs met?	Comments
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). Data precision was deemed acceptable if RPDs are found to be less than 30%. RPDs that exceed this range may be considered acceptable where: ▪ Results are less than 10 times the limits of reporting (LOR); ▪ Results are less than 20 times the LOR and the RPD is less than 50%; or ▪ Heterogeneous materials or volatile compounds are encountered. In cases where an RPD value was considered unacceptable, the analytical results of primary and duplicate samples were both reviewed against the adopted acceptance criteria. If the review indicates the variations in data between the primary and duplicate samples would result in a different conclusion (i.e. the higher concentration is failing the assessment criteria), the higher concentration was adopted.	Yes	All calculated RPD values between blind field duplicates were within the data acceptance criteria with exception to the following: ▪ Soil - Cadmium (61.54%); - Copper (63.53%); - Lead (66.67); and - Zinc (56.52%)
Accuracy – A quantitative measure of the closeness of reported data to the "true" value	Data accuracy would primarily be assessed by reviewing the performance of inter-laboratory (split) duplicate sample sets, again through calculation of RPDs as per the BFDs. Additional measures of accuracy included: ▪ Field trip blank samples to assess potential cross contamination; ▪ Laboratory method blanks, which are analysed for the analytes targeted in the primary samples; ▪ Laboratory matrix spike and matrix spike duplicate sample sets; ▪ Laboratory control samples; and ▪ Calibration of instruments against known standards.	Yes	All calculated RPD values between split ILDs were within the data acceptance criteria. No detectable concentrations in field trip blank and equipment rinsate samples. The laboratory QC samples conformed to the corresponding data acceptance criteria.

QA/QC Component	Data Quality Indicators	DQIs met?	Comments
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present onsite	To ensure the data produced by the laboratory is representative of conditions encountered in the field, the laboratory would carry out the following: ▪ Field trip spike samples to assess potential volatile loss during sample transportation; ▪ Blank samples will be run in parallel with field samples to confirm there are no unacceptable instances of laboratory artefacts; ▪ Review of relative percentage differences (RPD) values for field and laboratory duplicates to provide an indication that the samples are generally homogeneous, with no unacceptable instances of significant sample matrix heterogeneities; ▪ The appropriateness of collection methodologies, handling, storage and preservation techniques will be 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); and ▪ Consistency between field vapour screening information and laboratory results.	Yes	Recoveries for the field trip spike sample were within acceptance criteria (70%-130%). As discussed in **Section 4**, the collection methodologies, handling, storage and preservation techniques utilised were considered satisfactory.
Completeness – A measure of the amount of useable data from a data collection activity	Analytical data sets acquired during the investigation will be evaluated as complete, upon confirmation that: ▪ Standard operating procedures (SOPs) for sampling protocols were adhered to; ▪ Copies of all COC documentation are presented, reviewed and found to be properly completed; ▪ It can therefore be considered whether the proportion of “useable data” generated in the data collection activities is sufficient for the purposes of the land use assessment; and ▪ The actual sampling densities are generally consistent with the densities proposed.	Yes	The data generally confirmed that the analytical results for soil laboratory testing were valid and useable for interpretation purposes. COC and SRA forms are attached in **Appendix E**.

QA/QC Component	Data Quality Indicators	DQIs met?	Comments
Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event	Given that a reported data set can comprise several data sets from separate sampling episodes, issues of comparability between data sets are reduced through adherence to standard operation procedure and regulator-endorsed or published guidelines and standards on each data gathering activity. ▪ Sampling was conducted by the same sampler where possible to enhance project continuity and minimise variability in sampling technique; ▪ Sampling under inclement weather conditions were avoided to minimise variability contributed by weather conditions; and ▪ In addition, the data will be collected by experienced samplers and NATA-accredited laboratory methodologies will be employed in all laboratory testing programs.	Yes	SOPs were adhered to during the sampling events.

Calculation of Relative Percentage Difference (RPD)

The RPD values were calculated using the following equation:

$$RPD = \frac{|C_O - C_R|}{[(C_O + C_R)/2]} \times 100$$

Where:

C_O = Concentration obtained for the primary sample; and

C_R = Concentration obtained for the blind replicate or split duplicate sample.

F2 Field QA/QC

The field QC samples included in the investigation were as follows:

- Two blind field duplicate (BFD), QD1 (duplicate of soil BH201M_0.3-0.4) and GW-QD1 (duplicate of groundwater BH203M);
- Two inter-laboratory duplicate (ILD), QT1 (split duplicate of BH201M_0.3-0.4) and GW-QT1 (split duplicate of BH203M);
- One laboratory prepared, trip blank soil sample, QTB1;
- One laboratory prepared, trip spike soil sample, QTS1; and
- Two rinsate blank water sample, QR1 and GWQR1.

Analytical results for tested soil QA/QC samples, including calculated RPD values between primary and duplicate samples, are discussed below.

A summary of the field sampling program is provided in **Table F2.**

Table F2 Field QA sampling program

Sampling date	Matrix	Total Primary samples analysed	Primary QA sample	BFD	ILD	Total duplicates	Duplicate ratio	Compliance
15/10/2021	Soil	15	BH201M_0.3-0.4	QD1		1	2:7.5	Yes
	Soil	15	BH201M_0.3-0.4		QT1	1		Yes
	Soil	1	QTB1					Yes
	Soil	1	QTS1					Yes
21/10/2021	Water	1	BH203M	GW-QD1		1	2:3	Yes
	Water	1	BH203M		GW-QT1	1		Yes
	Water	1	GWQR1					Yes
	Water	1	GWQTB					Yes
	Water	1	GWQTS1					Yes

Notes:
BFD = Blind Field Duplicate (Intra-lab Duplicate)
ILD = Inter-Lab Duplicate
QD = Duplicate (BFD)
QT = Triplicate (ILD)
QTB = Trip Blank
QTS = Trip Spike
QR = Rinsate

F2.1 FIELD QC SAMPLE EVALUATION

F2.1.1 BLIND FIELD DUPLICATE

The preparation of the BFD sample involved the collection of a bulk quantity of soil from the same sampling point, before dividing the material into identical sampling vessels. The duplicate sample was presented blind to the primary laboratory (SGS) to avoid any potential analytical bias. The duplicate pairs for soils were analysed for TRH, BTEX and selected heavy metals and groundwater analysed for TRH, with the RPD values calculated found to be within the Data Acceptance Criteria (**Appendix G, Table T.3** & **T.4**).

F2.1.2 INTER LABORATORY DUPLICATE

The preparation of the ILD sample was identical to the BFD, as described above. It was presented to Envirolab and soils were analysed for TRH, BTEX and selected heavy metals and groundwater analysed for TRH. The RPD values calculated for the ILD sample were found to be within the Data Acceptance Criteria (**Appendix G, Table T.3** & **T.4**).

F2.1.3 RINSATE BLANK

Two equipment rinsate blank samples was collected during the investigation and was analysed for TRH, BTEX and selected heavy metals, the results for which were all reported below laboratory LORs. It was concluded that decontamination procedures performed during the field works had been effective. The DQO was considered to have been achieved.

F2.1.4 TRIP BLANK

One laboratory-prepared, trip blank soil sample was included in the insulated chest holding investigation samples. It was analysed by the primary laboratory for BTEX, the results for which were all reported below the laboratory LORs, indicating that ideal sample transport and handling conditions were achieved. Furthermore soil samples were kept refrigerated or in an iced filled esky to minimise volatile loss and therefore the laboratory data is considered reliable for this assessment.

F2.1.5 TRIP SPIKE

One laboratory-prepared, trip spike soil sample was included in the insulated chest holding investigation samples. It was analysed by the primary laboratory for BTEX, the results for which were reported within the RPD acceptance levels for trip spike recovery. It was therefore concluded that satisfactory sample transport and handling conditions were achieved (i.e. no loss of volatiles, and semi-volatiles, between sample collection and analysis).

F2.2 CONCLUSION FOR THE FIELD QA/QC

All field work, including equipment decontamination and sample preservation and transport, was conducted in accordance with the SAQP and SOPs, which were devised with reference to industry-approved guidelines. Appropriate QC measures were integrated into each sampling event and the DQI were met, or if not, the variability was suitably justified.

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. Copies of these were included in **Appendix E**. EI considered the field QA/QC program carried out during the investigation to be appropriate.

F3 LABORATORY QA/QC

F3.1 ACCREDITATION

To undertake all analytical testing, EI commissioned SGS as the primary laboratory and Envirolab as the secondary laboratory. SGS and Envirolab, both established analytical laboratories which operate in accordance with the guidelines set out in ISO/IEC Guide 25 "General requirements for the competence of calibration and testing laboratories", conducted all respective analyses using National Association Testing Authorities (NATA)-registered procedures.

In relation to contingencies, should the pre-determined DQOs not be achieved, in accordance with each laboratory's QC policy, respective tests are accordingly repeated. Should the results again fall outside the DQOs, then sample heterogeneity may be assumed and written comment will be provided to this effect on the final laboratory certificate.

F3.2 SAMPLE HOLDING TIMES

All sample holding times were generally within standard environmental protocols as shown in **Appendix G**.

F3.3 TEST METHODS AND PRACTICAL QUANTITATION LIMITS (PQLS)

Practical Quantitation Limits for the tested parameters during the assessments of soils are presented in **Appendix G**. PQLs were less than site assessment criteria. Laboratory methods were acceptable.

F3.4 METHOD BLANKS

Concentrations of all parameters in method blanks during the assessment were below the laboratory PQLs and therefore within the DQO.

F3.5 LABORATORY DUPLICATE SAMPLES

The Laboratory Duplicate Samples (LDS) showed calculated RPDs that were within acceptable ranges and conformed to the DQO with exception to the following:

- Duplicate LB235232.014, copper at 144% RPD, RPD failed acceptance criteria due to sample heterogeneity; and
- Duplicate LB235761.024, lead at 40% RPD, RPD failed acceptance criteria due to sample heterogeneity;

F3.6 LABORATORY CONTROL SAMPLES

The Laboratory Control Samples (LCS) for the analysis batch were within acceptable ranges and conformed to the DQO.

F3.7 MATRIX SPIKES

The matrix spikes of the analysis batch were within acceptable ranges and conformed to the DQO with exception to the following:

- Spike LB235232.004 Arsenic 70% recovery, failed acceptance criteria due to sample heterogeneity.

F3.8 SURROGATES

Recovery results for all surrogate samples were within the acceptable ranges and conformed to the DQO.

F3.9 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 DQI 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 investigation to be appropriate.

F4 FINAL REMARKS

The sampling (including sample preservation, transport and decontamination procedures) and laboratory methods followed during this investigation were consistent with EI protocols. The project DQO specified in **Section 4.2**, **Table 4-1** were considered to have been achieved. The adopted QA/QC program ensured that the data collated during the ASI 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 interpretative purposes.

Table T-3. Summary of QA/QC Results for Soil Samples
Site: 64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW
Job No: E25377.E03

Date	Sample Identification	Description	TRH				BTEX				Heavy Metals							
			F1	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate																		
15/10/2021	BH201M_0.3-0.4	Primary Soil Sample	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	12	0.5	14	56	300	<0.05	15	590
15/10/2021	QD1	Intra-laboratory duplicate of BH201M_0.3-0.4	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	11	<0.3	13	29	150	<0.05	9.1	330
		RPD	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*8.70*	61.54	*7.41*	63.53	66.67	*38.46*	*48.96*	56.52
Inter-laboratory Duplicate																		
15/10/2021	BH201M_0.3-0.4	Primary Soil Sample	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	12	0.5	14	56	300	<0.05	15	590
15/10/2021	QT1	Inter-laboratory duplicate of BH201M_0.3-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<3	14	0.5	20	43	230	<0.1	20	530
		RPD	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*35.29*	*26.26*	*26.42*	*0.00*	*12.90*	*10.71*
Trip Blanks																		
15/10/2021	QTS1	Soil	-	-	-	-	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-
Trip Spikes																		
15/10/2021	QTB1	Soil	-	-	-	-	[95%]	[95%]	[95%]	[95%]	-	-	-	-	-	-	-	-
Rinsate Blanks																		
15/10/2021	QR1	De-ionised water	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	<5
15/10/2021	QRB1	De-ionised water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

F1 = TRH C6-C10 less the sum of BTEX
F2 = TRH >C10-C16 less naphthalene
F3 = TRH >C16-C34
F4 = TRH >C34-C40

Table T-4. Summary of QA/QC Results for Groundwater Samples
Site: 64-70 King Georges Road & 280-300 Lakemba Street, Wiley Park NSW
Job No: E25377.E03

Date	Sample Identification	Description	TRH			
			F1	F2	F3	F4
Intra-laboratory Duplicate						
21/10/2021	BH203M	Primary Water Sample	<50	<60	<500	<500
21/10/2021	GW-QD1	Intra-laboratory duplicate of BH3M	<50	<60	<500	<500
RPD			*0.00*	*0.00*	*0.00*	*0.00*
Inter-laboratory Duplicate						
21/10/2021	BH203M	Primary Water Sample	<50	<60	<500	<500
21/10/2021	GW-QT1	Inter-laboratory duplicate of BH3M	<10	<50	<100	<100
RPD			*0.00*	*0.00*	*0.00*	*0.00*
Trip Blanks						
21/10/2021	GW-QTB1	Water	-	-	-	-
Trip Spikes						
21/10/2021	GW-QTS1	Water	-	-	-	-
Rinsate Blanks						
21/10/2021	GW-QR1	De-ionised water	<50	<60	<500	<500
21/10/2021	GW-QRB1	De-ionised water	-	-	-	-

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

F1 = TRH C6-C10 less the sum of BTEX
F2 = TRH >C10-C16 less naphthalene
F3 = TRH >C16-C34
F4 = TRH >C34-C40

APPENDIX G – LABORATORY QA/QC AND DQOS

Table QC1 - Containers, Preservation Requirements and Holding Times - Soil			
Parameter	Container	Preservation	Maximum Holding Time
Acid digestible metals and metalloids - Total and TCLP (As,Cd.,Cu,Cr,Ni,Pb,Zn)	Glass with Teflon Lid	Nil	6 months
Mercury	Glass with Teflon Lid	Nil	28 days
TPH / BTEX / VOC / SVOC / CHC	Glass with Teflon Lid	4°C, zero headspace	14 days
PAHs (total and TCLP)	Glass with Teflon Lid	4°C [1]	14 days
Phenols	Glass with Teflon Lid	4°C [1]	14 days
OCPs, OPPs and total PCBs	Glass with Teflon Lid	4°C [1]	14 days
Asbestos	Sealed Plastic Bag	Nil	N/A

Table QC2 - Containers, Preservation Requirements and Holding Times - Water			
Parameter	Container Volume (mL)	Preservation	Maximum Holding Time
Heavy Metals	125mL Plastic	Field filtration 0.45μm HNO_3 / 4°C	6 months
Cyanide	125mL Amber Glass	pH > 12 NaOH / 4°C	6 months
TPH (C6-C9) / BTEX / VOCs SVOCs / CHCs	4 x 43mL Glass	HCl / 4°C [1]	14 days
TPH (C10-C36) / PAH / Phenolics OCP / OPP / TDS / pH	3 x 1L Amber Glass	None / 4°C [1]	28 days

Notes: [1] = Extraction within 14 days, Analysis within 40 days.

Table QC3 - Analytical Parameters, PQLs and Methods - Soil			
Parameter	**Unit**	**PQL**	**Method Reference**
Metals in Soil			
Arsenic - As[1]	mg / kg	1	USEPA 200.7
Cadmium - Cd[1]	mg / kg	0.5	USEPA 200.7
Chromium - Cr[1]	mg / kg	1	USEPA 200.7
Copper - Cu[1]	mg / kg	1	USEPA 200.7
Lead - Pb[1]	mg / kg	1	USEPA 200.7
Mercury - Hg[2]	mg / kg	0.1	USEPA 7471A
Nickel - Ni[1]	mg / kg	1	USEPA 200.7
Zinc - Zn[1]	mg / kg	1	USEPA 200.7
Total Petroleum Hydrocarbons (TPHs) in Soil			
C_6-C_9 fraction	mg / kg	25	USEPA 8260
C_{10}-C_{14} fraction	mg / kg	50	USEPA 8000
C_{15}-C_{28} fraction	mg / kg	100	USEPA 8000
C_{29}-C_{36} fraction	mg / kg	100	USEPA 8000
BTEX in Soil			
Benzene	mg / kg	1	USEPA 8260
Toluene	mg / kg	1	USEPA 8260
Ethylbenzene	mg / kg	1	USEPA 8260
m & p Xylene	mg / kg	2	USEPA 8260
o- Xylene	mg / kg	1	USEPA 8260
Other Organic Contaminants in Soil			
PAHs	mg / kg	0.05-0.2	USEPA 8270
CHCs	mg / kg	1	USEPA 8260
VOCs	mg / kg	1	USEPA 8260
SVOCs	mg / kg	1	USEPA 8260
OCPs	mg / kg	0.1	USEPA 8140, 8080
OPPs	mg / kg	0.1	USEPA 8140, 8080
PCBs	mg / kg	0.1	USEPA 8080
Phenolics	mg / kg	5	APHA 5530
Asbestos			
Asbestos	mg / kg	Presence / Absence	AS4964-2004

Notes:

1. Acid Soluble Metals by ICP-AES
2. Total Recoverable Mercury

Table QC4 - Analytical Parameters, PQLs and Methods - Groundwater

Parameter	Unit	PQL	Method
Heavy Metals			
Antimony - Sb	µg/L	1	USEPA 200.8
Arsenic - As	µg/L	1	USEPA 200.8
Beryllium - Be	µg/L	0.5	USEPA 200.8
Cadmium - Cd	µg/L	0.1	USEPA 200.8
Chromium - Cr	µg/L	1	USEPA 200.8
Cobalt - Co	µg/L	1	USEPA 200.8
Copper - Cu	µg/L	1	USEPA 200.8
Lead - Pb	µg/L	1	USEPA 200.8
Mercury - Hg	µg/L	0.5	USEPA 7471A
Molybdenum - Mo	µg/L	1	USEPA 200.8
Nickel - Ni	µg/L	1	USEPA 200.8
Selenium - Se	µg/L	1	USEPA 200.8
Silver - Ag	µg/L	1	USEPA 200.8
Tin (inorg.) - Sn	µg/L	1	USEPA 200.8
Nickel - Ni	µg/L	1	USEPA 200.8
Zinc - Zn	µg/L	1	USEPA 200.8
Total Petroleum Hydrocarbons (TPHs)			
C_6-C_9 fraction	µg/L	10	USEPA 8220A / 8000
C_{10}-C_{14} fraction	µg/L	50	USEPA 8000
C_{15}-C_{28} fraction	µg/L	100	USEPA 8000
C_{29}-C_{36} fraction	µg/L	100	USEPA 8000
BTEX			
Benzene	µg/L	1	USEPA 8220A
Toluene	µg/L	1	USEPA 8220A
Ethylbenzene	µg/L	1	USEPA 8220A
m- & p-Xylene	µg/L	2	USEPA 8220A
o-Xylene	µg/L	1	USEPA 8220A
Polyciclic Aromatic Hydrocarbons (PAHs)			
PAHs	µg/L	0.1	USEPA 8270
Benzo(a)pyrene	µg/L	0.01	USEPA 8270
OrganoChlorine Pesticides (OCPs)			
Aldrin	µg/L	0.001	USEPA 8081
Chlordane	µg/L	0.001	USEPA 8081
DDT	µg/L	0.001	USEPA 8081
Dieldrin	µg/L	0.001	USEPA 8081
Endosulfan	µg/L	0.001	USEPA 8081
Endrin	µg/L	0.001	USEPA 8081
Heptachlor	µg/L	0.001	USEPA 8081
Lindane	µg/L	0.001	USEPA 8081
Toxaphene	µg/L	0.001	USEPA 8081

Parameter	Unit	PQL	Method
Chlorinated Hydrocarbons (CHCs)			
1,2-dichlorobenzene	µg/L	1	USEPA 8260B
1,3-dichlorobenzene	µg/L	1	USEPA 8260B
1,4-dichlorobenzene	µg/L	1	USEPA 8260B
1,2,3-trichlorobenzene	µg/L	1	USEPA 8260B
1,2,4-trichlorobenzene	µg/L	1	USEPA 8260B
Hexachlorobutadeine	µg/L	1	USEPA 8260B
1,1,2-trichloroethane	µg/L	1	USEPA 8260B
Hexachloroethane	µg/L	10	USEPA 8270D
Other CHCs	µg/L	1	USEPA 8260B
Volatile Organic Compounds (VOCs)			
Aniline	µg/L	10	USEPA 8260B
2,4-dichloroaniline	µg/L	10	USEPA 8260B
3,4-dichloroaniline	µg/L	10	USEPA 8260B
Nitrobenzene	µg/L	50	USEPA 8260B
2,4-dinitrotoluene	µg/L	50	USEPA 8260B
2,4,6-trinitrotoluene	µg/L	50	USEPA 8260B
Phenolic Compounds			
Phenol	µg/L	10	USEPA 8041
2-chlorophenol	µg/L	10	USEPA 8041
4-chlorophenol	µg/L	10	USEPA 8041
2, 4-dichlorophenol	µg/L	10	USEPA 8041
2,4,6-trichlorophenol	µg/L	10	USEPA 8041
2,3,4,6-tetrachlorophenol	µg/L	10	USEPA 8041
Pentachlorophenol	µg/L	10	USEPA 8041
2,4-dinitrophenol	µg/L	10	USEPA 8041
Miscellaneous Parameters			
Total Cyanide	µg/L	5	APHA 4500C&E-CN
Fluoride	µg/L	10	APHA 4500 F-C
Salinity (TDS)	mg/L	1	APHA 2510
pH	units	0.1	APHA 4500H+
OrganoPhosphate Pesticides (OPPs)			
Azinphos Methyl	µg/L	0.01	USEPA 8141
Chloropyrifos	µg/L	0.01	USEPA 8141
Diazinon	µg/L	0.01	USEPA 8141
Dimethoate	µg/L	0.01	USEPA 8141
Fenitrothion	µg/L	0.01	USEPA 8141
Malathion	µg/L	0.01	USEPA 8141
Parathion	µg/L	0.01	USEPA 8141
Temephos	µg/L	0.01	USEPA 8141
Polychlorinated Biphenyls (PCBs)			
Individual PCBs	µg/L	0.01	USEPA 8081

Table QC5 - QC Sample Data Acceptance Criteria

QC Sample Type	Method of Assessment	Acceptable Range
Field QC		
Blind Duplicates and Split Samples	The assessment of split duplicate is undertaken by calculating the Relative Percent Difference (RPD) of the duplicate concentration compared with the primary sample concentration. The RPD is defined as: $RPD = 100 \times \frac{\lvert X_1 - X_2 \rvert}{\text{mean}(X1, X2)}$ Where: X_1 and X_2 are the concentrations of the primary and duplicate samples.	The acceptable range depends upon the levels detected: - 0-150% RPD (when the average concentration is <5 times the LOR/PQL) - 0-75% RPD (when the average concentration is 5 to 10 times the LOR/PQL) - 0-50% RPD (when the average concentration is >10 times the LOR/PQL)
Rinsate & Trip Blanks	Each blank is analysed as per the original samples.	Analytical Result <LOR/PQL
Laboratory prepared Trip Spike	The Trip Spike is analysed after returning from the field and the % recovery of the known spike is calculated.	70 - 130%
Laboratory QC		
Laboratory Duplicates	Assessment of Lab Duplicate RPD as per Blind Duplicates and Split Samples.	Lab Duplicate RPD < 15% (Inorganics) Lab Duplicate RPD < 30% (Organics) for sample results > 10 LOR
Surrogates Matrix Spikes Laboratory Control Samples	Assessment is undertaken by determining the percent recovery of the known surrogate spike (SS) or addition to the sample. $\%\ Recovery = 100 \times \frac{C - A}{B}$ Where: A = Concentration of analyte determined in the original sample; B = Added Concentration; and C = Calculated Concentration.	at least 2 SS recoveries to be within 70-130% subject to matrix effects (Organics) 80-120% (Inorganics / Metals) 60-140% (Organics) 10-140% (SVOC and Speciated Phenols) If the result is outside the above ranges, the result must be <3x Standard Deviation of the Historical Mean (calculated over the past 12 months).
Sample Matrix Spike Duplicates	Recovery RPD	<30% (Inorganics & Organics)
Calibration Check Standars	Continuous Calibration Verification (CCV)	CCV must be within ±15% (inorganics) CCV must be within ±25% (inorganics)
Reagent, Method & Calibration Check Blanks	Each blank is analysed as per the original samples.	Analytical Result <LOR/PQL

Note: PQL - Laboratory Practical Quantitation Limit (PQL) or the minimum detection limit for a particular analyte.
LOR = Limit of Reporting

SGS Environmental Services is accredited by NATA for Chemical Testing (Reg.No.2562) and Quality System compliance to ISO/IEC 17025. The QC parameters contained within are designed to meet NEPM 1999 requirements.

Quality Control samples included in any analytical run are listed below.

Reagent/Analysis Blank (BLK) **Method Blank (MB)**	Sample free reagents carried through the preparation/extraction/digestion procedure and analysed at the beginning of every sample batch analysis. A reagent blank is prepared and analysed with every batch of samples plus with each new batch of solvent prior to use.
Sample Matrix Spike (MS) & Matrix Spike Duplicate (MSD)	Sample replicates spiked with identical concentrations of target analyte(s). The spiking occurs during the sample preparation and prior to the extraction/digestion procedure. They are used to document the precision and bias of a method in a given sample matrix. Where there is not enough sample available to prepare a spiked sample, another known soil/sand or water may be used. A duplicate spiked sample is analysed at least every 20 samples.
Surrogate Spike (SS)	At least one but up to three surrogate compounds are added to all samples requiring analysis for organics prior to extraction. Used to determine the extraction efficiency. They are organic compounds which are similar to the target analyte(s) in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples. Where possible they are surrogate compounds recommended by the USEPA.
Control Matrix Spike (CMS)	To ensure spike recoveries can be determined for every batch of samples a control matrix is spiked with identical concentrations of target analyte(s) and then analysed. These results allow recoveries to be determined in the event that the matrix spikes are unusable (eg. matrix spikes performed on heavily contaminated samples). These are analysed at least every 20 samples.
Internal Standard (IS)	Added to all samples requiring analysis for organics (where relevant) after the extraction process; the compounds serve to give a standard of retention time and response, which is invariant from run-to-run with the instruments. Where possible they are standard compounds recommended by the USEPA.
Lab Duplicates (D)	A separate portion of a sample being analysed that is treated the same as the other samples in the batch. One duplicate is processed at least every 10 samples.
Lab Control Standards/Samples (LCS)	Prepared from a source independent of the calibration standards. At least one control standard is included in each run to confirm calibration validity. Thereafter they are analysed at least every one in 20 samples plus at the end of each analytical run. This data is not reported.
Continuous Calibration Verification (CCV) or **Calibration Check Standard & Blank**	A calibration check standard or CCV and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift. Calibration Standards are checked old versus new with a criteria of ±10%

Quality Assurance Programs are listed below:

Statistical analysis of Quality Control data (SQC)	Quality control data is plotted on control charts using the APHA procedure with warning and control limits at 2 and 3 standard deviations respectively. See also QMS Procedure "Statistical Quality Control".
Certified Reference Materials (CRM/SRM)	Certified Reference Materials and Standards are regularly analysed. These materials/standards have certified reference values for various parameters.
Proficiency Testing	Regular proficiency test samples are analysed by our laboratories. SGS Environmental participates in a number of programs. Results and proficiency status are compiled and sent to participating laboratory post data interpretation. Failure to comply with acceptable values result in further investigations.
Inter-laboratory & Intra-laboratory Testing	SGS Environmental Services has schedules in the Quality Systems to participate in Inter/Intra laboratory testing conducted internally and by other parties.
Data Acceptance Criteria Unless otherwise specified in the method or method manual the following general criteria apply to all inorganic tests. All recoveries are to be reported to 3 significant figures.	Failure to meet the internal acceptance criteria will result in sample batch repeats dependent upon investigation outcomes. For data to be accepted: <u>Inorganics (water samples)</u> • For all inorganic analytes the Reagent & Method Blanks must be less than the LOR. • The Calibration Check Standards or Continuous Calibration Verification (CCV) must be within ±15%. • Control Standards must be 80-120% of the accepted value. • The Calibration Check Blanks must be less than the LOR. • Lab Duplicates RPD to be <15%*. Note: If client <u>field</u> duplicates do not meet this criteria it may indicate heterogeneity and shall be noted on the data reports for QC samples. • Sample (and if applicable Control) Matrix Spike♬ Duplicate recovery RPD to be <30%. • Where CRMs are used, results to be within ± 2 standard deviations of the expected value. <u>Inorganics (soil samples)</u> • For all inorganic analytes the Reagent & Method Blanks must be less than the LOR. • The Calibration Check Standards or Continuous Calibration Verification (CCV) must be within ±15%. • Control Standards must be 80-120% of the accepted value. • The Calibration Check Blanks must be less than the LOR. • Lab duplicate RPD to be <30%* for sample results greater than 10 times LOR. • Sample Matrix Spike Duplicate (MS♬/MSD) recovery RPD to be <30%. In the event that the matrix spike has been applied to samples whose matrix or contamination is problematic to the method then these acceptance criteria apply to the Control Matrix Spike (CMS/D). • Where CRMs are used, results to be within ± 2 standard deviations of the expected value.

Data Acceptance Criteria Unless otherwise specified in the method or method manual the following general criteria apply to all organic tests. All recoveries are to be reported to 3 significant figures.	Organics • Volatile & extractable Reagent & Method Blanks must contain levels less than or equal to LOR. • The Calibration Check Standards or Continuous Calibration Verification (CCV) must be within ±25%. Some analytes may have specific criteria. • Control Standards (LCS/CMS) and Certified Reference Materials (CRM) recoveries are to be within established control limits or as a default 60-140% unless compound specific limits apply. • Retention times are to vary by no more than 0.2 min. • **At least two of three** routine level soil sample Surrogate Spike (SS) recoveries 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 acceptance criterion. Any recoveries outside these limits will have comment. • Water sample Surrogates Spike (SS) recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion. Any recoveries outside these limits will have comment. • Lab Duplicates (D) must have a RPD <30%*. • Sample Matrix Spike Duplicate (MS♬/MSD) recovery RPD to be <30%. In the event that the matrix spike has been applied to samples whose matrix or contamination is problematic to the method then these acceptance criteria apply to the Control Matrix Spike (CMS/D).

*Only if results are at least 10 times the LOR otherwise no acceptance criteria for RPD's apply. Application of more stringent criteria shall be applied for clean water sample from water boards and any other nominated client contracts. Nominal 10xLOR criteria are dropped to 5xLOR where specified.
♬Matrix do not readily equate to definitive recovery due to inherent matrix interferences and thus do not have recovery compliance values set. As a guide inorganic recoveries should be between 70-130% and for organics 60-130%

Batch Structure Summary

An analytical batch is nominally considered as 20 samples or smaller. As a standard template the following should be **used as a guide** according to the above Quality Control Types:

1	MB	16	UNK_DUP
2	STD1	17	MS
3	STD2	18	MS_DUP
4	STD3	19	UNK 11
5	LCS	20	UNK 12
6	BLK	21	UNK 13
7	UNK 1	22	UNK 14
8	UNK 2	23	UNK 15
9	UNK 3	24	UNK 16
10	UNK 4	25	UNK 17
11	UNK 5	26	UNK 18
12	UNK 6	27	UNK 19
13	UNK 7	28	UNK 20 (SS if applicable)
14	UNK 8	29	UNK_DUP
15	UNK 9	30	CCV
16	UNK 10 (SS if applicable)	31	CRM / SRM / CMS / LCS