FOUNDATION EARTH SCIENCES

DETAILED SITE INVESTIGATION (DSI)

Property Address
16-20 Old Castle Hill Road, Castle Hill NSW

Prepared for
UPG Castle Corner Pty Ltd

Date

November 2025

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ABBREVIATIONS

AIP	*Australian Institute of Petroleum Ltd*	**QA/QC**	*Quality Assurance, Quality Control*
ANZECC	*Australian and New Zealand Environment and Conservation Council*	**RAC**	*Remediation Acceptance Criteria*
AST	*Aboveground Storage Tank*	**RAP**	*Remediation Action Plan*
BGL	*Below Ground Level*	**RPD**	*Relative Percentage Difference*
BTEX	*Benzene, Toluene, Ethyl benzene and Xylene*	**SAC**	*Site Assessment Criteria*
COC	*Chain of Custody*	**SVC**	*Site Validation Criteria*
DA	*Development Approval*	**TCLP**	*Toxicity Characteristics Leaching Procedure*
DP	*Deposited Plan*	**TPH**	*Total Petroleum Hydrocarbons*
DQOs	*Data Quality Objectives*	**UCL**	*Upper Confidence Limit*
EPA	*Environment Protection Authority*	**UST**	*Underground Storage Tank*
ESA	*Environmental Site Assessment*	**VHC**	*Volatile Halogenated Compounds*
HIL	*Health-Based Soil Investigation Level*	**VOC**	*Volatile Organic Compounds*
LGA	*Local Government Area*	**DPI**	Department of Primary Industries
NEHF	*National Environmental Health Forum*		
NEPC	*National Environmental Protection Council*		
NHMRC	*National Health and Medical Research Council*		
OCP	*Organochlorine Pesticides*		
OPP	*Organophosphate Pesticides*		
PAH	*Polycyclic Aromatic Hydrocarbon*		
PCB	*Polychlorinated Biphenyl*		
PID	*Photo Ionisation Detector*		
PQL	*Practical Quantitation Limit*		

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EXECUTIVE SUMMARY

This Detailed Site Investigation (DSI) report supports a State Significant Development Application (SSDA) being lodged with the Department of Planning, Housing and Infrastructure (DPHI) for site establishment works facilitating a residential development including affordable housing at 16-20 Old Castle Hill Road, Castle Hill (the site). The proponent for the SSDA is UPG Castle Corner Pty Ltd (UPG).

This report also supports a State Significant Development Application and Concurrent Rezoning (SSDA) being lodged with the Department of Planning, Housing and Infrastructure (DPHI) for a residential development including affordable housing at 16-20 Old Castle Hill Road, Castle Hill (the site). The proponent for the SSDA is UPG Castle Corner Pty Ltd (UPG).

State Environmental Planning Policy (Planning Systems) 2022 (Planning Systems SEPP) identifies development which is declared to be State Significant. The site was declared SSD pursuant to State Significant Declaration Order 2025 (No 7) (the Order) issued on 13 May 2025.

This 'Early Works' SSDA seeks approval for site establishment, tree removal, bulk excavation, infrastructure services augmentation and ancillary site works. A separate 'Main Works' SSDA and Concurrent Rezoning seeks approval for the built form aspects of the residential flat building.

The proposal development consists of the following:

- Two residential towers, one at forty storeys and the other at thirty storeys, both rising above a shared podium.

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- A common podium incorporating mixed-use functions at ground level (potential retail and /or commercial tenancies), residential apartments and shared building services areas.
- Six levels of basement parking.
- A pool and recreation area located at level thirty.

Soils sampled across the Site were assessed against the Site Acceptance Criteria (SAC) provided by the National Environment Protection (Assessment of Site Contamination) Measure (NEPM 2013) Table 1A - Residential B & Recreational C.

The soil results indicated the following:

- Borehole locations BH11 is located outside the basement and in a deep soil area and therefore will require remediation. Refer to Figure 3.
- No identified asbestos was detected in the soil samples analysed. No fibro cement fragments were observed in the fill material located within the borehole and/or on the surface of the site at the time of the site inspection.

The following lines of evidence support the low-risk groundwater conclusions in relation to site suitability:

- The minor elevated heavy metals of are related to offsite regional contaminant concentrations and/or background levels & therefore of limited concern in relation to the GIL. The levels detected are consistent with modern urban developed areas.
    - Arsenic was also speciated in GW2 & GW3 as total results were above the freshwater criteria. The speciated values were well below the adopted site criteria for Arsenic 3 & 5.

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- The site is not located in a catchment with contains the water quality objectives of drinking water (i.e., beneficial use) and therefore drinking water guidelines were not applied.

Based on the historical review, environmental information, proposed development and laboratory results of the investigation, the site can be made ***suitable*** for the proposed development, subject to the following:

- It is considered that the site would be deemed suitable for the proposed development subject to the implementation of a Remediation Action Plan (RAP) to manage the abovementioned environmental concerns and data gaps.
- Any soil requiring removal from the site, as part of future site works, should be classified in accordance with the "Waste Classification Guidelines, Part 1: Classifying Waste" NSW EPA (2014).

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1.0 INTRODUCTION

This Detailed Site Investigation (DSI) report supports a State Significant Development Application (SSDA) being lodged with the Department of Planning, Housing and Infrastructure (DPHI) for site establishment works facilitating a residential development including affordable housing at 16-20 Old Castle Hill Road, Castle Hill (the site). The proponent for the SSDA is UPG Castle Corner Pty Ltd (UPG).

The proposal aims to:

- Facilitate transport-oriented development within an area of high amenity, promoting increases to both market and affordable housing supply proximate to public transport, open space, and employment.
- Respond to the housing challenges facing NSW through boosting the delivery of housing in an area of growth.
- Align with the NSW Government's strategic ambitions to deliver 23,300 homes in The Hills by 2029.
- Deliver affordable housing in accordance with the in-fill affordable housing provisions of State Environmental Planning Policy (Housing) 2021.
- Deliver a built form that relates to the surrounding context and respects the character of its environs.

FES confirms the DSI is consistent with the Ministerial Direction 4.4 – Remediation of Contaminated Land under Section 9.1 of the Environmental Planning and Assessment Act 1979 including requirements for considering contamination when rezoning land.

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2.0 OBJECTIVE

The format of this report closely follows that recommended in the NSW EPA "*Consultants Reporting on Contaminated Land* "dated 2020. The NSW Office of Environment and Heritage (OEH) indicates that an Environmental Investigation should provide comprehensive information on:

- Any issues raised in preliminary investigations;
- The type, extent and level of contamination;
- Contaminant dispersal in the air, surface water, soil and dust;
- The potential effects of contaminants on public health and the environment;
- Where applicable, off-site impacts on soil, sediment and biota; and
- The adequacy and completeness of all information available to be used in making decisions on remediation.

The project objectives of this Detailed Site Investigation (DSI) are to satisfy the stated NSW EPA Detailed Site Investigation requirements in accordance with *NSW EPA, Consultants Reporting on Contaminated Land, 2020*. Specifically, this investigation will consider the potential for suspected historical activities to have caused contamination at the Site and determine land use suitability for the proposed land use.

The proposed investigation program is designed to assess the presence of any unacceptable on site or off-site risk to human health or the environment. The report will draw conclusions regarding the land use suitability of the Site for the proposed land use or provide recommendations to enable such conclusions and determine the need for a further assessment.

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3.0 SCOPE OF WORKS

The scope of works for this Detailed Site Investigation (DSI) included:

- Collecting site information, review of historical information and past site practices, (site surveys, site records on waste management practices, NSW Land Titles Office records of ownership, aerial photographs obtained from the NSW Department of Lands, SafeWork NSW records and site interviews);
- A site inspection to identify areas of environmental concern, on-site waste disposal practices and location of sewers, drains, holding tanks, Underground Storage Tanks, Aboveground Storage Tanks and pits, spills and ground discolouration etc.
- A targeted soil boring/sampling investigative study – formulating and conducting a sampling plan and borehole investigation; the soil samples are taken and submitted for analysis on contaminants.
- Groundwater sampling program from existing monitoring well located onsite.
- Laboratory analysis and results from sample analysis – findings and comparison to regulatory guidelines.
- Quality Assurance/Quality Control (QA/QC) – all QA/QC procedures were undertaken in accordance with the Foundation Earth Sciences Quality Assurance/Quality Control manual.
- Interpretation of results and findings; and
- Recommendations and final conclusions drawn from interpretation of the results.

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4.0 SITE IDENTIFICATION AND SITE HISTORY REVIEW

The site is situated at 16-20 Old Castle Hill Road, Castle Hill, within The Hills Local Government Area (LGA). It is well located, being approximately 250m from Castle Hill Metro Station which provides services to Rouse Hill, Macquarie Park, Chatswood and the Sydney CBD. It is equally proximate to Castle Towers shopping centre, a major regional retail hub. The site has ready access to public open space being less than 100m from Arthur Whitling Park and Eric Fenton Reserve.

The site is located at the corner of Old Castle Hill Road and McMullen Avenue comprising an area of 3,180.4m^2. It comprises 4 lots in an irregular configuration, legally described as:

- Lot 10 in DP 881332.
- Lot 11 in DP 881332.
- Lot 20 in DP 222257.
- Lot 1 in DP 204335.

The site currently contains development comprising two detached residential dwellings located on 18 and 20 Castle Hill Road. There is currently no development on 16 Castle Hill Road. The site as a whole is covered in dense vegetation and has a steep slope upwards from the north-west to the south-east.

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4.1 Site identification

The site is identified as follows:

Table 1: Site Identification Review

Site Identifier	Site Details	
Site Location	16-20 Old Castle Hill Road, Castle Hill NSW	
Lot/DP	Lot 11 in DP881332 – 18 Old Castle Hill Road Lot 10 in DP881332 – 16 Old Castle Hill Road Lot 1 in DP204335 – 20 Old Castle Hill Road Lot 20 in DP222257 – 20 Old Castle Hill Road	
Site Coordinates #	NE Corner: Latitude: -33.729965, Longitude: 151.009557	
Parish	Castle Hill	
County	Cumberland	
Site Area	Approximately 3180.4m^2	
Local Government Area (LGA)#	The Hills Shire Council	
Zoning##	R2 – Low Density Residential	
Surrounding Land Uses	*North*	Residential – Garthowen Crescent
	South	Commercial/Residential – McMullen Avenue
	East	Commercial/Residential – Contour Clinics Castle Hill
	West	Commercial – Castle Towers

Notes: # Six Maps

refer to NSW Planning Portal

https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address

//www.planningportal.nsw.gov.au/find-a-property

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4.2 Secretary's Environmental Assessment Requirements

In accordance with section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), Secretary's Environmental Assessment Requirements (SEARs) for SSD-86460458 has been issued. This report has been prepared to respond to the issued SEARs, as set out in table below.

Table 1B: SEARS – Early Works

SEARs	SEARs description	Report name and section
Contamination and Remediation	In accordance with Chapter 4 of the *State Environmental Planning Policy (Resilience and Hazards) 2021*, assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the development.	Preliminary Site Investigation Report If required: Detailed Site Investigation Remedial Action Plan Preliminary Long-term Environmental Management Plan

In accordance with section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), Secretary's Environmental Assessment Requirements (SEARs) for SSD-86460458 has been issued. This report has been prepared to respond to the issued SEARs, as set out in table below.

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Table 1C: SEARS – Main Works

SEARs	SEARs description	Report name and section
Contamination and Remediation	In accordance with Chapter 4 of the *State Environmental Planning Policy (Resilience and Hazards) 2021*, assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the development.	Preliminary Site Investigation Report If required: Detailed Site Investigation Remedial Action Plan Preliminary Long-term Environmental Management Plan

These requirements apply to applications for concurrent rezonings accompanying SSD Housing applications. This report has been prepared to respond to the issued Guidance for Concurrent Rezoning Report for SSD-85238209, as set out in table below.

Table 1D: Concurrent Rezoning Report

Item	Supporting Information
Relevant Issues Contamination	Completed and signed DSI report

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4.3 Underground Services

'Dial Before You Dig' plans were requested and reviewed for the site. Plans were provided by Endeavour Energy, Jemena Gas North, Metro Trains Sydney Pty Ltd, NBN Co NswAct, Nextgen NCC – NSW, Optus and/or Uecomm Nsw, Sydney Metro, Sydney Water, Telstra NSW Central, The Hills Shire Council, TPG Telecom (NSW) & Transport for NSW. The plans did not indicate the presence of any major underground service or utilities easements at the site, apart from NBN Co, Telstra NSW Central & The Hills Shire Council.

The plans provided by NBN Co indicated that a mains line runs through the centre of the site (down the driveway of No. 18) and spreads across to the other properties. The Telstra plans indicated that a mains line running through the centre of the site and then spreading out within property No. 18. The Hills Shire plans indicated a stormwater pipe running through the northern corner of the site. It is noted that the associated underground service is considered as a potential preferential pathway.

Refer to **Appendix A** – BYDA Plans.

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4.4 Review of aerial photographs

The following information regarding the aerial photographs has been obtained and the summary of this review are presented in the following table:

Table 2: Review of Aerial Photographs

Year	Site		Surrounding areas
1943	Rural Residential	The site appeared to be part of a larger rural residential property, dominated by vegetation. Along the south-eastern boundary of the site a single-storey structure is present.	N: Road then vacant and rural residential properties S: Rural residential and vacant land, then road and vacant properties E: Vacant lots then rural residential W: Road then rural residential and vacant lots. Some agricultural practices (market gardening) were observed as well

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1970	Residential	The site appeared to be subdivided into the current lot boundaries. No. 16 appeared to be occupied by a residential structure, with landscaped areas to the front and rear of the dwelling. No. 18 also appeared to be residential, with an unsealed driveway extending from Old Castle Hill Road to the residential structure along the south-eastern boundary. The rest of the property appeared to be landscaped, with some storage structures in the northern corner. No. 20 appeared to be occupied by a large two-storey residential structure, with an unsealed driveway, pool and landscaped areas, and storage structures.	N: Vacant properties have been subdivided and developed into residential properties. A new road also appeared to be developed S: residential properties have been constructed on the previously vacant lots E: A road and residential properties have been constructed W: Residential properties, then agricultural practices, including the construction of a dam.
1986	Residential	Some additional storage structures have been added to the southern corner of the site, and to the south-western corner of No. 16.	N: No major changes S: Previous residential properties appeared to be cleared. A new road has been established, along with a commercial property. Roads to the south (including Old Northern Rd) appeared to be expanded. E: The previous residential properties have been cleared, and commercial lots have been constructed. W: Some of the residential properties have been cleared to allow the establishment of new roads and a shopping centre.

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1998	Residential	No. 16 appeared to be cleared of previous features.	N: No major changes, other than some residential properties being redeveloped S: More commercial properties have been developed E: No major changes W: The remaining residential properties, agricultural land and dam (appeared to be filled in) appeared to be cleared and under construction. Portions of the site also appeared to be used for carparking.
2005	Residential	No major changes	N: a new road (Pennant St) has been established S: A recreational space / park has been established on the previous vacant land E: No major changes W: The shopping centre (Castle Towers) has been expanded, with a few carparking areas and roads being established.
2013	Residential	No major changes	No major changes
Current	As per inspection	The site is as inspected (section 7.1)	As per inspection.

The aerial photographs from 1943 indicated the site and surrounding areas were dominated by rural residential and vacant lands. The site was comprised of mostly vegetation, with a single-storey structure located along the south-eastern boundary. Agricultural practices (including market gardening) were observed to the east of the site. By the 1970s, the site appeared to be subdivided, and residential properties and associated infrastructure (including storage sheds and a pool in No. 20) was developed across the lots. Residential properties were also established in the surrounding suburbs, as well as a new road to the north, and a dam to the west of the site. By 1986, additional storage structures appeared to have been constructed in the southern corner of the site.

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The surrounding areas at this time appeared to be undergoing redevelopments in the south, east and west, with several residential properties being cleared and commercial properties or roads being constructed / expanded. By 1998, more commercial properties appeared to be established to the south of the site, and the remaining residential / agricultural lands (including the dam) to the west were cleared and under construction. No. 16 within the site also appeared to be cleared. The site has remained relatively unchanged from this time to the present. By 2005, new roads to the north, recreational spaces to the south and shopping centre (Castle Towers, to the west) had been established. By 2013, no major changes were seen in the surrounding areas and have remained unchanged to the present time.

Refer to **Appendix J** – Aerial Photographs

4.5 Title search

A review of historical documents held at the NSW Department of Lands offices was undertaken to characterise the previous land use and occupiers of the site.

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Table 3a: Historical land title data

Lot 10 in DP 881332 (16 Old Castle Hill Road)		
Year	**Proprietor**	**Company/ Personal occupation/ other**
16/06/2025 – Current	PKE Hills Pty Ltd & Mave Castle Hill Pty Ltd	
24/09/2010	QIC Limited	Change of name from Queensland Investment Corporation
20/11/1998	Queensland Investment Corporation	
1/04/1980	The shire of the council of Baulkham Hills	
1/10/1957	Robert Holder & Norma Holder	
22/11/1951	Milo Woodriff	
12/03/1951	Louis Aboud	
8/12/1948	Doreen Dawson	
31/12/1947	John James O'neil	
22/02/1934	Horace Harvey John Hankin	
13/05/1925	John Shang	
13/01/1818	James Duffy	

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Table 3b Historical Land Title Data

Lot 11 in DP 881332 (18 Old Castle Hill Road)		
Year	**Proprietor**	**Company/ Personal occupation/ other**
10/08/1981 – Current	Ruth Hirsch	
6/09/1963	Eli Bert Hirsch	
1/11/1961	Helda Lyle Woodriff	

Table 3c Historical Land Title Data

Lot 1 in DP 204335 (20 Old Castle Hill Road)		
Year	**Proprietor**	**Company/ Personal occupation/ other**
10/08/1981 – Current	Ruth Hirsch	
6/09/1963	Eli Bert Hirsch	
1/11/1961	Helda Lyle Woodriff	

Table 3d Historical Land Title Data

Lot 20 in DP 222257 – (20 Old Castle Hill Rd)		
Year	**Proprietor**	**Company/ Personal occupation/ other**
19/08/1999 – Current	Ruth Hirsch	
20/12/1965	Eli Bert Hirsch & Ruth Hirsch	

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1/01/1965	The council of the shire of Baulkham Hills	
18/02/1961	Ham Debur & Rita Debur	
22/04/1952	Walter Thomas	
10/10/1950	Hilda Woodfriff & Kathleen Lowe	
2/07/1942	Hilda Woodfriff & Kathleen Lowe	
13/10/1941	John Strang	
3/01/1935	The commissioner for railways	
13/01/1818	James Duff	

The land titles have indicated:

- Lot 10 in DP881332 (16 Old Castle Hill Road) has been owned by private entities from 1925 until 1980. From this time to the current date, the property has been owned by several commercial entities.
- Lot 11 in DP881332 & Lot 1 in DP204335 (18 & 20 Old Castle Hill Road) have been owned by the same private entities from 1961 until the present time.
- Lot 20 in DP222257 (20 Old Castle Hill Road) has been owned by mostly private entities from 1818 to date. From 1935-1941 & 1965, the property has been owned by some commercial entities including the railways and council.

Refer to **Appendix C** – Land Title Information.

4.6 Anecdotal Evidence

No anecdotal evidence was available at the time of the investigation.

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4.7 NSW EPA Records

The NSW EPA published records of contaminated sites under Section 58 of the Contaminated Land Management (CLM) Act 1997. The notices relate to investigation and/or remediation of site contamination considered to pose a significant risk of harm under the definition in the CLM Act.

A search of the database revealed that the subject site was not listed. There were no other properties listed within the suburb of Castle Hill.

It should be noted that the NSW EPA record of Notices for Contaminated Land does not provide a record of all contaminated land in NSW.

Refer to **Appendix B** – NSW EPA Records.

4.8 NSW EPA POEO Register

A search of the POEO Register revealed that the site was not listed. Nine (9) other properties were listed with the suburb of Castle Hill, all located over 500m from the site

Refer to **Appendix B** – NSW EPA Records.

4.9 NSW EPA Notified Contaminated Sites

The NSW EPA publishes a list of notified contaminated sites each month. The list of notified sites contain land that has been notified to the EPA as being potentially contaminated.

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A search of the list was completed on the 28th of August 2025. The search indicated the site was not listed. No other properties were listed within the suburb of Castle Hill.

Refer to **Appendix B** – NSW EPA Records.

4.10 PFAS Preliminary Screen

NSW EPA requires that PFAS is considered when investigating land contamination. The preliminary screen is based on guidelines from the PFAS National Environmental Management Plan (NEMP 2020). From this screen a decision can be made as to whether PFAS sampling of soil and groundwater is required.

Table 4: PFAS Preliminary Screen

Preliminary Screen	Risk of Occurrence
Any past or present site activity listed in NEMP 2020 as being activity associated with PFAS contamination?	L
Any past or present off-site activity up-gradient / adjacent to the site listed in NEMP 2020 as being activity associated with PFAS contamination?	L
Did fire training involving the use of suppressants occur from 1970 to 2010?	L
Have fuel fires ever occurred on site from 1970 to 2010?	L
Have PFAS been used in manufacturing or stored on site?	L
Could PFAS have been imported to the site in fill materials from a site activity listed in NEMP 2020?	L
Could PFAS contaminated groundwater or run-off migrated to the site	L
Is the site or adjacent site listed in the NSW EPA PFAS Investigation Program	No
If the risk is medium or high in any of the above, does the inclusion of preliminary sampling / testing of PFAS in soil (including ASLP) and water need to be included?	No

- Note 1

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- Risk: L – low (all necessary documentation has been reviewed and there is no recorded instance or compelling rationale),
- M – medium/moderate (all necessary documentation has been reviewed and there is potential evidence of a recorded instance with compelling rationale);
- H – high (all necessary documentation has been reviewed and there is evidence of a recorded instance with compelling rationale); r
- Risk, N/A – not applicable (or "-")].
- No /Yes

- Note 2 Activities listed in Appendix B of the NEMP (2020).
- Note 3 Runoff from up-gradient PFAS use may impact surface water, soil, sediment and groundwater.
- Note 4 PFAS is used wide range of industrial processes and consumer products, including in the manufacture of non-stick cookware, specialised garments and textiles, ScotchguardTM 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.
- Note 5 https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program

The potential for PFAS to be present on-site was considered low and subsequently no PFAS sampling / analysis was undertaken.

4.11 SafeWork NSW

Foundation Earth Sciences inspected the site on 22nd August 2025 and there were no visual indicator of USTs and/or related infrastructure in accessible areas. Therefore, based on the weight of evidence above, no SafeWork NSW search was undertaken for this site.

4.12 Previous Investigations

One (1) previous environmental investigation for the property is summarised below:

- Foundation Earth Science (2024), "Preliminary Site investigation" for 16-20 Old Castle Hill Road, Castle Hill NSW, ref E3391, dated September 2025.

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4.12.1 FES Preliminary Site Investigation 2025

The Preliminary Site Investigation (PSI) has been prepared by Foundation Earth Sciences (FES), on behalf of UPG Castle Corner Pty Ltd ('the Applicant'), and is in support of a State Significant Development Application for a mixed-use development for the site at 16-20 Old Castle Hill Road, Castle Hill NSW.

A site visit was undertaken on the 22nd of August 2025. Fieldwork and reporting were conducted in general accordance with the Foundation Earth Sciences proposal and with reference to relevant regulatory criteria and Foundation Earth Sciences fieldwork protocols.

The proposed development includes demolishing current site features and construction of a mixed-use residential apartment building, with a multiple level basement. The ground floor of the dwelling will have parking areas, a retail space, residential apartments and utilities (including a power substation), a mezzanine level and landscaped outdoor areas.

Several potential areas of environmental concerns were identified at the site, particularly:

- Historical and current uses.
- Surrounding land uses (Residential, Vacant).
- Imported fill of unknown quality or origin.
- Driveways where leaks and spills from cars may have occurred.
- Degrading of former building features.

Founded on the investigation including the proposed land use, previous site history, underground services plans, land title information & site inspection, the potential for significant soil and/or groundwater impact is considered a low to moderate risk. In applying the NEPM 2013 Schedule B2 "Guideline on Site Characterisation"; there is sufficient evidence, uncertainty and/ or suspicion of contamination, therefore further

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investigation is recommended. A hazardous materials assessment is recommended to be completed prior to the demolition of the site.

The following data gaps were identified:

- The soil and groundwater quality at the site have not been investigated.

Based on the results of this investigation it is considered that the risks to human health and the environment associated with any potential soil contamination at the site are low to moderate in the context of the proposed use of the site. The site ***can be made suitable*** for the proposed development, subject to the following recommendations:

- Preparation of a Detailed Site Investigation (Phase 2 Environmental Site assessment) by a suitably qualified Environmental Consultant.
- Any soil requiring removal from the site, as part of future site works, should be classified in accordance with the "Waste Classification Guidelines, Part 1: Classifying Waste" NSW EPA (2014).

4.13 Integrity Assessment

The information found in the historical sources has been found to be in general concurrence. It is therefore considered that accuracy of this data is acceptable for this investigation.

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5.0 REVIEW OF ENVIRONMENTAL INFORMATION

Table 5: Site Condition and Surrounding Environment Review

Site Information	Descriptions					
Sensitive Receivers	The nearest sensitive human receptors are the current and future users of the site, construction workers during the site redevelopment and the public. The nearest watercourse is Castle Hill Creek, located approximately 570m north of the site.					
Soil Landscape *Review of NSW Soil and Land Information website ESPADE.*	The Soil Landscape Map viewed on NSW ESPADE indicates that the site is in Glenorie landscape area. Undulating to rolling low hills on Wianamatta Group shales. Local relief 50-80m, slopes 5-20%. Narrow ridges, hillcrests and valleys. Extensively cleared tall open forest (wet sclerophyll forests).					
Topography	Low rolling and steep hills. Local relief 50–120 m, slopes 5–20%. Convex narrow (20–300 m) ridges and hillcrests grade into moderately inclined side slopes with narrow concave drainage lines. Moderately inclined slopes of 10–15% are the dominant landform elements.					
Geological Profile	The Geological Map of Sydney (Geological Series Sheet 9130, Scale 1:100,000, 1983), published by the Department of Mineral Resources indicates the residual soils within the site to be underlain by Triassic Age Shale of the Wianamatta Group, comprising black to dark grey shale and laminite.					
Presence of Acid Sulphate Soils	A review of the "eSPADE" map indicated that the site is in an area of "No Known Occurrence" of acid sulphate soils.					
Localised Hydrogeology Review of DPI (Office of Water) Database.	**Number**	**Location from Site**	**Depth (m BGL)**	**SWL (m BGL)**	**Use**	**Water Bearing Zones**
	GW021982	229m W	49.00	-	Waste Disposal	7.00 – 7.30,

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Site Information	Descriptions					
Appendix D – DPI (Office of Water) Database Records.						42.90 – 47.70
	GW107575	167m SW	40.79	-	Monitoring Bore	-
	GW109572	314m SW	11.00	-	Monitoring Bore	10.00 – 11.00
	GW109570	325m SW	9.50	4.30	Monitoring Bore	7.50 – 9.50
	GW109571	331m SW	9.50	5.00	Monitoring Bore	7.50 – 9.50
Nearest Surface Water Body	The nearest watercourse is Cattai Creek, located approximately 1.791km west of the site.					
Local Meteorology (Bureau of Meteorology BOM website)	The monthly rainfall of the local surrounding area is represented by the data collected from the BOM rainfall gauge located in North Rocks (Muirfield Golf Club), which is approximately 4.2km from Castle Hill. The records indicate that the annual mean rainfall recorded for the month of August was 46.4mm (date of fieldwork).					
Nearest Active Service Station & Dry Cleaner (Google Maps Search)	Service station is 800m south-west of the site. Dry Cleaners is 500m west of the site.					

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6.0 REVIEW OF CONSTRUCTION AND SERVICE INFORMATION

6.1 Proposed Development

A high-level summary of the proposed development is described below, with further details provided within the Environmental Impact Assessment (EIS). The SSDA seeks approval for:

Early works including:

- Demolition and bulk excavation and activities.
- Infrastructure services coordination and deviation.
- Erosion and sediment control; and
- Removal of trees.

The 'Main Works' SSDA seeks approval for:

- The construction and operation of a 40-storey residential flat building, comprising the following:
    - Market and affordable housing units.
    - Basement parking.
    - Communal open space.
    - Associated landscaping and public domain works.

The proposal development comprises the following:

- Two residential towers, one at forty storeys and the other at thirty storeys, both rising above a shared podium.
- A common podium incorporating mixed-use functions at ground level (potential retail and /or commercial tenancies), residential apartments and shared building services areas.

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- Six levels of basement parking
- A pool and recreation area located at level thirty.

Refer to **Appendix E** - Proposed Development Plans.

7.0 SITE VISIT

7.1 General

The site was visited on the 22ND ^{of} August 2025 by Foundation Earth Sciences Environmental Scientists to inspect the site for any potential sources of contamination.

The following items were considered as part of the site visit:

- Description of the building structures;
- Site surroundings.
- Present and past industrial processes and operations at the site.
- Surface water, groundwater, stormwater and sewer.
- Present and past storage of chemicals and wastes associated with site use and their on-site location.
- Waste management practices and management of hazardous materials.
- Presence of Underground Storage Tanks or Above Ground Storage Tanks.
- Odour; and
- Occupational health and safety.

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7.2 Site observations

At the time of the site visit the following observations were made as per the following table:

Table 6: Site Inspection Review

Factors Considered	Description of Sites
Buildings & Structures on Site	The site was occupied by three separate properties. No. 18 & No. 20 were occupied by two-storey residential dwellings with large landscape areas. An unsealed driveway connects No. 18 to Old Castle Hill Road. No.16 was vacant at the time of inspection, dominated by vegetation.
Percentage Hard-standing surface	60-65%
Concrete Condition	Average
Chemical Storage	Chemical storage areas were noted at the time of the site inspection in accessible areas.
Above and Underground Storage Tanks	No above or underground storage tanks areas were noted at the time of the site inspection in accessible areas.
Trade Waste Pits	No trade waste pits were identified at the site.
Nearby Electrical Transformers	There were no electrical transformers noted near the site.
Asbestos	Fibro cement sheeting was identified within the buildings during the inspection.
Site Vegetation	Appeared healthy.
Soil Staining and Odours	No odours were identified within the property. No significant soil staining was noted during the inspection.
Stormwater and Sewer	Stormwater and sewer were connected to the local utilities.

Refer to **Figure 2** - Site Features and Borehole Location Plan and **Appendix C** – Site Photographs.

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8.0 PRELIMINARY CONCEPTUAL SITE MODEL (CSM)

Based on the above information, site history and site walkover, the areas of potential concern and associated contaminants for the site CSM were identified. These are summarised in the following table.

Table 7: Areas and Contaminants of Concern

Known and potential contamination source	Associated Contaminants
Historical & Current Site Uses *(Residential)*	Heavy Metals, TRH, BTEX, PAH, OCP, PCB & Asbestos
Surrounding land Uses (Residential & Commercial)	*HM, TRH, BTEX, PAH, OCP, OPP, PCB & Asbestos*
Potential Pesticide Use	OCP / OPP
Imported Fill	Heavy Metals, TRH, BTEX, PAH, OCP, PCB & Asbestos
Car parking Areas	TRH, BTEX, PAH
Building degradation/ Demolition	Heavy Metals and Asbestos

Table 8: Potentially Contaminated Media

Known and potential contamination source	Associated Contaminants
Fill Material	There is the potential for contamination to be present in the upper fill material.
Groundwater	There is the potential for the leaching of contaminants into groundwater onsite and migration of the contaminants.
Soil Vapour	Given the site history and surrounding land uses, soil vapour is considered to a potential contaminated low

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Potential for Migration

Contaminants migrate from site via a combination of windblown dusts, rainwater infiltration, groundwater migration, and surface water runoff. The potential for contaminants to migrate is a combination of:

- The nature of the contaminants (solid/liquid and mobility characteristics).
- The extent of the contaminants (isolated or widespread).
- The location of the contaminants (surface soils or at depth); and
- The site topography, geology, hydrology, and hydrogeology.

The potential contaminants identified as part of the site history review & site inspection are present in solid (e.g. impacted fill, asbestos), liquid (e.g. dissolved in water) and gaseous/vapour forms.

Aerial photography has indicated that there are unsealed ground surfaces and therefore there is a potential for the migration of contaminants via wind-blown dust.

Rainfall infiltration at the site is expected to occur in unsealed areas. As the site is mostly unsealed, there is a potential that soil contamination could result in impacts to shallow groundwater.

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Potential Exposure Pathways

Potential exposure pathways include:

- Dermal.
- Ingestion; and
- Inhalation.

Due to the limited exposure of potentially impacted soil/fill on ground surfaces, dermal exposure is considered low potential exposure pathway.

There is the potential for vapour to be present in the underlying profile within the site. As such, these gases potentially pose a risk to human health via the inhalation pathway.

The potential for ingestion of soil is considered as a potential exposure pathway.

Dermal and inhalation exposure pathways by potentially contaminated groundwater and/or vapour are considered as a concern based on historical land use.

Receptors

Potential receptors of environmental impact present within the site which will be required to be addressed with respect to the suitability of the site for the proposed use include:

- Excavation/construction/maintenance workers conducting activities at the site, who may potentially be exposed to COPCs through direct contact with impacted soils, Vapour Intrusion and/or groundwater present within excavations and/or inhalation of dusts/fibres associated with impacted soils.
- Future occupants/users of the site may potentially be exposed to COPCs through direct contact with impacted soils and/or ingestion of impacted soils and/or

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inhalation of dusts/fibres associated with impacted soils and/or exposure to vapour; and/or

- Offsite sensitive receptors of groundwater.
- Flora species to be established on vegetated areas of the site; and
- Castle Hill Creek

Preferential Pathways

For this assessment, preferential pathways have been identified as natural and/or man-made pathways that result in the preferential migration of COPCs as either liquids or gases.

Man-made preferential pathways are present throughout the site, associated with fill materials and services present beneath existing ground surface. Fill materials and service lines are anticipated to have a higher permeability than the underlying natural soil and/or bedrock.

Potential Offsite Sources

Impacted soil contamination could migrate off site during site development works with surface water run-off.

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9.0 REVIEW OF DATA QUALITY OBJECTIVES

The DQOs were also prepared using Appendix IV of the Site Auditor Guidelines. These require seven steps. The steps being.

a. State the problem.
b. Identify the decisions.
c. Identify inputs to decision.
d. Define the study boundaries.
e. Develop a decision rule.
f. Specify limits on decision errors.
g. Optimise the design for obtaining data.

The following table outlines each of these steps and the approaches taken for this investigation.

Table 9: DQO's for the Investigation

DQO's		Considerations
1	**State the problem** – assemble an effective planning team, describe the problem, and examine the resources for investigating the problem	
1.1	Write a summary of the contamination problem.	An irregular shaped area of land of approximately 3180.4m^2 in area requires characterisation to determine the land use suitability or the appropriate waste classification
1.2	Identify members of the planning team.	Landowner/developer, planning consultant and site contamination assessment consultant.

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1.3	Develop/refine the conceptual site model (CSM), including a summary of the exposure scenarios.	Contaminants – potentially heavy metals, organics (TRHs, BTEX, PAHs, PFAS and OCPs/OPPs), and asbestos (fibres/fragments). Sources – demolition wastes and surrounding land uses. Receptors – site maintenance workers and trespassers, as the site is partially fenced and secured. If developed, site workers (surface and sub-surface), residents, and visitors (adults and children). Pathways – dermal contact, inhalation of dust and ingestion have been identified as the pathways of concern. No further assessment of groundwater and/or soil gas will be considered based on the findings of this investigation.
1.4	Specify the available resources and constraints, such as relevant deadlines for the study, budget, availability of personnel and schedule.	The site contamination assessment consultant has the available capacity to conduct the investigation using appropriate subcontractors (drill rig and/or laboratory). While the developer seeks close out of the issue within the next three months, there are no practical constraints, as the land is identified as high-value and sufficient budget is available. Additional investigations, or remediation will be conducted as required.
2	**Identify the goals of the study** – identify the principal study question(s) and potential alternative actions (with implications) and combine these to make statements of the decision problem.	
2.1	Identify the principal study question(s).	Is the material suitable for a residential & recreational land use based on contaminant levels and aesthetic concerns? If not, what disposal options are available, i.e. what is the waste classification?
2.2	Identify the alternative outcomes or actions that could result from resolution of the principal study question(s).	The alternative outcomes will be: • The material is suitable for residential and recreational land use (HIL-B & C), or

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		• The material is not suitable for the proposed land use and needs to be partially or fully removed from the site to allow for development.
2.3	For decision problems, combine the principal study questions and the alternative actions into decision statements.	If the contamination status of the material is acceptable, the material can remain on-site. If the contamination status of the material is unacceptable, consider the remediation hierarchy.
3	**Identify information inputs** – identify the information needed to formulate and investigate the problem and confirm that appropriate sampling and analytical methods are available.	
3.1	Identify the information that will be required to resolve the decision statements/estimation, including existing information and new environmental data, and identify the sources for each item of information required.	Soil data collected as part of this investigation, including field samples and analytical samples.
3.2	Identify the information needed to establish the action level.	Investigation criteria will be sourced from: • NEPM 2013, Schedule B1, HILs for residential with garden / accessible soil HIL B & Recreational HILC; and • NSW EPA 2014c, Waste Classification Guidelines
3.3	Confirm that appropriate sampling and analytical methods exist to provide the necessary data.	Sampling and analytical methods will be consistent with existing guidance, including NEPM 2013, B2 and B3. Analytical laboratories will be NATA accredited and/or subject to proficiency testing and use analytical methods based on NEPM, USEPA and APHA methods.
4	**Define the boundaries of the study** – define the target population and the spatial and temporal boundaries associated with the population; examine any practical constraints to collecting data, and factors that affect the selection of the unit that defines the scale of sampling and the scale of decision making or estimation.	

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4.1	Define the target population of interest and its relevant spatial boundaries.	The area is approximately 3180.4m². The fill soil is Silty Clay & Silty Gravelly Clay. Uncontaminated soils in site investigations were found to be homogenous regarding metal concentrations, i.e. expected relative standard deviation (RSD) <50%.
4.2	Define what constitutes a sampling unit.	Sampling units will consist of: • Field samples of appropriately described and logged samples which are field screened. • Analytical samples of the laboratory-specified sample jar quantity.
4.3	Specify temporal boundaries and other practical constraints associated with sample/data collection.	To achieve the three-month schedule for problem resolution, the field investigation should start within two weeks of the investigation plan (SAQP and commercial) being accepted. There are no site access restrictions for personnel once they are inducted, and the project is approved. The decision area is limited to the identified area within the site plan.
4.4	Specify the smallest unit on which decisions or estimates will be made.	The decision is to be based on the complete decision area. However, following data analysis, some form of segregation may be considered, i.e. some of the decision area may be suitable for HIL-B & C and some may require offsite disposal.
5	**Develop the analytic (statistical) approach** – develop a logical 'if…, then… or…' statement that defines the conditions that would cause the decision maker to choose among alternative actions.	
5.1	Specify the statistical parameter that characterises the population of interest, such as mean, median, maximum, 95% upper confidence limit (UCL) of the arithmetic mean or proportion.	The 95% UCL of the arithmetic mean will be the key statistical parameter. The data evaluation will include: • The 95% UCL arithmetic mean to be ≤ criterion. • No individual sample to exceed 250% of the criterion. • The sample standard deviation to be ≤50% criterion. Additional considerations will include aesthetic requirements, including no odours or staining, no waste materials, and no monolithic deposits as per NEPM 2013, B2.

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5.2	Specify the action level for the decision.	To determine if the material is suitable for the HIL-B & C land use, analytical action levels are to be based on the NEPM HILs (2013, B1). If the material is not suitable for the HIL-B & C land use, the material will be classified in accordance with EPA 2014c for offsite disposal. Samples will be held at the laboratory for additional analyses, including leachate analysis following TCLP extraction, if required.
5.3	Confirm that measurement detection will allow reliable comparisons with the action level.	Samples will be submitted to NATA-accredited laboratories. The laboratories' analytical LORs are suitably below the adopted criteria. Note: to achieve an acceptable limit of reporting for asbestos fines and fibrous asbestos, the method may not be NATA-accredited but undertaken using in-house methods for quantification.
5.4	Combine the outputs from the previous DQOs steps and develop an 'if…, then…, else…' theoretical decision rule based on the chosen action level.	**If** the statical parameters (or aesthetics) of the sampling data exceed the applicable action levels, **then** offsite disposal of the fill material will be required, **otherwise, if** the statistical (and aesthetic) parameters are below the applicable action levels, **then** the fill material will be determined to be suitable for a HIL-B & C & C land use.
6	**Specify performance or acceptance criteria** – specify probability limits for false rejection and false acceptance decision errors.	
6.1	Specify the decision rule as a statistical hypothesis test.	The null hypothesis is that the material is contaminated and exceeds the adopted criteria. The alternative hypothesis is that the material is not contaminated above the adopted criteria.
6.2	Examine consequences of making incorrect decisions from the test.	Decision errors include:

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		• The material being accepted as suitable for a HIL-B & C land use when it is not, thereby potentially risking human health or environmental impacts. • Unnecessary disposal of the material offsite, imposing needless financial and resource burdens on the development project and resulting in an inappropriate waste classification.
6.3	Place acceptable limits on the likelihood of making decision errors, including acceptable alpha (α) and beta (β) risk levels.	Stated hypotheses: • Null hypothesis (H0): the 95% UCL, and other requirements, are > the action level. • Alternate hypothesis (HA): the 95% UCL, and other requirements, are ≤ the action level. Potential outcomes include Type I and Type II errors: ○ Type I error of determining the material is acceptable for the proposed HIL-A land use when it is not (wrongly rejects true H0). ○ Type II error of determining the material is unacceptable for the proposed HIL-A land use when it is acceptable (wrongly accepts false H0). For performance criteria, the acceptable limits on the likelihood of making decision errors to be applied are: ▪ Alpha risk (Type I error) of α = 0.05 ▪ Beta risk (Type II error) of β = 0.2 The above acceptance criteria are required.
7	**Optimise the design for obtaining data** – identify a resource-effective sampling and analysis design for generating data that is expected to satisfy the DQOs.	
7.1	Document the final sampling and analysis design, along with a	Boreholes were drilled at each location at a approx. depth of 0-0.5m. One field sample was collected at each sample location at the surface (a depth of 0.0-0.3m). One field

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	discussion of the key assumptions underlying this design.	sample was collected at selected locations at an approximate depth of 0.3 – 0.5.
7.2	Detail how the design should be implemented, together with contingency plans for unexpected events.	The field methods for sample collection, handling, and analysis (at analytical laboratories) are described in the project-level standard operating procedures (SOPs). Contingencies include collecting additional samples from material that is significantly difference from the reworked natural material, and conducting additional analyses where field indicators (staining, odours, field screening results) suggest other contaminants.
7.3	Determine the quality assurance and quality control (QA/QC) procedures that are to be performed to detect and correct problems to ensure defensible results.	The required field QA, and the field and laboratory QC, are described in the project-level SOPs. These include both the data quality indicators (DQIs) and the associated measurement quality objectives (MQOs).
7.4	Document the operational details and theoretical assumptions of the selected design in the SAQP.	Theoretical assumptions include: • Surficial impacts from overland flow and burial of wastes are the modes of contamination expected. • The material is homogenous. • The remnant A-horizon will be readily discernible from buried grass and organic soil.

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10.0 INTRUSIVE SOIL INVESTIGATION

The intrusive soil investigation took place on the 22ND & 8TH September 2025 and was designed to meet the Data Quality Objectives.

10.1 Soil Assessment

FES staff collected Seventeen (17) primary soil samples from eleven (11) boreholes spread across the site and were labelled BH101 to BH111. These locations were selected to detect any contamination that may have originated from past and present activities, and due to potential excavation and future development in these areas.

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Table 9: Sampling Information - Soil

Analyte / Analyte Group / Sample	Depth (m)	SAMPLING DATE	HEAVY METALS (8)	TRH	BTEX	PAH	OCP/ PCB	TRH C6-C10 & BTEXN	PH / CEC / %CLAY	Asbestos %w/w	Asbestos ID
FES DSI 2025											
BH1	0.0-0.1	22.08.2025	X	X	X	X	X		X		X
BH1	0.3-0.4	22.08.2025	X	X	X	X	X		X		X
BH2	0.0-0.1	22.08.2025	X	X	X	X	X				X
BH2	0.3-0.4	22.08.2025	X	X	X	X	X				-
BH3	0.2-0.3	22.08.2025	X	X	X	X	X				X
BH4	0.1-0.2	22.08.2025	X	X	X	X	X				X
BH5	0.1-0.2	22.08.2025	X	X	X	X	X			X	X
BH5	0.4-0.5	22.08.2025	X	X	X	X	X				X
BH6	0-0.1	22.08.2025	X	X	X	X	X			X	X
BH6	0.3-0.4	22.08.2025	X	X	X	X	X				X
BH7	0-0.1	22.08.2025	X	X	X	X	X				X
BH8	0.1-0.2	22.08.2025	X	X	X	X	X				X
BH8	0.5-0.6	22.08.2025	X	X	X	X	X				X
BH9	0.1-0.2	22.08.2025	X	X	X	X	X			X	X
BH9	0.3-0.4	22.08.2025	X	X	X	X	X				-
BH10	0.1-0.2	08.09.2025	X	X	X	X	X				X
BH11	0.1-0.2	08.09.2025	X	X	X	X	X				X
D1	-	22.08.2025	X	X	X	X	X				
SS1	-	22.08.2025	X	X	X	X	X				
TS1	-	22.08.2025						X			
TB1	-	22.08.2025						X			

The locations of the boreholes are shown in **Figure 2** and details of the logs are presented in **Appendix G** – Borehole Logs.

Based on information from all boreholes, the surface and sub-surface profile across the site is generalised as follows:

- Fill: Silty Clay, Silty Gravelly, Clay.
- Natural: CLAY.

10.2 Sampling Density and Rationale

The NSW EPA "Sampling Design Guidelines" Part 1 and Part 2 (2022) requires a minimum sampling density of eleven (11) sampling points for a site area of 3180.4m².

FES staff collected seventeen (17) primary soil samples recovered from eleven (11) boreholes spread across the site and were labelled BH1 to BH11. The locations were

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selected by adopting a systematic grid-based sampling pattern across the site and to provide general site coverage with consideration given to accessibility and limitations in relation to underground services & access.

10.3 Sampling Methodology

In summary:

- Soil samples were collected using a hand auger, DCP and U50 to collect undisturbed samples.
- Samples were recovered directly from the excavator bucket.
- Samples were transferred directly into appropriately labelled clean laboratory supplied containers.
- Samples were transferred into chilled eskies for sample preservation.
- A Chain of Custody was completed and forwarded to the laboratory. Sampling analysis was based on field observations and were in accordance with the schedule outlined in Section 12.
- Soil samples were submitted to their respective laboratories as specified in Section 12.4.

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11.0 GROUNDWATER INVESTIGATION

11.1 Groundwater Assessment

Foundation Earth Sciences sampled existing groundwater monitoring wells installed by Douglas Partners (installed as part of their Geotechnical Investigation scope). Samples were labelled as GW1 to GW3 as part of this FES DSI. The schedule of analysis is provided below:

Table 10: Sampling Information – Groundwater

SAMPLE ID	SAMPLING DATE	HEAVY METALS	TRH	BTEX	PAH	VOC
FES DSI 2025						
GW1	01.09.2025	X	X	X	X	X
GW2	01.09.2025	X	X	X	X	X
GW3	01.09.2025	X	X	X	X	X
D1	01.09.2025	X	X	X	X	X
TS/TB	01.09.2025		X	X		X

The location of the groundwater well is shown in **Figure 2** and details of the boreholes are presented in **Appendix G** – Borehole Logs. Refer to **Appendix I** – Field Record Form.

11.2 Groundwater Installation

Groundwater monitoring wells were installed by Douglas Partners as part of the Geotechnical Investigation occurring on the site.

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Table 11: Sampling Information – Groundwater

Well ID	Total Depth	Screening (m)	Surface Level (RL)	Water Bearing	Comment
FES DSI 2025					
GW1	34m	-	-	-	Douglas Partners
GW2	-	-	-	-	Douglas Partners
GW3	-	-	-	-	Douglas Partners

The following works were conducted upon completion of the well installation:

- The wells were developed by removing at least three well volumes until groundwater parameters reached equilibrium and no further turbidity improvements were observed.

11.3 Groundwater Sampling

Groundwater sampling was undertaken on the 01st of September 2025. Prior to sampling, the resting water level was recorded within the well while checking for the presence of phase separated hydrocarbon. Sampling was completed using a low flow peristaltic pump – a low flow/minimum drawdown sampling technique used to minimise any disturbance to the aquifer.

Field measured parameters were collected using a certified and calibrated in-situ YSI water quality meter. Samples were collected when field measured parameters (pH, electrical conductivity, redox potential, dissolved oxygen, and temperature) had stabilised. The samples were placed into appropriate laboratory supplied bottles and preserved on ice. The peri pump and other sampling equipment were decontaminated

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before and after use to avoid possible cross contamination. All samples collected were preserved on ice and couriered directly to the laboratory under COC documentation.

11.4 Groundwater Observations

Table 12: Groundwater Elevations & Observations

Well ID	Well Depth	Surface Level RL	Groundwater Depth Measured (m BGL)	Groundwater Level (RL)	PSH Depth
FES DSI 2025					
GW1	34	-	20	-	None
GW2	-	-	22	-	None
GW3	-	-	9.6	-	None

The field measured parameters (pH), electrical conductivity (EC) were recorded during purging, were allowed to stabilise prior sampling. Final stabilised groundwater field parameters are summarised below.

Table 13: Groundwater Field Results

Well ID	Date	pH	Electrical Conductivity (EC us/cm)	Redox Potential (ORP mV)	Dissolved Oxygen (mg/L)	Temperature (*C)
FES DSI 2025						
GW1	01.09.2025	6.75	7180	10.2	15.2	18.6
GW2	01.09.2025	6.66	10895	32.3	42	18.2
GW3	01.09.2025	8.58	667	29.9	80	18.7

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The results of the field parameters measured are summarised as follows:

- pH reading indicated the groundwater is neutral to alkaline.
- the EC reading indicated brackish water.

11.5 Catchment Location

It is noted that the groundwater at the site is likely to flow into the Sydney Harbour and Parramatta River Catchment Area. This catchment is partly affected by urban development. The water quality objectives for the catchment includes, but not limited, the following:

- Maintaining healthy aquatic ecosystems and their riparian zones over the long term.
    - Some indicators include total phosphorus, total nitrogen, chlorophyll-a, turbidity, salinity (electrical conductivity), dissolved oxygen, pH, temperature, chemical contaminants, biological assessment indicators.
- Visual amenity and aesthetics.
    - Improved by protecting aquatic ecosystems and improving stormwater management.
    - Some indicators include visual clarity and colour, surface films and debris, nuisance organisms.
- Secondary contact recreation (boating / fishing).
    - Objectives are based on maintaining / improving water quality for activities such as boating and wading, where there is a low probability of water being swallowed.
    - Some indicators include faecal coliforms, enterococci, algae and blue-green algae, nuisance organisms, chemical contaminants, visual clarity and colour, surface films.
- Primary contact recreation (swimming which is a longer-term objective).

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- Objectives are based on maintaining / improving water quality for activities where there is a high probability of water being swallowed.
- Some indicators include turbidity, faecal coliforms, enterococci, protozoans, algae and blue-green algae, nuisance organisms, pH, temperature, chemical contaminants, visual clarity and colour, surface film.

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12.0 QUALITY ASSURANCE / QUALITY CONTROL

12.1 General QA/QC

The frequency required for each field quality assurance / quality control (QA/QC) sample is presented in the table below.

Table 14: QA/QCs Frequencies

	Intra Lab	Inter Lab	Rinsate	Spikes	Blanks
Sampling Frequency	1 in 20	1 in 20	1/day	1/day	1/day

During the contamination assessment the integrity of data collected is considered vital. With the assessment of the site, several measures were taken to ensure the quality of the data. These are as follows:

12.2 Sample Containers

Soil samples collected during the investigation were placed immediately into laboratory prepared glass jars with Teflon lid inserts. Standard identification labels were adhered to each individual container and labelled according to depth, date, sampling team, and media collected.

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12.3 Decontamination

All equipment used in the sampling program was decontaminated prior to use and between samples to prevent cross contamination. Decontamination of equipment involved the following procedures:

- Cleaning equipment in potable water to remove gross contamination.
- Cleaning in a solution of Decon 90.
- Rinsing in clean demineralised water then wiping with clean lint free cloths.

Foundation Earth Sciences also adopted a sampling gradient of lowest to highest potential contamination to minimise the impact of cross contamination. This gradient was determined from the historical review and the on-site inspection that was conducted prior to sampling.

Although Foundation Earth Sciences maintains consistent sampling procedures, a rinsate sample is obtained to ensure false positive samples are not generated and that decontamination procedures are effective in preventing cross contamination. The Rinsate water is collected after being in contact generally with the trowel used for sampling. Analytical results that target the contaminants of concern are compared to a blank sample, which is taken directly from the rinsate water container supplied by the laboratory.

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A rinsate sample was not collected as the samples were taken either directly from the excavator bucket, push tube / split spoon sampler or U50 tube and therefore the chance for cross-contamination was minimal.

12.4 Sample Tracking, Identification and Holding Times

All samples were forwarded to Envirolab and SGS Australia under recognised chain of custodies with clear identification outlining the date, location, sampler, and sample ID. All samples were recorded by the laboratory as meeting their respective holding times. The sample tracking system is considered adequate for the purposes of sample collection.

12.5 Sample Transport

All samples were packed into an esky with ice from the time of collection. A trip blank and trip spike are collected where appropriate. These were transported under chain of custody from the site to Envirolab Pty Ltd and SGS Australia, both NATA registered laboratories. During the project, the laboratory reported that all the samples arrived intact and were analysed within holding times for the respective analytes.

Samples were always kept below 4°C, soil samples submitted for asbestos analysis are not required to be kept below 4°C.

12.6 Trip Spike

Trip Spike samples were obtained from the laboratory prior to conducting field sampling where volatile substances are suspected. Foundation Earth Sciences QA/QC procedures

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for the collection of environmental samples involves the collection of trip blanks, trip spikes and duplicate samples both intra and inter laboratory.

12.7 Trip Blank

A trip blank accompanied the sampling for the sampling process and is not separated from the sample collection and transportation process. The purpose of the trip blank is to identify whether cross-contamination is occurring during the sample collection and transport process.

12.8 Field Duplicate Samples

The tables below list the duplicate soil samples collected with their corresponding primary samples.

Table 15: Soil Field Duplicate Samples

Primary Sample	Sample Depth (m BGL)	Intra Duplicate	Inter Duplicate	Date Sampled
BH1	0-0.1	D1	SS1	01.09.2025

Table 16: Groundwater Field Duplicate Samples

Primary Sample	Screening	Intra Duplicate	Inter Duplicate	Date Sampled
GW1	-	D1	SS1	01.09.2025

Field duplicate samples for soil were prepared in the field through the following process:

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- A larger than normal quantity of soil is recovered from the sample location selected for duplication.
- Two Portions of the sub-sample are immediately transferred, one for an intra-laboratory duplicate and another as a sample.
- Samples are placed into a labelled, laboratory supplied 250ml glass jar and sealed with an airtight, Teflon screw top lid. The fully filled jars are labelled as the sample and duplicate and immediately placed in a chilled esky.

Soil Intra-Laboratory duplicate samples were sent to SGS Australia while Inter-Laboratory duplicate samples were sent to Envirolab. A summary of the test results with the Relative Percentage Difference (RPD) is presented in the following tables.

The comparisons between the duplicates and original samples indicate acceptable RPDs when they comply with criteria which are commonly set at:

- less than 30% for inorganics and 50% for organics
- greater than five (5) times the laboratory limit of recording (LOR)
- greater than 50% of the relevant health investigation level (HIL) concentration.

The tables, below, give details of intra laboratory and inter laboratory duplicates.

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Table 17: Intra-lab Soil Sample D1 RPDs

ANALYTE	BH1 0-0.1 mg/kg	SGS D1 mg/kg	RELATIVE PERCENTAGE DIFFERENCE %
HEAVY METALS			
Arsenic	6	6	0
Cadmium	0.8	0.4	**67**
Chromium	15	13	-
Copper	28	24	15
Lead	50	49	2
Mercury	<0.05	<0.05	-
Nickel	3.5	3.8	8
Zinc	110	85	26
TRH			
F1	<25	<25	-
F2	<25	<25	-
BTEX			
Benzene	<0.1	<0.1	-
Toulene	<0.1	<0.1	-
Ethylbenzene	<0.1	<0.1	-
Xylenes - Total	<0.3	<0.3	-
POLYCYCLIC HYDROCARBONS (PAH)			
Benzo(a)pyrene	<0.1	<0.1	-
Total PAH	<0.8	<0.8	-
ORGANOCHLORINE PESTICIDES			
Heptachlor	<0.1	<0.1	-
Aldrin	<0.1	<0.1	-
Dieldrin	<0.1	<0.1	-
DDD	<0.1	<0.1	-
DDE	<0.1	<0.1	-
DDT	<0.1	<0.1	-
Chlordane (trans & cis)	<0.1	<0.1	-
POLYCHLORINATED BIPHENYLS			
Total PCB	<0.1	<0.1	-

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Table 18: Intra-lab Groundwater Sample D1 RPDs

ANALYTE	GW1 01.09.2025 ug/l	SGS D1 ug/l	RELATIVE PERCENTAGE DIFFERENCE %
HEAVY METALS			
Arsenic	1	1	0
Cadmium	<0.1	0.2	-
Chromium	<1	<1	-
Copper	<1	1	-
Lead	<1	<1	-
Mercury	<0.1	<0.1	-
Nickel	3	5	**50**
Zinc	10	18	**57**
TRH			
C6-C10 (F1)	<50	<50	-
C10-C16 (F2)	<60	<60	-
BTEX			
Benzene	<0.5	<0.5	-
Toulene	<0.5	<0.5	-
Ethylbenzene	<0.5	<0.5	-
Xylenes - Total	<1.5	<1.5	-
POLYCYCLIC HYDROCARBONS (PAH)			
Benzo(a)pyrene	<0.1	<0.1	-
Naphthalene	<0.1	<0.1	-
VOC			
Vinyl Chloride	<0.3	<0.3	-
Chloroform	<0.5	0.5	-

The comparisons between the intra-laboratory duplicates and corresponding original samples for soil and groundwater indicated acceptable RPD apart from cadmium, nickel and zinc which exceeded the DQOs for this project. However, these exceedances are not considered significant because they are due to the heterogeneity of the sample or low concentrations within the sample.

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Table 19: Inter-lab Soil Sample SS1 RPDs

ANALYTE	BH1 0-0.1 mg/kg	ENVIROLAB SS1 mg/kg	RELATIVE PERCENTAGE DIFFERENCE %
HEAVY METALS			
Arsenic	6	8	29
Cadmium	0.8	0.5	-
Chromium	15	18	18
Copper	28	30	7
Lead	50	45	11
Mercury	<0.05	<0.1	-
Nickel	3.5	5	**35**
Zinc	110	110	0
TRH			
F1	<25	<25	-
F2	<25	<50	-
BTEX			
Benzene	<0.1	<0.2	-
Toulene	<0.1	<0.5	-
Ethylbenzene	<0.1	<1	-
Xylenes - Total	<0.3	<1	-
POLYCYCLIC HYDROCARBONS (PAH)			
Benzo(a)pyrene	<0.1	<0.05	-
Total PAH	<0.8	<0.05	-
ORGANOCHLORINE PESTICIDES			
Heptachlor	<0.1	<0.1	-
Aldrin	<0.1	<0.1	-
Dieldrin	<0.1	<0.1	-
DDD	<0.1	<0.1	-
DDE	<0.1	<0.1	-
DDT	<0.1	<0.1	-
Chlordane (trans & cis)	<0.1	<0.1	-
POLYCHLORINATED BIPHENYLS			
Total PCB	<0.1	<0.1	-

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Table 20: Inter-lab Groundwater Sample SS1 RPDs

ANALYTE	GW1 01.09.2025 ug/l	Envirolab SS1 ug/l	RELATIVE PERCENTAGE DIFFERENCE %
HEAVY METALS			
Arsenic	1	1	0
Cadmium	<0.1	0.2	-
Chromium	<1	1	-
Copper	<1	1	-
Lead	<1	<1	-
Mercury	<0.1	<0.05	-
Nickel	3	6	**67**
Zinc	10	20	**67**
TRH			
C6-C10 (F1)	<50	<10	-
C10-C16 (F2)	<60	<50	-
BTEX			
Benzene	<0.5	<1	-
Toulene	<0.5	<1	-
Ethylbenzene	<0.5	<1	-
Xylenes - Total	<1.5	<3	-
POLYCYCLIC HYDROCARBONS (PAH)			
Benzo(a)pyrene	<0.1	<0.1	-
Naphthalene	<0.1	<0.1	-
VOC			
Vinyl Chloride	<0.3	<10	-
Chloroform	<0.5	<1	-

The comparisons between the inter-laboratory duplicates and corresponding original samples for soil indicated acceptable RPD apart from Nickel and zinc which exceeded the DQOs for this project. However, these exceedances are not considered significant because they are due to the heterogeneity of the sample or low concentrations within the sample.

Field duplicates provide an indication of the whole investigation process, including the sampling process, sample preparation, and analysis. The accuracy of the data is adequate

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due to the effect on confidence intervals with low concentrations in the samples and their duplicates.

12.9 Trip Spike and Trip Blank Results

Trip Spike samples were obtained from the laboratory prior to conducting field sampling where volatile substances are suspected. Trip spike and trip blank samples were collected to assess the effect of sample handling on volatile concentrations in the samples collected and the results are listed in the tables below:

Table 21: Trip Spike

ANALYTE	TS1 Trip Spike % Soil (mg/kg) 22.08.2025
BTEX	
Benzene	82%
Toluene	88%
Ethyl Benzene	94%
O-Xylenes	93%
M & P Xylenes	93%

ANALYTE	TS Trip Spike % water (ug/L) 01.09.2025
BTEX	
Benzene	103%
Toluene	102%
Ethyl Benzene	103%
O-Xylenes	103%
M & P Xylenes	102%

Results discussed in Section 12.11

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Table 22: Trip Blank

ANALYTE	Trip Blank Soil (TB) mg/kg 22.08.2025
TRH	
C6-C10	<25
BTEX	
Naphthalene	<0.1
Benzene	<0.1
Toluene	<0.1
Ethyl Benzene	<0.1
Total Xylenes	<0.3

ANALYTE	Trip Blank water (TB) ug/L 01.09.2025
TRH	
C6-C10	<50
BTEX	
Naphthalene	<0.5
Benzene	<0.5
Toluene	<0.5
Ethyl Benzene	<0.5
Total Xylenes	<1.5

Results discussed in Section 12.11

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12.10 Laboratory QA/QC

The integrity of analytical data provides the second step in the QA/QC process for total data compliance. The data validation techniques adopted by Foundation Earth Sciences are based upon techniques published by the US EPA and in line with methods and guidelines adopted by the NSW EPA and outlined in the NEPM, 2013.

Descriptions are provided of the specific mechanisms used in the assessment of accuracy, precision and useability of analytical data within the project.

Refer to **Appendix H**- NATA Accredited Laboratory Certificates.

12.11 QA/QC Results

The QA/QC results for soil collected at the site are summarised in the table below:

Table 23: QA/QC Results Summary

Data Quality Indicator	Results	DQI Met (Y/N)
Completeness		
Soil		
Data from critical samples is considered valid	Data is considered valid	Yes
Satisfactory frequency / result for QC samples	The QC results are considered adequate for the purpose of the investigation.	Yes
Field documentation completed	Field records are complete	Yes

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Boreholes logs & COCs completed and holding times complied with	Logs, COCs and holding times have been completed and complied.	Yes
Comparability		
Soil		
Standard operating procedures used	Yes	Yes
Consistent field conditions, sampling staff and laboratory analysis	Sampling was conducted by Foundation Earth Sciences scientists operating under the SOPs. The laboratories remained consistent throughout the investigation	Yes
Same analytical methods used	All analytical methods used between laboratories were based on the USEPA/APHA methods	Yes
Limit of reporting appropriate and consistent	The LORs were the same within each laboratory but differed between the primary and secondary laboratories. The LORs were considered appropriate based on the results.	Yes
Representativeness		
Soil		
Sampling appropriate for media and analytes	All sampling was conducted in accordance with Foundation Earth Sciences SOPs.	Yes
Samples adequately preserved	The majority of samples collected were received by laboratories at the correct temperature. Where relevant, samples were stored in acid-preserved containers supplied by laboratories.	Yes
Precision		
Soil		
SOPs appropriate and complied with in relation to field duplicates	The recovery of field duplicates was conducted in accordance with Foundation	Yes

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	Earth Sciences SOPs to allow for the assessment of field precision.	
RPDs of the field duplicates within control limits	RPDs of the field duplicates were within control limits with the exception of metals which exceeded the DQOs for this project, however, these exceedances are not considered significant because they are most likely due to the heterogeneity of the sample or low concentrations within the sample.	Yes
RPDs of the laboratory duplicates within control limits	RPDs of the laboratory duplicates were within control limits with the exception of: • In SGS laboratory certificate SE289081 & SE288300, RPD failed acceptance criteria due to sample heterogeneity for metals and/or soluble anions.	Yes
Accuracy		
Soil		
SOPs appropriate and complied with in relation to field blanks	Yes	Yes
Rinsate Blanks, trip blanks & laboratory blanks free of contaminants	Laboratory blanks & trip blanks were free of contaminants.	Yes
Surrogate spikes within control limits	Surrogate spikes were within control limits.	yes
Laboratory control spikes within control limits	Laboratory Control Spike recoveries were within control limits.	Yes
Matrix Spike recoveries within control limits	Yes, with the exception of; • In SGS laboratory certificate SE288300, where recovery for zinc in soils failed the acceptance	Yes

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	criteria due to matrix interference.	
Trip spike recoveries within control limits	Yes	Yes

12.12 QA/QC Evaluation / Conclusion

In summary, the findings of the QA/QC evaluation considered that the data is sufficiently reliable and that the results can be used for the purpose of this project.

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13.0 SITE ASSESSMENT CRITERIA

13.1 SOILS

13.1.1 Health Investigation Levels (HILs)

To assess the contamination status of soils at a site, the NSW EPA refers to the document entitled National Environmental Protection (Assessment of Site Contamination) Measure (NEPM) (Amendment 2013).

During any future soil investigations, the site will be assessed against the NEPM exposure scenario 'Residential B' & Recreational C Health Investigation Levels of the above-mentioned guidelines and specifically refers to the following:

HIL 'B' Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments.

HIL 'C' Public Open Space such as parks, playgrounds, playing fields, secondary schools, and footpaths.

The soil regulatory guidelines are presented in the table below.

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Table 24: Health Investigation Levels (HIL) Criteria for Soil Contaminants

FOUNDATION EARTH SCIENCES	Residential HIL B	Recreational HIL C	Reference
Heavy Metals			
Arsenic	500	300	NEPM 2013 - Table 1(A)1 HILs
Beryllium	90	90	NEPM 2013 - Table 1(A)1 HILs
Boron	40000	20000	NEPM 2013 - Table 1(A)1 HILs
Cadmium	150	90	NEPM 2013 - Table 1(A)1 HILs
Chromium (VI)	500	300	NEPM 2013 - Table 1(A)1 HILs
Cobalt	600	300	NEPM 2013 - Table 1(A)1 HILs
Copper	30000	17000	NEPM 2013 - Table 1(A)1 HILs
Lead	1200	600	NEPM 2013 - Table 1(A)1 HILs
Manganese	14000	19000	NEPM 2013 - Table 1(A)1 HILs
Mercury (Inorganic)	120	80	NEPM 2013 - Table 1(A)1 HILs
Methyl Mercury	30	13	NEPM 2013 - Table 1(A)1 HILs
Nickel	1200	1200	NEPM 2013 - Table 1(A)1 HILs
Selenium	1400	700	NEPM 2013 - Table 1(A)1 HILs
Zinc	60000	30000	NEPM 2013 - Table 1(A)1 HILs
Cyanide (Free)	300	240	NEPM 2013 - Table 1(A)1 HILs
Polycyclic Aromatic Hydrocarbons (PAHs)			
Carcinogenic PAHs (as Bap TEQ)	4	3	NEPM 2013 - Table 1(A)1 HILs
Total PAHs	400	300	NEPM 2013 - Table 1(A)1 HILs
Organochlorine Pesticides			
DDT + DDE + DDD	600	400	NEPM 2013 - Table 1(A)1 HILs
Aldrin + Dieldrin	10	10	NEPM 2013 - Table 1(A)1 HILs
Chlordane	90	70	NEPM 2013 - Table 1(A)1 HILs
Endosulfan	400	340	NEPM 2013 - Table 1(A)1 HILs
Endrin	20	20	NEPM 2013 - Table 1(A)1 HILs
Heptachlor	10	10	NEPM 2013 - Table 1(A)1 HILs
HCB	15	10	NEPM 2013 - Table 1(A)1 HILs
Methoxychlor	500	400	NEPM 2013 - Table 1(A)1 HILs
Toxaphene	30	30	NEPM 2013 - Table 1(A)1 HILs
Polychlorinated Biphenyls (PCBs)			
PCBs	1	1	NEPM 2013 - Table 1(A)1 HILs

Note - All values are in mg/kg

13.1.2 Health Screening Levels (HSLs)

The HSLs are applicable to generic land uses such as residential, commercial/industrial or recreational/public open space and different soil types between the ground surface and soils >4 metres below ground level. The HILs have been applied to assess human health

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risks via the inhalation and direct contact pathways of exposure. For selection of the health screening criteria an assessment of the in-situ soil profile should be undertaken. The soil profile consisted of predominantly ***Clay.***

Table 25: Health Screening Levels (HSL) Criteria

FOUNDATION EARTH SCIENCES	HSL A & HSL B	HSL A & HSL B	HSL A & HSL B	HSL A & HSL B	Soil Saturation Concentration (Csat)	Reference
	0m to <1m	1m to <2m	2m to <4m	4m+		
SAND						
Toluene	160	220	310	540	560	NEPM 2013 - Table 1(A) 3 HSLs
Ethylbenzene	55	NL	NL	NL	64	NEPM 2013 - Table 1(A) 3 HSLs
Xylenes	40	60	95	170	300	NEPM 2013 - Table 1(A) 3 HSLs
Naphthalene	3	NL	NL	NL	9	NEPM 2013 - Table 1(A) 3 HSLs
Benzene	0.5	0.5	0.5	0.5	360	NEPM 2013 - Table 1(A) 3 HSLs
F1	45	70	110	200	950	NEPM 2013 - Table 1(A) 3 HSLs
F2	110	240	440	NL	560	NEPM 2013 - Table 1(A) 3 HSLs
SILT						
Toluene	480	NL	NL	NL	640	NEPM 2013 - Table 1(A) 3 HSLs
Ethylbenzene	NL	NL	NL	NL	69	NEPM 2013 - Table 1(A) 3 HSLs
Xylenes	110	310	NL	NL	330	NEPM 2013 - Table 1(A) 3 HSLs
Naphthalene	5	NL	NL	NL	10	NEPM 2013 - Table 1(A) 3 HSLs
Benzene	0.7	1	2	3	440	NEPM 2013 - Table 1(A) 3 HSLs
F1	50	90	150	290	910	NEPM 2013 - Table 1(A) 3 HSLs
F2	280	NL	NL	NL	570	NEPM 2013 - Table 1(A) 3 HSLs
CLAY						
Toluene	480	NL	NL	NL	630	NEPM 2013 - Table 1(A) 3 HSLs
Ethylbenzene	NL	NL	NL	NL	68	NEPM 2013 - Table 1(A) 3 HSLs
Xylenes	110	310	NL	NL	330	NEPM 2013 - Table 1(A) 3 HSLs
Naphthalene	5	NL	NL	NL	10	NEPM 2013 - Table 1(A) 3 HSLs
Benzene	0.7	1	2	3	430	NEPM 2013 - Table 1(A) 3 HSLs
F1	50	90	150	290	850	NEPM 2013 - Table 1(A) 3 HSLs
F2	280	NL	NL	NL	560	NEPM 2013 - Table 1(A) 3 HSLs

Note - All values are in mg/kg

13.1.3 (EILs) and (ESLs)

Ecological Investigation Levels (EILs) -

The NEPM 2013 states that "Ecological investigation levels" (EILs) for the protection of terrestrial ecosystems have been derived for common contaminants in soil based on a

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species sensitivity distribution (SSD) model developed for Australian conditions. EILs have been derived for As, Cu, CrIII, DDT, naphthalene, Ni, Pb and Zn

Insufficient data was available to derive ACLs for arsenic (As), DDT, lead (Pb) and naphthalene. As a result, the derived EILs are generic to all soils and are presented as total soil contaminant concentrations in Tables 1B (4) and 1B (5) within the NEPM 2013.

For the purposes of EIL derivation, a contaminant incorporated in soil for at least two years is considered to be aged for the purpose of EIL derivation. The majority of contaminated sites are likely to be affected by aged contamination. Fresh contamination is usually associated with current industrial activity and chemical spills.

The following process describes the method for calculation of site specific EILs.

A. EILs for Ni, Cr III, Cu, Zn and Pb aged contamination (>2 years)

Steps 1–4 below describe the process for deriving site-specific EILs for the above elements using Tables 1B (1) – 1B (4), which can be found at the end of the NEPM 2013.

1. Measure or analyse the soil properties relevant to the potential contaminant of concern (pH, CEC, organic carbon, clay content). Sufficient samples need to be taken for these determinations to obtain representative values for each soil type in which the contaminant occurs.

2. Establish the sample ACL for the appropriate land use and with consideration of the soil-specific pH, clay content or CEC. The ACL for Cu may be determined by pH or CEC and the lower of the determined values should be selected for EIL calculation. Note that the ACL for Pb is taken directly from Table 1(B) 4.

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3. Calculate the contaminant ABC in soil for the particular contaminant and location from a suitable reference site measurement or other appropriate method.

4. Calculate the EIL by summing the ACL and ABC:

$$EIL = ABC + ACL$$

B. EILs for As, DDT and naphthalene

EILs for aged contamination for DDT and naphthalene are not available and the adopted EIL is based on fresh contamination taken directly from Table 1B (5). The EILs for As, DDT and naphthalene are generic i.e. they are not dependent on soil type and are taken directly from Table 1B (5). Only EILs for fresh contamination are available for As, DDT and naphthalene due to the absence of suitable data for aged contaminants.

Ecological Screening Levels (ESLs) -

Ecological screening levels (ESLs) are presented based on a review of Canadian guidance for petroleum hydrocarbons in soil and application of the Australian methodology (Schedule B5b) to derive Tier 1 ESLs for BTEX, benzo(a)pyrene and F1 and F2 (Warne 2010a, 2010b)

The Canadian Council of the Ministers of the Environment (CCME) has adopted risk-based TPH standards for human health and ecological aspects for various land uses in the *Canada-wide standard for petroleum hydrocarbons (PHC) in soil* (CCME 2008) (CWS PHC). The standards established soil values including ecologically based criteria for sites affected by TPH contamination for coarse- and fine-grained soil types.

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Table 26: Ecological Investigation Levels (EIL) and Ecological Screening Levels (ESL) Criteria

FOUNDATION EARTH SCIENCES	Contaminant Age/Soil Texture	National parks and areas of high conservation value	Urban residential and open public spaces	Commercial and industrial	Reference
Ecological Investigation Levels (EILs)					
Heavy Metals					
Arsenic	**Fresh**	20	50	80	NEPM 2013 - Table 1(B) 1-5 EILs
	Aged	40	100	160	NEPM 2013 - Table 1(B) 1-5 EILs
Chromium (III)	**Fresh**	Site Specific Calculation Required			NEPM 2013 - Table 1(B) 1-5 EILs
	Aged				NEPM 2013 - Table 1(B) 1-5 EILs
Copper	**Fresh**	Site Specific Calculation Required			NEPM 2013 - Table 1(B) 1-5 EILs
	Aged				NEPM 2013 - Table 1(B) 1-5 EILs
Lead	**Fresh**	110	270	440	NEPM 2013 - Table 1(B) 1-5 EILs
	Aged	470	1100	1800	NEPM 2013 - Table 1(B) 1-5 EILs
Nickel	**Fresh**	Site Specific Calculation Required			NEPM 2013 - Table 1(B) 1-5 EILs
	Aged				NEPM 2013 - Table 1(B) 1-5 EILs
Zinc	**Fresh**	Site Specific Calculation Required			NEPM 2013 - Table 1(B) 1-5 EILs
	Aged				NEPM 2013 - Table 1(B) 1-5 EILs
Polycyclic Aromatic Hydrocarbons (PAHs)					
Naphthalene	**Fresh**	10	170	370	NEPM 2013 - Table 1(B) 1-5 EILs
	Aged	10	170	370	NEPM 2013 - Table 1(B) 1-5 EILs
Organochlorine Pesticides					
Ecological Screening Levels (ESLs) and Management Limits					
F1 (C_6-C_{10})	**Coarse**				NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	125*	180*	215*	NEPM 2013 - Table 1(B) 6-7 EILs
F1 (C_6-C_{10})	**Coarse**		700	700	NEPM 2013 - Table 1(B) 6-7 EILs
(Management Limits)	**Fine**	-	800	800	NEPM 2013 - Table 1(B) 6-7 EILs
F2 (>C_{10}-C_{16})	**Coarse**				NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	25*	120*	170*	NEPM 2013 - Table 1(B) 6-7 EILs
F2 (>C_{10}-C_{16})	**Coarse**		1000	1000	NEPM 2013 - Table 1(B) 6-7 EILs
(Management Limits)	**Fine**	-	1000	1000	NEPM 2013 - Table 1(B) 6-7 EILs
F3 (>C_{16}-C_{34})	**Coarse**	-	300	1700	NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	-	1300	2500	NEPM 2013 - Table 1(B) 6-7 EILs
F3 (>C_{16}-C_{34})	**Coarse**		2500	3500	NEPM 2013 - Table 1(B) 6-7 EILs
(Management Limits)	**Fine**	-	3500	5000	NEPM 2013 - Table 1(B) 6-7 EILs
F4 (>C_{34}-C_{40})	**Coarse**	-	2800	3300	NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	-	5600	6600	NEPM 2013 - Table 1(B) 6-7 EILs
F4 (>C_{34}-C_{40})	**Coarse**		10000	10000	NEPM 2013 - Table 1(B) 6-7 EILs
(Management Limits)	**Fine**	-	10000	10000	NEPM 2013 - Table 1(B) 6-7 EILs
Benzene	**Coarse**	10	50	75	NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	10	65	95	NEPM 2013 - Table 1(B) 6-7 EILs
Toluene	**Coarse**	10	85	135	NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	65	105	135	NEPM 2013 - Table 1(B) 6-7 EILs
Ethylbenzene	**Coarse**	1.5	70	165	NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	40	125	185	NEPM 2013 - Table 1(B) 6-7 EILs
Xylenes	**Coarse**	10	105	180	NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	1.6	45	95	NEPM 2013 - Table 1(B) 6-7 EILs
Benzo(a)pyrene	**Coarse**	0.7	0.7	1.4	NEPM 2013 - Table 1(B) 6-7 EILs
	Fine	0.7	0.7	1.4	NEPM 2013 - Table 1(B) 6-7 EILs

Notes

1 Urban residential/public open space is broadly equivalent to the HIL-A, HIL-B and HIL-C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.

2 Aged values are applicable to arsenic contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.

3 Insufficient data was available to calculate aged values for DDT and naphthalene, consequently the values for fresh contamination should be used.

4 Insufficient data was available to calculate ACLs for As, DDT and naphthalene. The EIL should be taken directly from Table 1B(5).

5 ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability.

6 '-' indicates that insufficient data was available to derive a value.

7 To obtain F1, subtract the sum of BTEX concentrations from C6-C10 fraction and subtract naphthalene from >C10-C16 to obtain F2.

8 Management limits are applied after consideration of relevant ESLs and HSLs

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

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13.2 Asbestos

Health screening for asbestos in soil, which are based on scenario-specific likely exposure levels, are adopted from the WA DoH guidelines and are referred in Table 7 in Schedule B1. The following health screening levels for asbestos can be seen below:

Table 27: Health Screening Levels for Asbestos

	Health Screening Levels (w/w)			
Form of Asbestos	Residential A	**Residential B**	**Recreational C**	Commercial/Industrial D
Bonded ACM	0.01%	**0.04%**	**0.02%**	0.05%
FA and AF (Friable Asbestos)	**0.001%**			
All forms of asbestos	**No visible asbestos for surface soil**			

13.3 Aesthetic Considerations

Schedule B1 in NEPC (2013) requires the consideration of aesthetic issues arising from soils and groundwater within the site. The following assessment criteria were adopted when considering aesthetics:

- no persistently malodourous soils or extracted groundwater;
- no persistent hydrocarbon sheen on surface water;
- no staining or discolouration in soils, taking into consideration the natural state of the soil; and
- no large or frequently occurring anthropogenic materials present (to the extent practicable).

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13.4 Groundwater

The NSW DECC has endorsed the use of the Groundwater Investigation Levels (GILs) given in the 1999 NEPM '*Schedule B (1) Guideline on the Investigation Levels for Soil and Groundwater*' (Amendment 2013) and the water quality trigger levels given in the ANZG (2018). These Guidelines provide criteria for:

- Aquatic ecosystems – both marine and fresh waters

The NEPM advises that 'when assessing groundwater contamination, the GILs are to be applied at the point of extraction and as response levels at the point of use, or where there is a likelihood of an adverse environmental effect at the point of discharge'.

For assessing groundwater quality, it is first necessary to assess the potential uses of groundwater downgradient of the site being assessed.

Potential uses of groundwater downgradient of the site include:

- Discharge to water bodies sustaining aquatic ecosystems particularly Fresh Water.
- Extraction of groundwater by local users.

The threshold concentrations presented in the ANZG (2018) are considered applicable for the protection of aquatic ecosystems of the receiving waters. As these guidelines apply to receiving waters, it is generally conservative to apply these to groundwater discharging to receiving waters. It is important to note that these are not threshold values at which an environmental problem is likely to occur if exceeded, rather, if the trigger values are exceeded, then further action is required which may include either further site-specific

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investigations to assess whether there is an actual problem or management / remedial action should be undertaken.

It is considered that ***Fresh water trigger*** values are applicable for investigating chemical concentrations in groundwater at the site. The nearest watercourse is Castle Hill Creek located 570m north of the site. It is understood that the NSW EPA policy is that the trigger values for the protection of 95% of aquatic ecosystems should be used as groundwater assessment criteria when considering moderately or highly disturbed receiving environments. The receiving waters for groundwater at the site are moderately disturbed ecosystems and the ANZG (2018) 95% protection values are therefore considered appropriate groundwater assessment criteria for the site.

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14.0 SOIL RESULTS

The laboratory certificates are presented in **Appendix H** – NATA Accredited Laboratory Certificates. A summary of the results together with the assessment criteria adopted are provided in **Appendix K** – Summary Tables.

14.1 HEAVY METALS

14.1.1 Heath Investigation Levels

As indicated in Table K1 many of the heavy metals were below the respective LOR and/or the Health Investigation Level (HIL) for a residential and recreational development, that being the HIL 'B' & 'C', apart from the following location:

- BH11 (0.1-0.2m) had a concentration of 960mg/kg of lead, which exceeds the HIL C criteria of 600mg/kg.

14.1.2 Ecological Investigation Levels

The EILs for Copper, Zinc, Lead, Nickel and Chromium III were derived by adding the Ambient Background Concentration (ABC) to the Added Contaminant Limits (ACL), as per the following formula:

EIL = ABC + ACL

The ABC for the site has been determined by recovering a sample from an appropriate reference point, that being:

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- BH1 (0.0-0.1m)
- BH1 (0.3-0.4m)

The soil samples collected from BH1 were analysed for pH, CEC & %CLAY to provide the background parameters for the soil on the site.

As shown in Tables K1 all of the locations were below the site derived EILs for an urban residential and public open space development.

14.2 TRH, BTEX, NAPHTHALENE &/OR BENZO (A) PYRENE

14.2.1 Heath Screening Levels & Management Limits

As indicated in Tables K1, the F1 (C_6-C_{10}), F2 (>C_{10}-C_{16}), benzene, toluene, ethyl benzene, xylenes and naphthalene concentrations were below the HSL ' A & B' for a Clay soil profile with a source depth of "0m to <1m" & "1m to <2m".

As shown in Tables K1, the F1 (C_6-C_{10}), F2 (>C_{10}-C_{16}), F3 (C_{16}-C_{34}), F4 (C_{34}-C_{40}), concentrations were below the Management Limits for fine-grained soil in an urban residential and public open space development.

14.2.2 Ecological Screening Levels

As indicated in Tables K1, the F1 (C_6-C_{10}), F2 (>C_{10}-C_{16}), F3 (C_{16}-C_{34}), F4 (C_{34}-C_{40}), benzene, toluene, ethyl benzene, xylenes and benzo(a)pyrene concentrations were below the ESLs for fine soil in a residential development apart from the following:

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- A concentration of 1.1mg/kg of Benzo(a)pyrene) in location BH10 (0.1-0.2m BGL) exceeds the ESL criteria of 0.7 (mg/kg).

As shown in Table K1, the 95% UCL of the mean concentrations of BAP from the fill soil material was lower than the ESL criteria, and no single concentration exceeded the ESL criteria by more than 250%. As such, the data set satisfies the criteria for BAP contamination and therefore is not likely to be an issue within the site – within the fill soil material.

14.3 PAH, OCP & PCB

14.3.1 Heath Investigation Levels

As indicated in Tables K1, the concentrations of the benzo(a)pyrene (as TEQ), PAH, OCP & PCB were below the Health Investigation Level (HIL) for a residential & recreational development, that being the HIL 'B & C' and/or the limit of reporting (LOR).

14.3.2 EILs & ESLs

As indicated in Tables K1, the concentrations of arsenic, naphthalene and DDT were below the EILs & ESLs for a residential, parkland and public open space development.

14.4 Asbestos

As shown in Table K1, asbestos was not detected within the soil samples.

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15.0 GROUNDWATER RESULTS

The laboratory certificates are presented in **Appendix H** – NATA Accredited Laboratory Certificates. A summary of the results together with the assessment criteria adopted are provided in **Appendix K** – Summary Tables.

15.1 HEAVY METALS – SPECIATION

As indicated in Table K2, Zinc was detected at concentrations marginally exceeding the respective groundwater investigation levels for freshwater aquatic ecosystems in GW1.

As indicated in Table K2, arsenic, copper, Nickel & Zinc was detected at concentrations marginally exceeding the respective groundwater investigation levels for freshwater aquatic ecosystems in GW2.

As indicated in Table K2, arsenic, chromium, copper, Nickel & Zinc was detected at concentrations marginally exceeding the respective groundwater investigation levels for freshwater aquatic ecosystems in GW3.

Arsenic was speciated in the monitoring wells GW2 & GW3 with results well below the adopted site criteria for Arsenic 3 & 5.

The remaining metals concentrations were either below the laboratory limits of reporting (LOR) or their respective assessment criteria.

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15.2 TRH & BTEXN

As shown in Table K2, the BTEXN & TRH concentrations were either less than the laboratory limit of reporting (LOR) and/or below the assessment criteria during the sampling period.

15.3 PAH

As shown in Table K2, the PAH concentrations were either less than the laboratory limit of reporting (LOR) and/or below the assessment criteria during the sampling period.

15.4 VOC

As shown in Table K3, the VOC concentrations were either less than the laboratory limit of reporting (LOR) and/or below the assessment criteria during the sampling period.

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16.0 PRELIMINARY SOIL CLASSIFICATION

A preliminary soil classification on the sampling completed during the DSI has been completed by FES. This preliminary soil classification refers to TEN (10) in-situ FILL borehole locations from the FES DSI (2025), designated as BH1 and BH3 to BH11.

With reference to a site walkover, the attached site plans, following the laboratory analysis and with reference to NSW EPA guidelines, the in-situ fill materials found within the site have been classified as follows:

- *Soil fill material located within the borehole locations BH1, BH3, BH4, BH5, BH6, BH7, BH8 & BH9 are classified as* ***General Solid Waste (non-putrescible).***
- *Soil fill material located within the borehole location BH10 & BH11 are classified as* ***Hazardous Waste.***
- Additional soil sampling and TCLP analysis is recommended to be completed to further characterise the preliminary waste classification at the time of bulk removal works.

As a result of these classifications the material can be disposed of to an appropriately licensed landfill facility that can accept these materials.

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17.0 DISCUSSION

17.1 SOILS AND GROUNDWATER

The soil results indicated the following:

- Borehole locations BH11 is located outside the basement and in a deep soil area and therefore will require remediation. Refer to Figure 3.
- No identified asbestos was detected in the soil samples analysed. No fibro cement fragments were observed in the fill material located within the borehole and/or on the surface of the site at the time of the site inspection.

The following lines of evidence support the low-risk groundwater conclusions in relation to site suitability:

- The minor elevated heavy metals are related to offsite regional contaminant concentrations and/or background levels & therefore of limited concern in relation to the GIL. The levels detected are consistent with modern urban developed areas.
    - Arsenic was also speciated in GW2 & GW3 as total results were above the freshwater criteria. The speciated values were well below the adopted site criteria for Arsenic 3 & 5.
- The site is not located in a catchment with contains the water quality objectives of drinking water (i.e., beneficial use) and therefore drinking water guidelines were not applied.

Reference should be made to **Figure 2 & 3** for a copy of the site plans.

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17.2 DATA GAPS

As part of the remediation works and post demolition of the existing site structures additional locations are recommended to be completed targeting the building footprints.

17.3 DUTY TO REPORT

Under Section 60 of the Contaminated Land Management Act 1997, the owner of the land is required to notify contamination in circumstances as indicated in the NSW EPA (2015) *Guidelines on Duty to Report Contamination under the Contaminated Land Management Act 1997*.

Sites that are significantly impacted by soil, groundwater and ground gases are likely to require notification to the NSW EPA under section 60 of the CLM Act. A decision process for use by site owners or responsible persons considering reporting contamination under section 60 is provided in Appendix 1 (Figure 1) of the aforementioned guidelines.

No notification to NSW EPA is recommended based on the sampling and investigation to date.

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18.0 CONCLUSION AND MITIGATION MEASURES

Based on the historical review, environmental information, proposed development and laboratory results of the investigation, the site can be made ***suitable*** for the proposed development, subject to the following recommendations and mitigation measures:

- It is considered that the site would be deemed suitable for the proposed development subject to the implementation of a Remediation Action Plan (RAP) to manage the abovementioned environmental concerns and data gaps.
- Any soil requiring removal from the site, as part of future site works, should be classified in accordance with the "Waste Classification Guidelines, Part 1: Classifying Waste" NSW EPA (2014).

Thank you for the opportunity of undertaking this work. We would be pleased to provide further information on any aspects of this report.

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19.0 LIMITATIONS

To the best of our knowledge information contained in this report is accurate at the date of issue, however, subsurface conditions, including groundwater levels and contaminant concentrations, can change in a limited time. This should be borne in mind if the report is used after a protracted delay.

There is always some disparity in subsurface conditions across a site that cannot be fully defined by investigation. Hence it is unlikely that measurements and values obtained from sampling and testing during environmental works carried out at a site will characterise the extremes of conditions that exist within the site.

There is no investigation that is thorough enough to preclude the presence of material that presently or in the future, may be considered hazardous at the site. Since regulatory criteria are constantly changing, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that require remediation.

Opinions expressed herein are judgements and are based on our understanding and interpretation of current regulatory standards and should not be construed as legal opinions.

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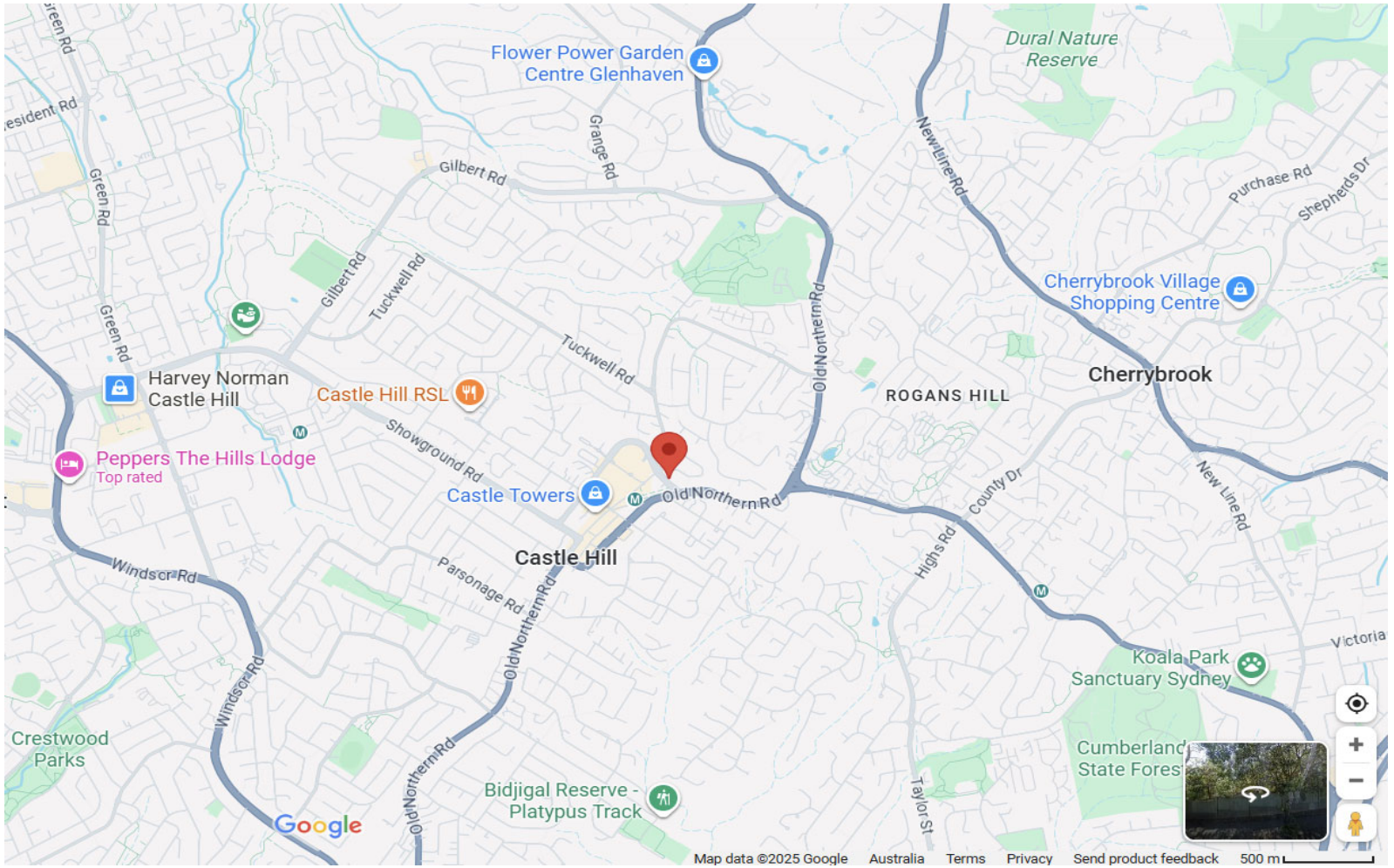
REFERENCES

- ANZG (2018) "Australian and New Zealand Guidelines for Fresh and Marine Water Quality", Australian and New Zealand Governments and Australian State and Territory Governments, Canberra ACT.
- Foundation Earth Science (2024), "Preliminary Site investigation" for 16-20 Old Castle Hill Road, Castle Hill NSW, ref E3391, dated September 2025.
- National Environmental Protection Council (NEPC) (1999) – *National Environmental Protection (Assessment of Site Contamination) Measure. Amendment 2013*
- National Health and Medical Research Council (NHMRC) & National Resource Management Ministerial Council (NRMMC) "National Water Quality Management Strategy, Australian Drinking Water Guidelines" (2011)
- NSW EPA (2014) "*Technical Note: Investigation of Service Station Sites*".
- NSW EPA (2020), "Consultants Reporting on Contaminated Land". NSW Environment Protection Authority, Parramatta
- NSW DEC "Guidelines for the NSW Site Auditor Scheme" (2017, 3rd edition). NSW Environment Protection Authority, Sydney.
- NSW EPA (2014) – "Waste Classification Guidelines, Part 1: Classifying Waste";
- NSW EPA (2015) "Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997";
- NSW EPA "Sampling Design Guidelines" (2022) Part 1 and Part2. NSW Environment Protection Authority, Sydney.

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FIGURE 1: SITE LOCATION

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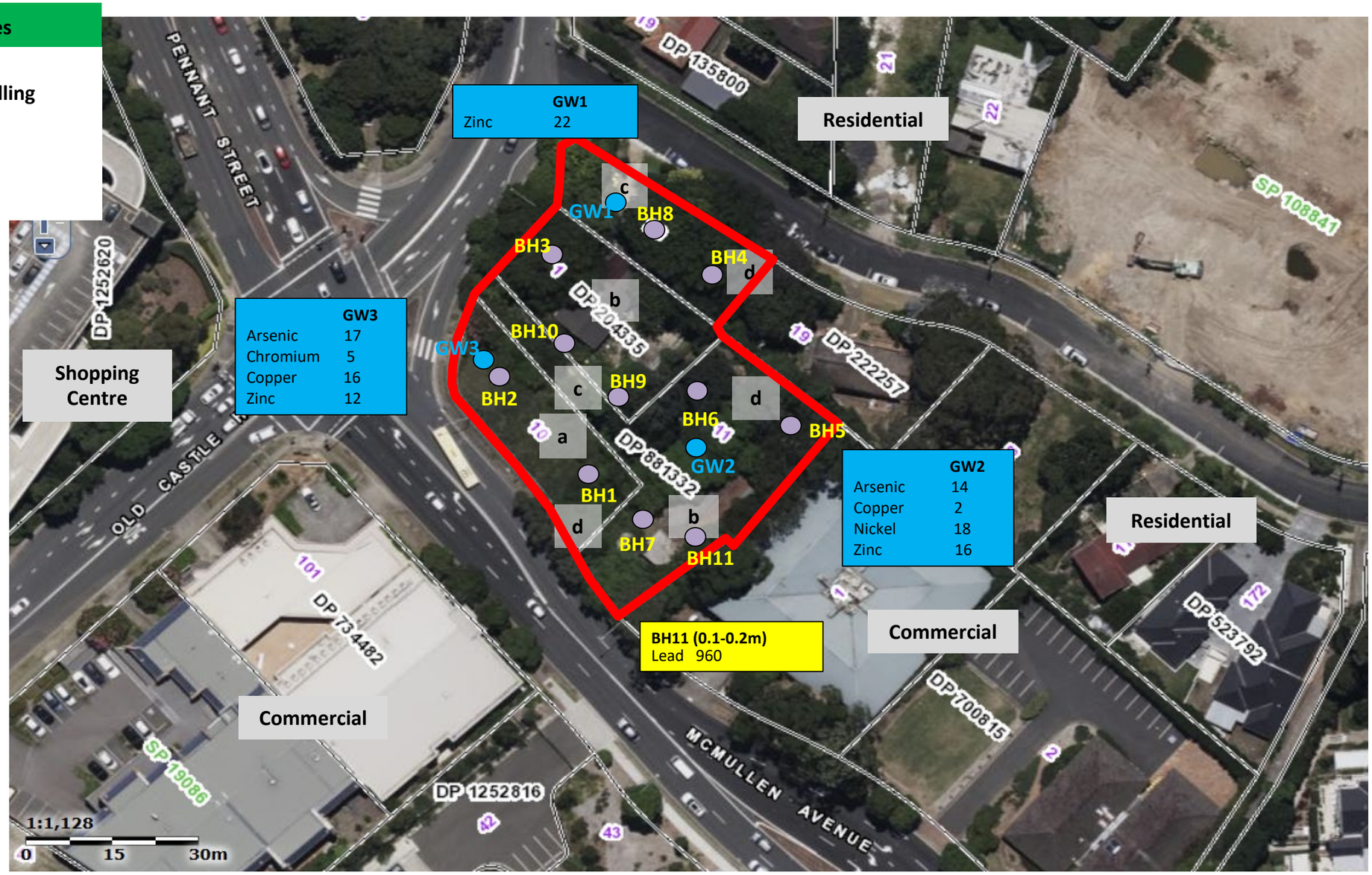
Key Site Location	FOUNDATION EARTH SCIENCES	**DRAWN** MT	**Site Locality**
		Figure 1	UPG Castle Corner Pty Ltd
		E3391-2	16-20 Old Castle Hill Road, Castle Hill NSW

FIGURE 2: SITE FEATURES AND BOREHOLE LOCATION PLAN

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Site Featues

a - Vacant Lot
b - Residential Dwelling
c - Driveway
d - Vegetation



Soil Exceedence - mg/kg

Groundwater Exceedence ug/L

N

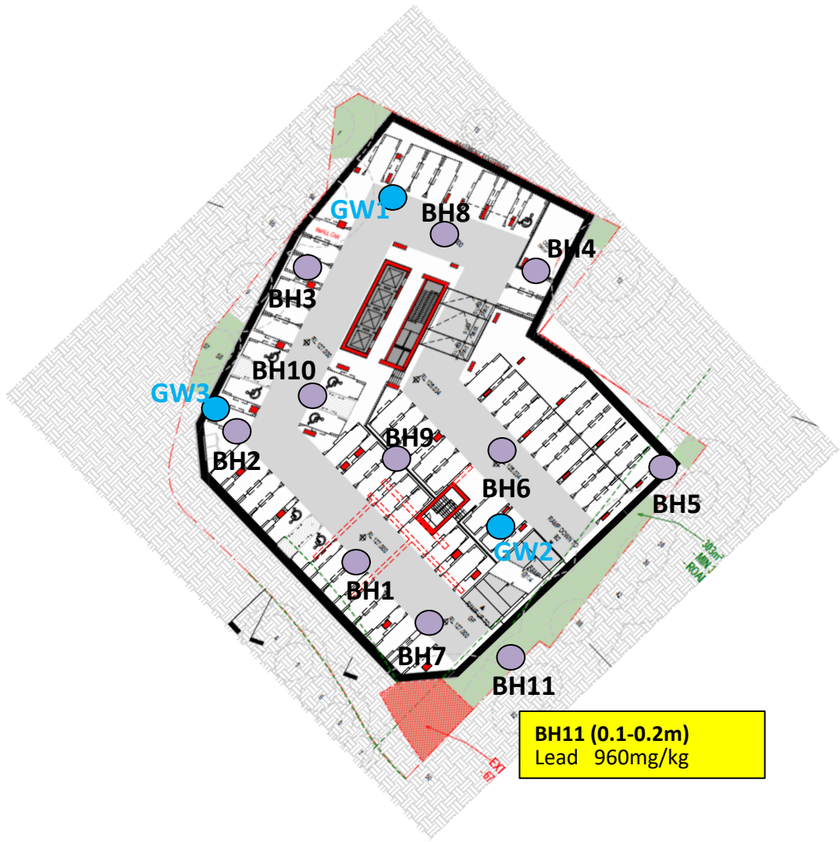
Key Site Boundary & Location FES DSI BH's Douglas Partners Monitoring Bores	FOUNDATION EARTH SCIENCES	**DRAWN** MT	**Site Features and Borehole Location Plan**
		Figure 1	UPG Castle Corner Pty Ltd
		E3391-2	16-20 Old Castle Hill Road, Castle Hill NSW

FIGURE 3: BOREHOLES LOCATIONS OVER BASEMENT PLANS

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N

Soil Exceedence



Key

Site Boundary & Location

FES DSI BH's

Douglas Partners Monitoring Bores

FOUNDATION EARTH SCIENCES

DRAWN MT	**Borehole Locations over Basement Plan**
Figure 1	UPG Castle Corner Pty Ltd
E3391-3	16-20 Old Castle Hill Road, Castle Hill NSW

APPENDIX A: BYDA PLANS

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Job ID 51086825

20 Old Castle Hill Road

Review responses online



Received 12 of 12 responses

All responses received

20 Old Castle Hill Road, Castle Hill NSW 2154

Job dates
03/09/2025 → 06/09/2025

These plans expire on
1 Oct 2025

Lodged by
Megan Trethewy

Authority	Status	Page
BYDA Confirmation		2
Endeavour Energy	Received	4
Jemena Gas North	Received	11
Metro Trains Sydney Pty Ltd	Received	17
NBN Co NswAct	Received	31
Nextgen NCC - NSW	Received	42
Optus and or Uecomm Nsw	Received	49
Sydney Metro	Received	63
Sydney Water	Received	100
Telstra NSW Central	Received	108
The Hills Shire Council	Received	117
TPG Telecom (NSW)	Received	120
Transport for NSW	Received	125

Contact Details

Contact	Contact number	Company	Enquirer ID
Megan Trethewy	0409 620 828	Foundation Earth Sciences	3102600

Email
megan@foundationes.com.au

Address
Unit 119 14 Loyalty Road
North Rocks NSW 2151

Job Site and Enquiry Details

WARNING: The map below only displays the location of the proposed job site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

Enquiry date	Start date	End date	On behalf of	Job purpose	Locations	Onsite activities
03/09/2025	03/09/2025	06/09/2025	Private	Excavation	Private	Vertical Boring



Check that the location of the job site is correct. If not, you must submit a new enquiry.

If the scope of works change or plan validity dates expire, you must submit a new enquiry.

Do NOT dig without plans. Safe excavation is your responsibility. If you don't understand the plans or how to proceed safely, please contact the relevant asset owners.

User Reference	Address	Notes/description
20 Old Castle Hill Road	20 Old Castle Hill Road Castle Hill NSW 2154	-

Your Responsibility and Duty of Care

- **Lodging an enquiry does not authorise project commencement.** Before starting work, you must obtain all necessary information from all affected asset owners.
- If you don't receive plans within 2 business days, contact the asset owner & quote their sequence number.
- Always follow the 5Ps of Safe Excavation (page 2), and locate assets before commencing work.
- Ensure you comply with State legislative requirements for Duty of Care and safe digging.
- If you damage an underground asset, you MUST advise the asset owner immediately.
- By using the BYDA service, you agree to the Privacy Policy and Term of Use.
- For more information on safe digging practices, visit www.byda.com.au

Asset Owner Details

Below is a list of asset owners with underground infrastructure in and around your job site. It is your responsibility to identify the presence of these assets. Plans issued by Members are indicative only unless specified otherwise. Note: not all asset owners are registered with BYDA. You must contact asset owners not listed here directly.

Referral ID (Seq. no)	Authority Name	Phone	Status
260593757	Endeavour Energy	(02) 9853 4161	NOTIFIED
260593751	Jemena Gas North	1300 880 906	NOTIFIED
260593755	Metro Trains Sydney Pty Ltd	0437 574 675	NOTIFIED
260593746	NBN Co NswAct	1800 687 626	NOTIFIED
260593750	Nextgen NCC - NSW	1800 262 663	NOTIFIED
260593752	Optus and or Uecomm Nsw	1800 505 777	NOTIFIED
260593747	Sydney Metro	(02) 8265 9400	NOTIFIED
260593754	Sydney Water	13 20 92	NOTIFIED
260593753	Telstra NSW Central	1800 653 935	NOTIFIED
260593749	The Hills Shire Council	(02) 9843 0555	NOTIFIED
260593756	TPG Telecom (NSW)	1800 786 306	NOTIFIED
260593748	Transport for NSW	(02) 9983 3030	NOTIFIED

END OF UTILITIES LIST

APPENDIX B: NSW EPA RECORDS

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Search results

Your search for: Suburb: CASTLE HILL

Search Again Refine Search

did not find any records in our database.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

More information about particular sites may be available from:

- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

CASINO	Casino Roadhouse	86 Johnston STREET	Service Station	contamination formerly regulated under the CLM Act	-28.85960698	153.0562429
CASINO	Casino Roundhouse	5A Bent STREET	Other Industry	Under assessment	-28.853905	153.044083
CASULA	Caltex Casula Service Station	646 Hume HIGHWAY	Service Station	Regulation under CLM Act not required	-33.95641262	150.8934783
CATHERINE HILL BAY	Catherine Hill Bay Coal Handling and Preparation Plant	1A Keene STREET	Other Industry	Regulation under CLM Act not required	-33.16120556	151.6302456
CESSNOCK	Caltex Cessnock Service Station	103-105 Wollombi (Cnr James Street) ROAD	Service Station	Regulation under CLM Act not required	-32.83936243	151.3430078
CESSNOCK	Former Mobil Service Station	102 Wollombi ROAD	Service Station	Regulation under CLM Act not required	-32.83844074	151.3436022
CESSNOCK	Former Service Station	2-4 Allandale ROAD	Service Station	Regulation under CLM Act not required	-32.83118911	151.3560677
CESSNOCK	Lot 340 DP 755215	Old Maitland ROAD	Gasworks	Regulation under CLM Act not required	-32.822025	151.379859
CESSNOCK	Cessnock Former Landfill	Quarry St and Maitland Sts STREET	Landfill	Under assessment	-32.822275	151.379365
CHARBON	Charbon Colliery	Clarence ROAD	Other Industry	Regulation under CLM Act not required	-32.92390131	149.9839098

The NSW Government PFAS Investigation Program

View a map of the sites in NSW that may be contaminated with PFAS, learn how to reduce your exposure to these chemicals, and read about our investigation of the issue.

The EPA is leading an investigation program to assess the legacy of PFAS use across NSW. With the assistance of the NSW PFAS Technical Advisory Group, which includes NSW Health, Department of Primary Industries and the Office of Environment and Heritage, we provide impacted residents with tailored, precautionary dietary advice to help them reduce any exposure to PFAS.

Current investigations are focused on sites where it is likely that large quantities of PFAS have been used. The EPA is currently investigating PFAS at these sites:

Search by Postcode

2154

Organisation

Select filter

Search

Your search for: **General Search** with the following criteria

Suburb - Castle Hill

returned 58 results

Export to excel

Search Again

Number	Name	Location	Type	Status	Issued date
1521774	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	09 May 2014
1522873	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	20 Jun 2014
1523337	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	14 Jul 2014
1523570	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	21 Jul 2014
1525214	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	30 Sep 2014
1525680	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	17 Oct 2014
1526354	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	17 Nov 2014
1529472	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	27 Mar 2015
1530676	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	15 May 2015
1531229	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	10 Jun 2015
1531910	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	06 Jul 2015
1532871	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	13 Aug 2015
1533757	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	07 Sep 2015
1534633	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	16 Oct 2015
1535892	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	23 Nov 2015
1541770	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.80 Surrender of a Licence	Issued	12 Jul 2016
11782	WALTER SCHELLANDER	40/5 ANELLA AVENUE, CASTLE HILL, NSW 2154	POEO licence	No longer in force	04 Nov 2002
1048341	WALTER SCHELLANDER	40/5 ANELLA AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	31 May 2005

Your search for: **General Search** with the following criteria

Suburb - Castle Hill
returned 58 results

Export to excel

2 of 3 Pages

Search Again

Number	Name	Location	Type	Status	Issued date
1044239	PARKER HANNIFIN (AUSTRALIA) PTY. LIMITED	9 CARRINGTON ROAD, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	06 Feb 2005
1073465	PARKER HANNIFIN (AUSTRALIA) PTY. LIMITED	9 CARRINGTON ROAD, CASTLE HILL, NSW 2154	s.80 Surrender of a Licence	Issued	23 May 2007
12202	SIGMA-ALDRICH PTY. LIMITED	12 ANELLA AVENUE, CASTLE HILL, NSW 1765	POEO licence	Surrendered	23 Nov 2004
1074288	SIGMA-ALDRICH PTY. LIMITED	12 ANELLA AVENUE, CASTLE HILL, NSW 1765	s.58 Licence Variation	Issued	06 Nov 2007
1121925	SIGMA-ALDRICH PTY. LIMITED	12 ANELLA AVENUE, CASTLE HILL, NSW 1765	s.80 Surrender of a Licence	Issued	03 Dec 2010
6701	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	POEO licence	Issued	19 May 2000
1046359	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	11 Apr 2005
1096759	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	22 Jan 2009
1097956	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	14 May 2009
1109342	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	16 Dec 2009
1529568	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	01 Jun 2015
1576491	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	11 Mar 2019
1648769	SMC CORPORATION (AUSTRALIA) PTY LTD	14-18 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	15 May 2025
20319	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	POEO licence	Surrendered	30 Sep 2013
1517520	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	11 Nov 2013
1518596	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	29 Nov 2013
1519019	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	19 Dec 2013
1519320	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	09 Jan 2014
1521159	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	31 Mar 2014
1521476	THIESS PTY LTD	Between Balmoral Road Bella Vista and Epping Railway Station, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	14 Apr 2014

Your search for: **General Search** with the following criteria

Suburb - Castle Hill
returned 58 results

Export to excel

1 of 3 Pages

Search Again

Number	Name	Location	Type	Status	Issued date
11895	CRC INDUSTRIES (AUST) PTY LIMITED	9 GLADSTONE ROAD, CASTLE HILL, NSW 2154	POEO licence	Issued	23 May 2003
1050943	CRC INDUSTRIES (AUST) PTY LIMITED	9 GLADSTONE ROAD, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	02 Sep 2005
1095155	CRC INDUSTRIES (AUST) PTY LIMITED	9 GLADSTONE ROAD, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	23 Jun 2009
1526962	CRC INDUSTRIES (AUST) PTY LIMITED	9 GLADSTONE ROAD, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	28 Apr 2015
1534373	CRC INDUSTRIES (AUST) PTY LIMITED	9 GLADSTONE ROAD, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	06 Oct 2015
6735	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	POEO licence	No longer in force	09 Aug 2000
1002798	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.91 Clean Up Notice	Issued	17 Nov 2000
1002799	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	20 Nov 2000
1002832	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.91 Clean Up Notice	Issued	20 Nov 2000
1018151	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	19 Jun 2002
1027226	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	19 May 2003
1034230	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	29 Jan 2004
1049632	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	28 Jul 2005
1051833	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	12 Sep 2005
1076458	ECOLAB PTY LTD	6 HUDSON AVENUE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	08 Nov 2007
5968	HOBSON ENGINEERING CO PTY LTD	14 VICTORIA AVE, CASTLE HILL, NSW 2154	POEO licence	No longer in force	04 Feb 2000
1044241	HOBSON ENGINEERING CO PTY LTD	14 VICTORIA AVE, CASTLE HILL, NSW 2154	s.58 Licence Variation	Issued	03 Feb 2005
2872	HOLT LLOYD AUSTRALASIA PTY LTD	15 HUDSON AVE, CASTLE HILL, NSW 2154	POEO licence	Surrendered	24 May 2000
1024463	HOLT LLOYD AUSTRALASIA PTY LTD	15 HUDSON AVE, CASTLE HILL, NSW 2154	s.80 Surrender of a Licence	Issued	24 Jan 2003
2847	PARKER HANNIFIN (AUSTRALIA) PTY. LIMITED	9 CARRINGTON ROAD, CASTLE HILL, NSW 2154	POEO licence	Surrendered	01 May 2000

APPENDIX C: SITE PHOTOGRAPHS

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SITE PHOTOGRAPHS

Client:	UPG Castle Corner Pty Ltd
Project:	DSI
Site Location:	16-20 Old Castle Hill Road, Castle Hill NSW
Job No.:	E3391-2

FOUNDATION EARTH SCIENCES

Photo 1



View of western corner of the site, within No. 16
Inspected 22.08.2025

Photo 2



View of driveway and residential dwelling within No. 20. Looking north
Inspected 22.08.2025

Photo 3



View of driveway into No. 20
Looking north
Inspected 22.08.2025

Photo 4



View of vegetation and driveway to No. 18.
Inspected 22.08.2025

Photo 5



View of garden area within No. 20
Looking north-west
Inspected 22.08.2025

Photo 6



View driveway to No. 20 & Old Castle Hill Road, looking west
Inspected 22.08.2025

Photo 7



View of residential dwelling on No. 20
Looking east
Inspected 22.08.2025

APPENDIX D: DPI (OFFICE OF WATER) DATABASE RECORDS

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WaterNSW
Work Summary

GW021982

Licence: 10BL014141
Licence Status: CONVERTED

Authorised Purpose(s): WASTE DISPOSAL
Intended Purpose(s): WASTE DISPOSAL

Work Type: Bore open thru rock
Work Status: Supply Obtained
Construct.Method: Cable Tool
Owner Type: Local Govt

Commenced Date:
Completion Date: 01/09/1964
Final Depth: 49.00 m
Drilled Depth: 49.10 m

Contractor Name: (None)
Driller:
Assistant Driller:

Property: N/A NSW
GWMA: 603
GW Zone:
Standing Water Level (m):
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	CASTLE HI	SEC 2
Licensed:	CUMBERLA	CASTLEHI	Whole Lot 8//752020

Region: 10 - Sydney South Coast
River Basin: 213 - SYDNEY COAST - GEORGES RIVER
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: (Unknown)
Northing: 6265926.000
Easting: 315382.000
Latitude: 33°43'50.3"S
Longitude: 151°00'26.2"E

GS Map: -
MGA Zone: 56
Coordinate Source: GD.,PR. MAP

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1	1	Casing	Threaded Steel	-0.30	9.10	152			Suspended in Clamps

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
7.00	7.30	0.30	Fractured	7.00					
42.90	47.70	4.80	Consolidated	33.50					

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	7.01	7.01	Clay Grey	Clay	
7.01	15.84	8.83	Shale Grey	Shale	
15.84	28.34	12.50	Shale	Shale	
28.34	39.31	10.97	Sandstone Yellow	Sandstone	
39.31	41.45	2.14	Sandstone Grey Hard	Sandstone	

41.45	47.85	6.40	Sandstone Cream Water Supply	Sandstone	
47.85	49.07	1.22	Shale	Shale	

Remarks

10/03/1981: LOT 8 SECTION 2 RSL CLUB CASTLEHILL

***** End of GW021982 *****

Warning To Clients: This raw data has been supplied to the WaterNSW by drillers, licensees and other sources. WaterNSW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

WaterNSW
Work Summary

GW107575

Licence: 10BL160930 **Licence Status:** ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Bore
Work Status:
Construct.Method:
Owner Type:

Commenced Date: **Final Depth:** 40.79 m
Completion Date: 30/10/2002 **Drilled Depth:** 40.79 m

Contractor Name: JEFFERY & KATAUSKAS PTY LTD
Driller: Yoon Fook Chin
Assistant Driller:

Property: N/A NSW,N/A 2842 Old Northern Rd CASTLE HILL 2154 NSW
GWMA:
GW Zone:
Standing Water Level (m):
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	CASTLE HI	7006 93757
Licensed:	CUMBERLA	CASTLEHI	Whole Lot 112//1180955

Region: 10 - Sydney South Coast **CMA Map:**
River Basin: - Unknown **Grid Zone:** **Scale:**
Area/District:

Elevation: 0.00 m (A.H.D.) **Northing:** 6265837.000 **Latitude:** 33°43'53.2"S
Elevation Source: Unknown **Easting:** 315436.000 **Longitude:** 151°00'28.2"E

GS Map: - **MGA Zone:** 56 **Coordinate Source:** Unknown

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	40.79	70			Unknown
1	1	Casing	P.V.C.	0.00	40.79	50			Glued
1	1	Opening	Slots - Horizontal	0.00	40.79	50		0	PVC, SL: 0.5mm

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	3.00	3.00	CLAY	Clay	
3.00	25.50	22.50	SHALE	Shale	
25.50	40.79	15.29	SANDSTONE	Sandstone	

WaterNSW
Work Summary

GW109570

Licence: 10BL163618 **Licence Status:** CANCELLED

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Bore
Work Status:
Construct.Method:
Owner Type: Private

Commenced Date:
Completion Date: 02/03/2004
Final Depth: 9.50 m
Drilled Depth: 9.50 m

Contractor Name: Macquarie Drilling
Driller: Unkown Unknown
Assistant Driller:

Property: MOBIL 307 Old Northern Rd CASTLE HILL 2154 NSW
GWMA:
GW Zone:
Standing Water Level (m): 4.300
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	CASTLE HI	18//821398
Licensed:	CUMBERLA	CASTLEHI	Whole Lot 1//1226863

Region: 10 - Sydney South Coast
River Basin: - Unknown
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6265742.000
Easting: 315384.000
Latitude: 33°43'56.3"S
Longitude: 151°00'26.1"E

GS Map: -
MGA Zone: 56
Coordinate Source: Unknown

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	9.50	0			Unknown
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded
1	1	Casing	P.V.C.	0.00	3.50	50			Screwed
1	1	Opening	Screen	3.50	9.50	50		0	PVC, Screwed, A: 4.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
7.50	9.50	2.00	Unknown	4.30					

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	CONCRETE	Conglomerate	
0.20	0.50	0.30	FILL	Fill	
0.50	1.00	0.50	CLAY,MED.BROWN	Clay	
1.00	9.50	8.50	SHALE,WEATHERED, MED.BROWN,DRY	Shale	

WaterNSW
Work Summary

GW109571

Licence: 10BL163618
Licence Status: CANCELLED

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Bore
Work Status:
Construct.Method:
Owner Type: Private

Commenced Date:
Completion Date: 02/03/2004
Final Depth: 9.50 m
Drilled Depth: 9.50 m

Contractor Name: Macquarie Drilling
Driller: Unkown Unknown
Assistant Driller:

Property: MOBIL 307 Old Northern Rd CASTLE HILL 2154 NSW
GWMA:
GW Zone:
Standing Water Level (m): 5.000
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	CASTLE HI	18//821398
Licensed:	CUMBERLA	CASTLEHI	Whole Lot 1//1226863

Region: 10 - Sydney South Coast
River Basin: - Unknown
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6265738.000
Easting: 315380.000
Latitude: 33°43'56.4"S
Longitude: 151°00'25.9"E

GS Map: -
MGA Zone: 56
Coordinate Source: Unknown

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	9.50	0			Unknown
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded
1	1	Casing	P.V.C.	0.00	3.50	50			Screwed
1	1	Opening	Screen	3.50	9.50	50		0	PVC, Screwed, A: 4.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
7.50	9.50	2.00	Unknown	5.00					

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	CONCRETE	Conglomerate	
0.20	0.50	0.30	SAND	Sand	
0.50	0.80	0.30	FILL,CLAYEY BROWN WITH GRAVEL	Fill	
0.80	2.00	1.20	CLAY MED.BROWN,STIFF	Clay Loam	

2.00	9.50	7.50	SILTY CLAY,ORANGE,GREY,BROWN,SOFT	Silty Clay	

***** End of GW109571 *****

Warning To Clients: This raw data has been supplied to the WaterNSW by drillers, licensees and other sources. WaterNSW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

WaterNSW
Work Summary

GW109572

Licence: 10BL163618 **Licence Status:** CANCELLED

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Bore
Work Status:
Construct.Method:
Owner Type: Private

Commenced Date: **Final Depth:** 11.00 m
Completion Date: 03/03/2004 **Drilled Depth:** 11.00 m

Contractor Name: Macquarie Drilling
Driller: Unkown Unknown
Assistant Driller:

Property: MOBIL 307 Old Northern Rd CASTLE HILL 2154 NSW
GWMA:
GW Zone:
Standing Water Level (m):
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	CASTLE HI	18//821398
Licensed:	CUMBERLA	CASTLEHI	Whole Lot 1//1226863

Region: 10 - Sydney South Coast **CMA Map:**
River Basin: - Unknown **Grid Zone:** **Scale:**
Area/District:

Elevation: 0.00 m (A.H.D.) **Northing:** 6265764.000 **Latitude:** 33°43'55.6"S
Elevation Source: Unknown **Easting:** 315373.000 **Longitude:** 151°00'25.7"E

GS Map: - **MGA Zone:** 56 **Coordinate Source:** Unknown

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	11.00	0			Unknown
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded
1	1	Casing	P.V.C.	0.00	5.00	50			Screwed
1	1	Opening	Screen	5.00	11.00	50		0	PVC, Screwed, A: 4.00mm

Water Bearing Zones

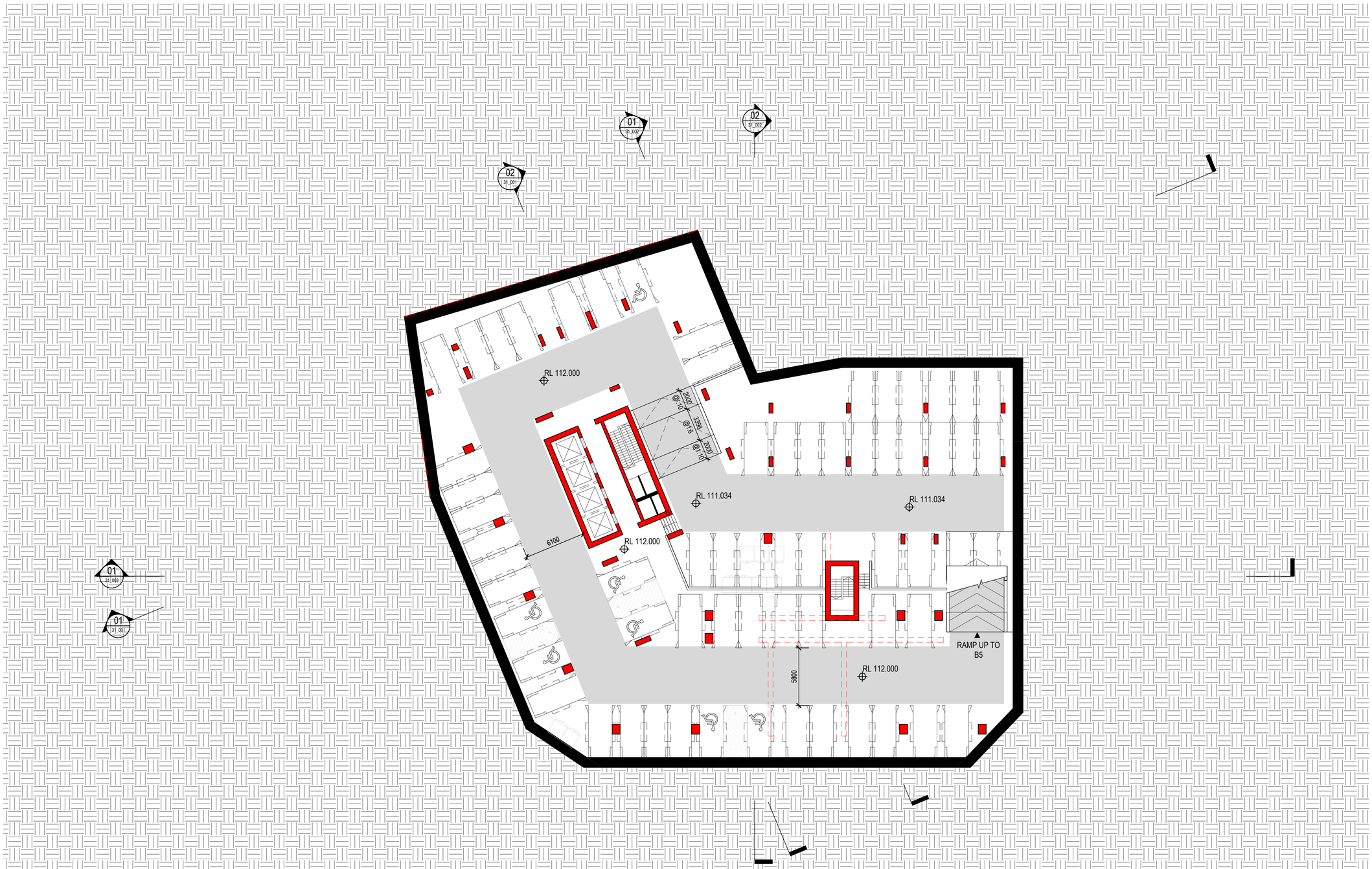
From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
10.00	11.00	1.00	Unknown						

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	CONCRETE	Conglomerate	
0.20	1.00	0.80	SILT,CLAY BROWN,LOOSE,MOIST	Silt	
1.00	2.00	1.00		Silt	
2.00	11.00	9.00	WEATHERED SHALE,BROWN,LOOSE.	Unknown	

APPENDIX E: PROPOSED DEVELOPMENT PLANS

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[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:11:48 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

PARKING SCHEDULE				
	Type			
Level	Standard	DDA	Tandem	Total
BASEMENT 1	49	7	6	62
BASEMENT 2	49	7	6	62
BASEMENT 3	49	7	6	62
BASEMENT 4	49	7	6	62
BASEMENT 5	49	7	6	62
BASEMENT 6	51	7	6	64
	296	42	36	374

DRAFT

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PRINT IN COLOUR
Suite 2.02, Level 2,155 Clarence Street, Sydney NSW 2000
www.studiosc.com.au +61 2 9957 3988

[Project] 16-20 OLD CASTLE HILL ROAD

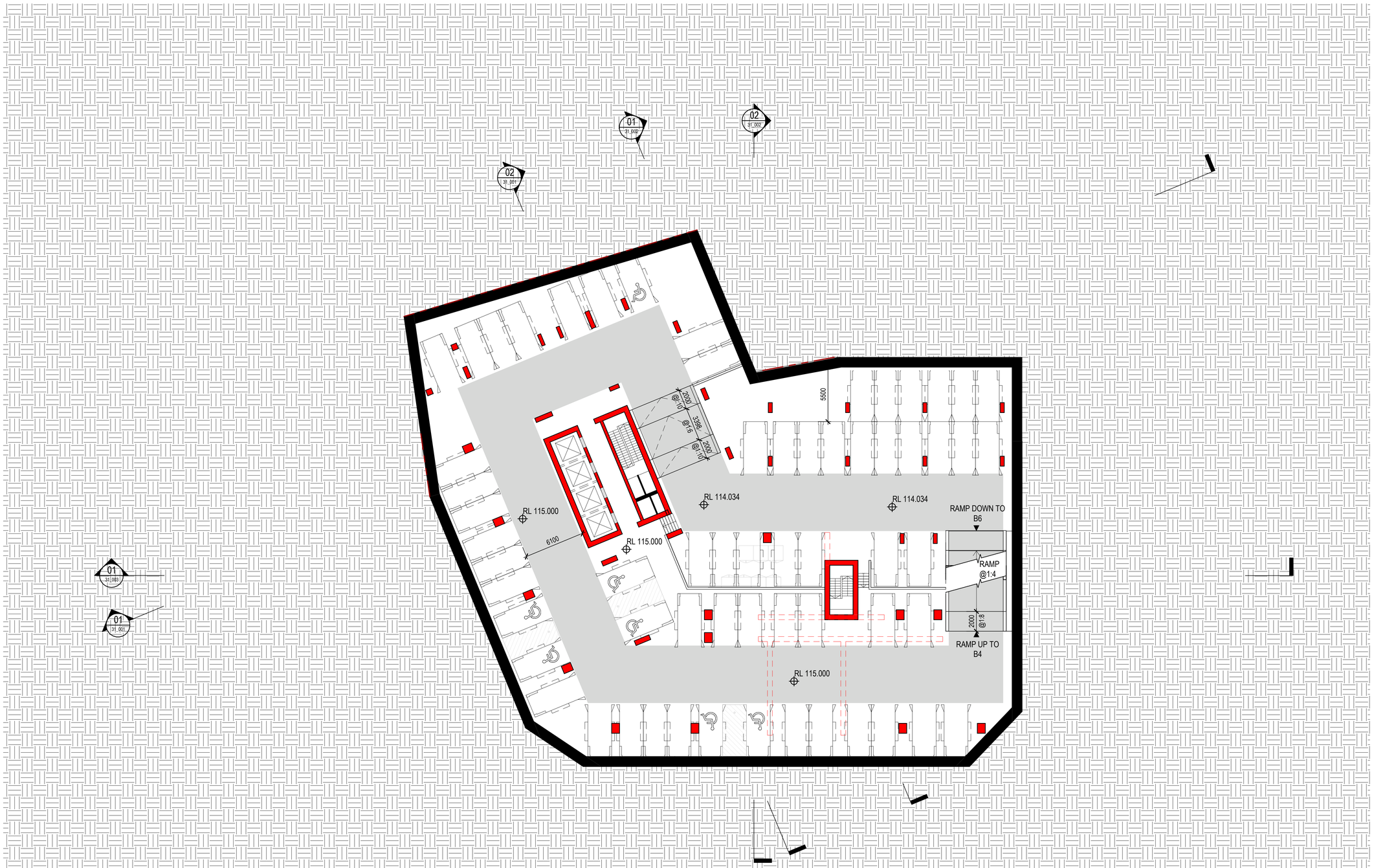
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[Scale] 1 : 200 @ A1

GA PLAN - BASEMENT LEVEL 06

[Ref] 20240027 [Dwg No] AD-DA11_093 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:11:50 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

PARKING SCHEDULE

Level	Type			
	Standard	DDA	Tandem	Total
BASEMENT 1	49	7	6	62
BASEMENT 2	49	7	6	62
BASEMENT 3	49	7	6	62
BASEMENT 4	49	7	6	62
BASEMENT 5	49	7	6	62
BASEMENT 6	51	7	6	64
	296	42	36	374

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[Project] 16-20 OLD CASTLE HILL ROAD

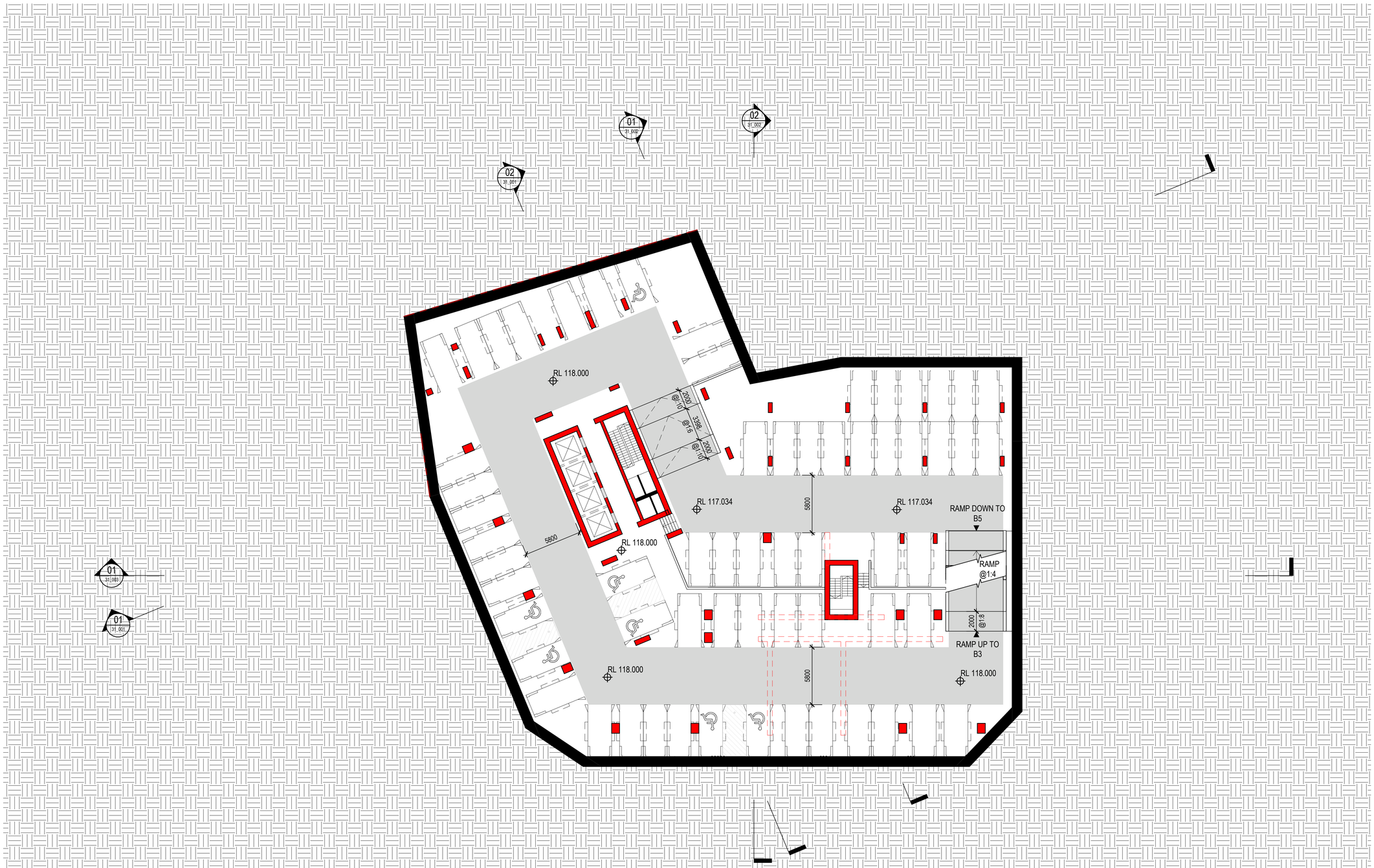
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Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - BASEMENT LEVEL 05

[Ref] 20240027 [Dwg No] AD-DA11_094 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:11:52 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

PARKING SCHEDULE				
	Type			
Level	Standard	DDA	Tandem	Total
BASEMENT 1	49	7	6	62
BASEMENT 2	49	7	6	62
BASEMENT 3	49	7	6	62
BASEMENT 4	49	7	6	62
BASEMENT 5	49	7	6	62
BASEMENT 6	51	7	6	64
	296	42	36	374

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[Project] 16-20 OLD CASTLE HILL ROAD

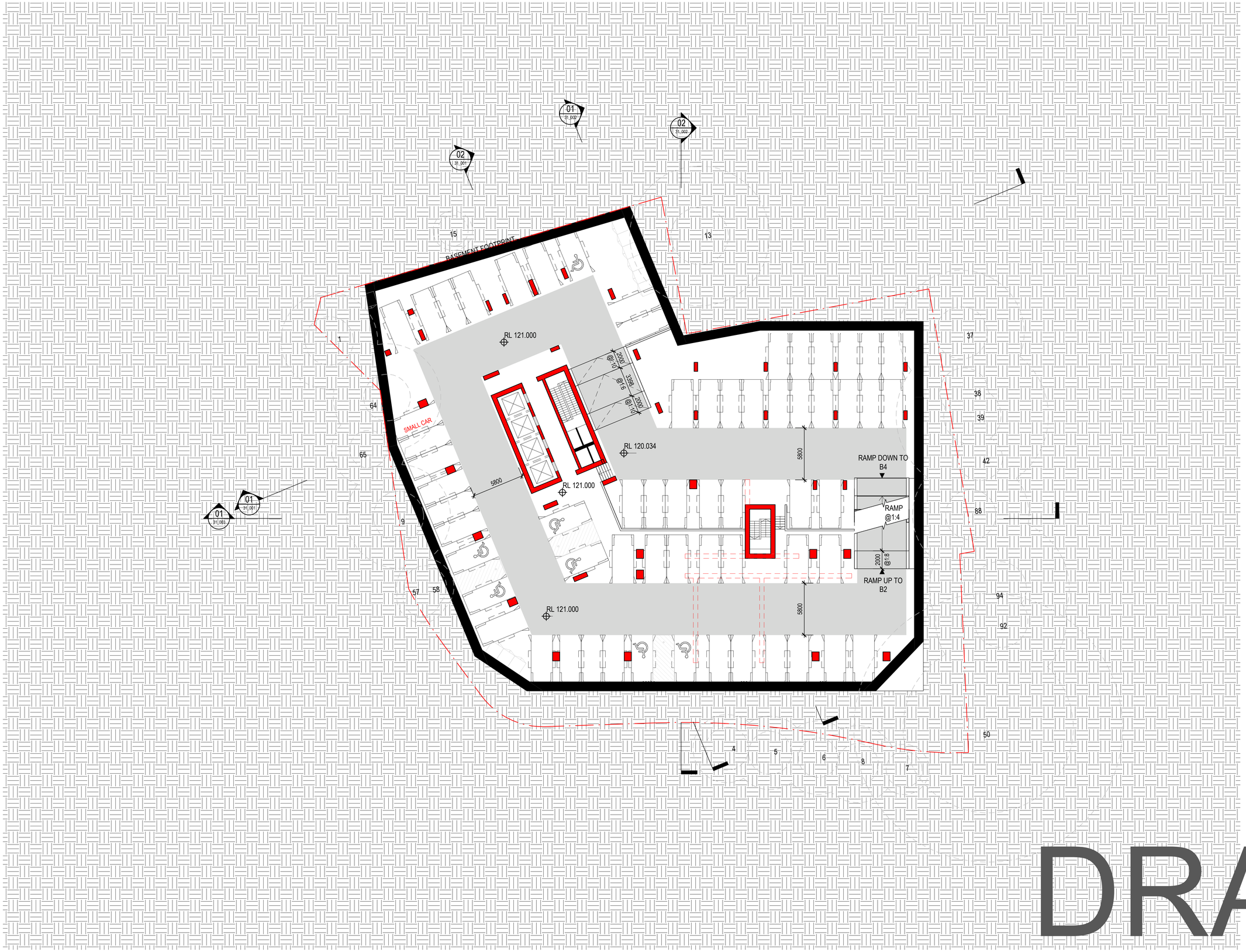
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Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - BASEMENT LEVEL 04

[Ref] 20240027 [Dwg No] AD-DA11_095 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:11:55 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

PARKING SCHEDULE

Level	Type			
	Standard	DDA	Tandem	Total
BASEMENT 1	49	7	6	62
BASEMENT 2	49	7	6	62
BASEMENT 3	49	7	6	62
BASEMENT 4	49	7	6	62
BASEMENT 5	49	7	6	62
BASEMENT 6	51	7	6	64
	296	42	36	374

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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] UPG

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Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - BASEMENT LEVEL 03

[Ref] 20240027 [Dwg No] AD-DA11_096 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:11:56 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

PARKING SCHEDULE				
Level	Type			Total
	Standard	DDA	Tandem	
BASEMENT 1	49	7	6	62
BASEMENT 2	49	7	6	62
BASEMENT 3	49	7	6	62
BASEMENT 4	49	7	6	62
BASEMENT 5	49	7	6	62
BASEMENT 6	51	7	6	64
	296	42	36	374

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[Project] 16-20 OLD CASTLE HILL ROAD

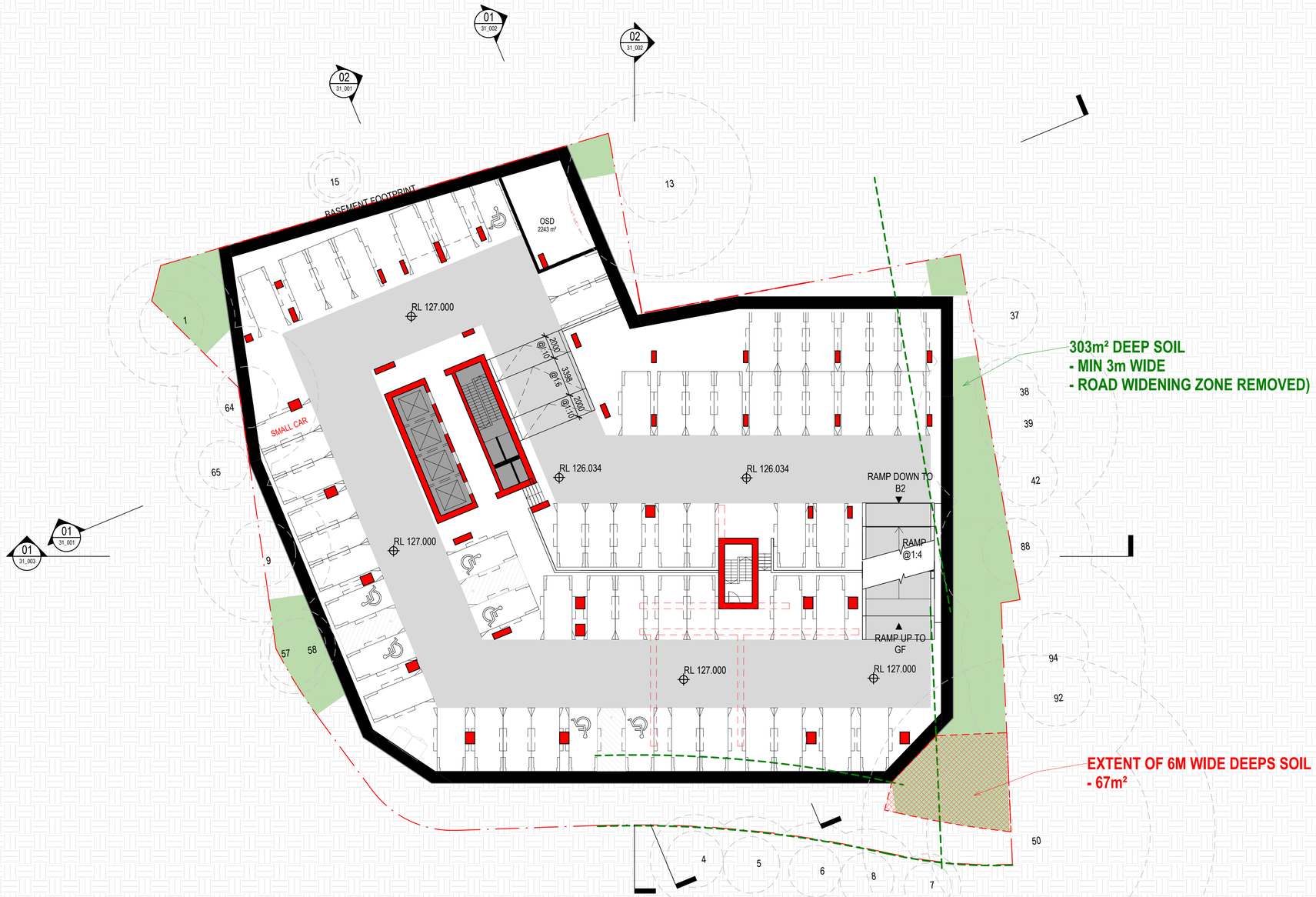
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Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - BASEMENT LEVEL 02

[Ref] 20240027 [Dwg No] AD-DA11_097 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:11:58 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

PARKING SCHEDULE				
Level	Type			Total
	Standard	DDA	Tandem	
BASEMENT 1	49	7	6	62
BASEMENT 2	49	7	6	62
BASEMENT 3	49	7	6	62
BASEMENT 4	49	7	6	62
BASEMENT 5	49	7	6	62
BASEMENT 6	51	7	6	64
	296	42	36	374

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[Project] 16-20 OLD CASTLE HILL ROAD

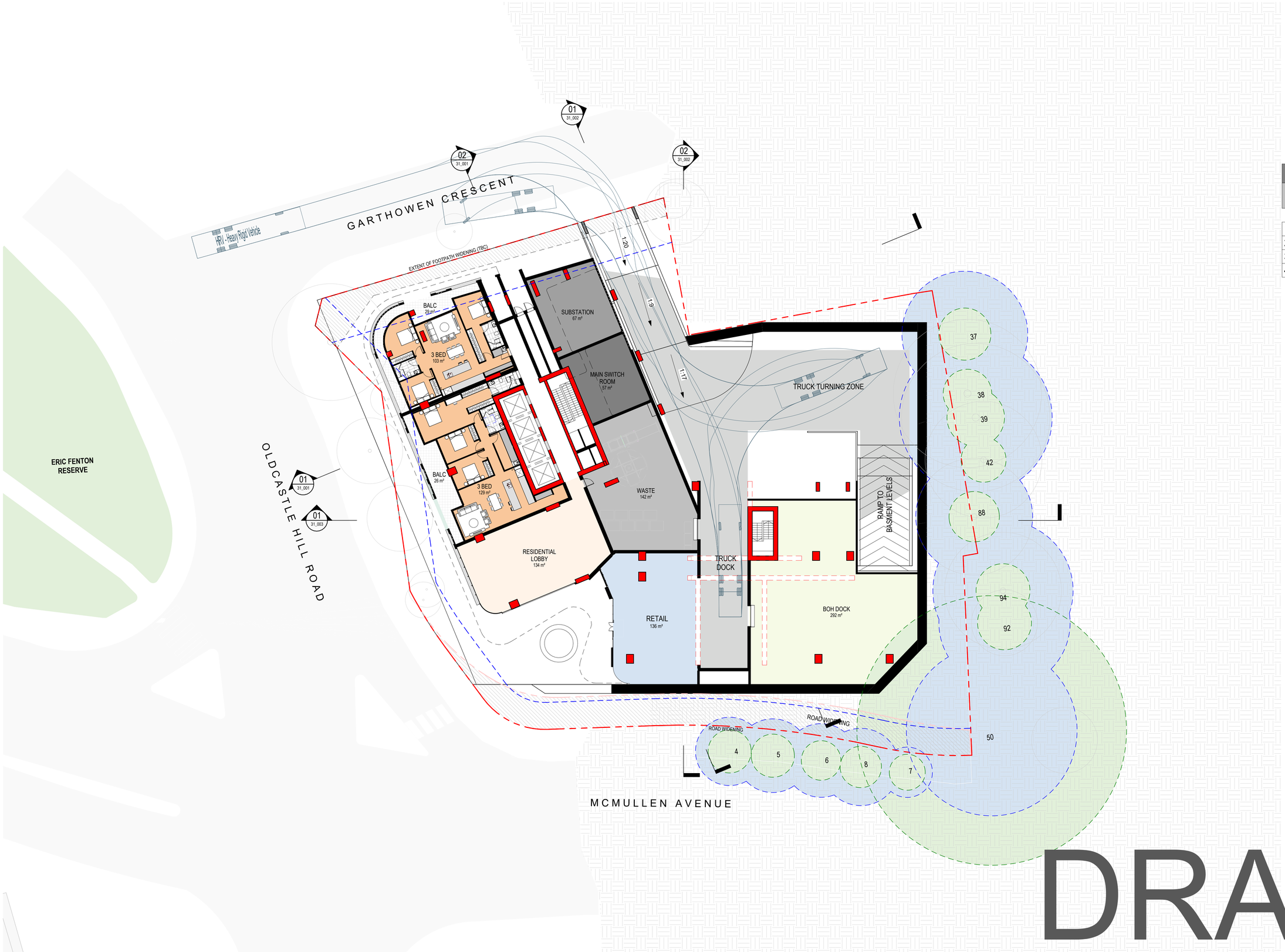
[Client] UPG

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Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - BASEMENT LEVEL 01

[Ref] 20240027 [Dwg No] AD-DA11_098 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 2:00:24 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX

Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	

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[Project] 16-20 OLD CASTLE HILL ROAD

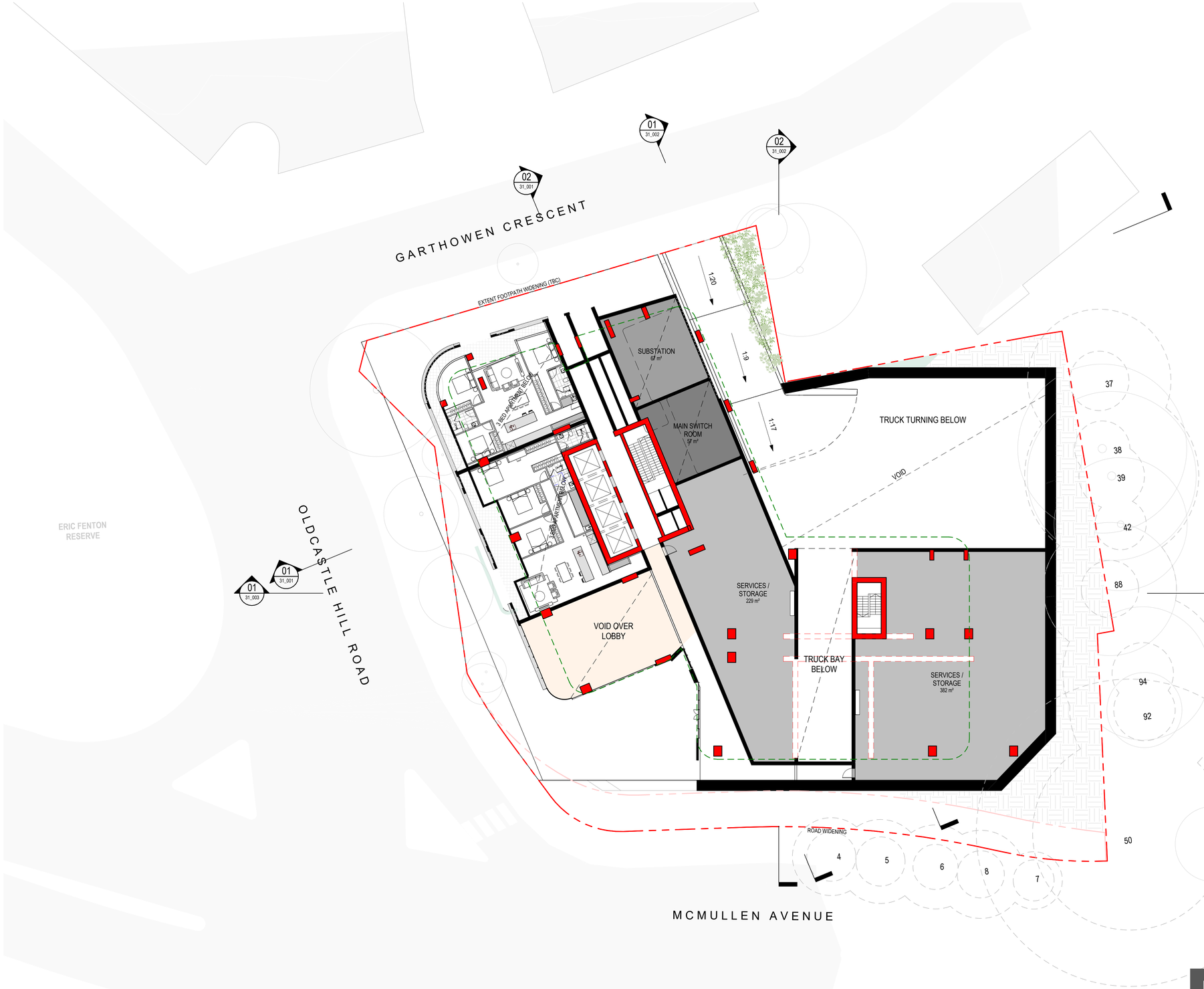
[Client] UPG

Bar Scale 1:200 (0 2 4 6 8 10 m)

[Scale] 1 : 200 @ A1

GA PLAN - GROUND LEVEL

[Ref] 20240027 [Dwg No] AD-DA11_099 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 2:01:00 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	

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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] UPG

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - MEZZANINE LEVEL

[Ref] 20240027 [Dwg No] AD-DA11_100 [Rev] B

[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

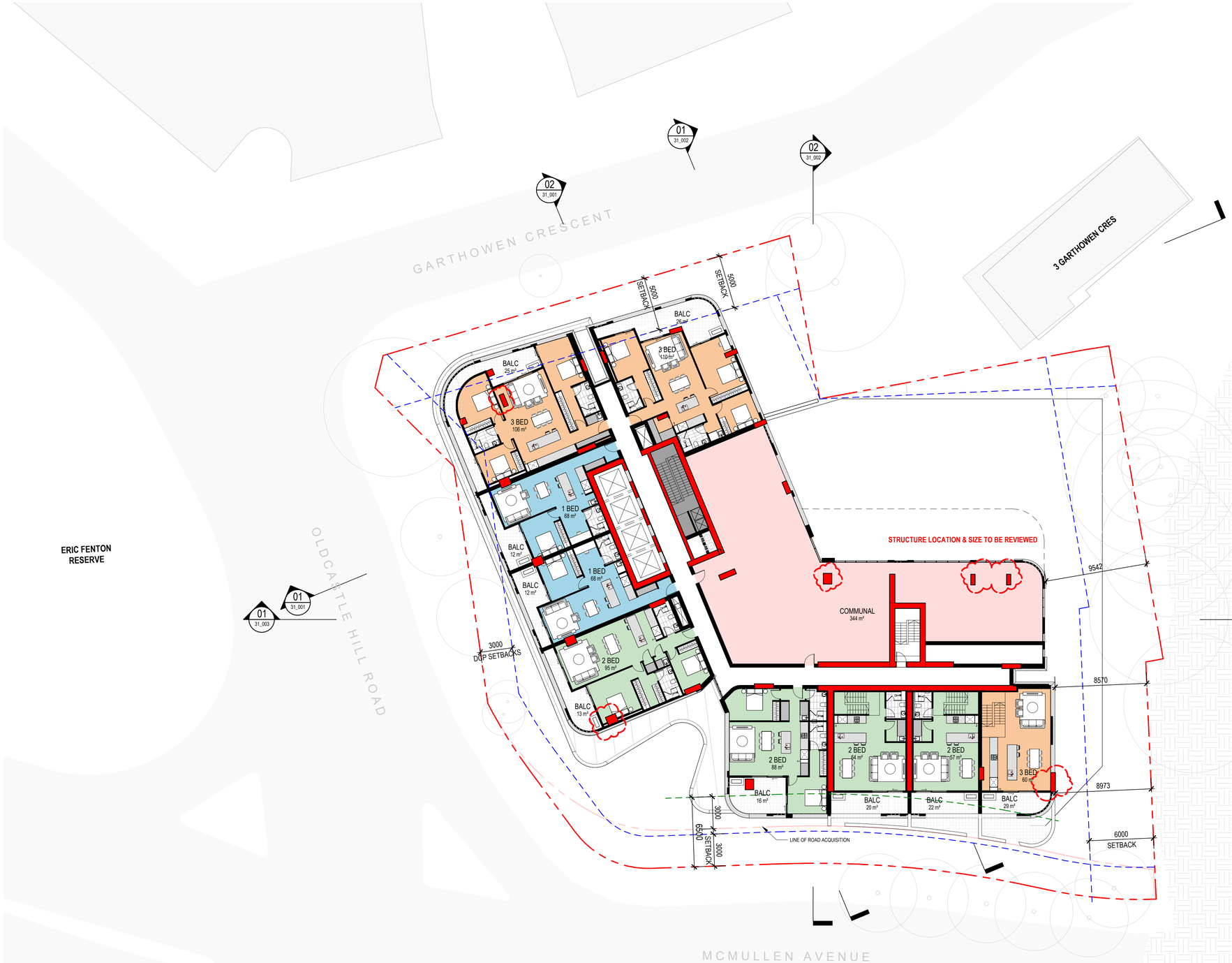
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History

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-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX

Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	



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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 01

[Ref] 20240027 [Dwg No] AD-DA11_101 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:56:38 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	

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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 02

[Ref] 20240027 [Dwg No] AD-DA11_102 [Rev] B

[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 3:58:37 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	-	-
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	



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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 03

[Ref] 20240027 [Dwg No] AD-DA11_103 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:00:25 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	

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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 04

[Ref] 20240027 [Dwg No] AD-DA11_104 [Rev] A

[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:01:55 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	



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[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 05

[Ref] 20240027 [Dwg No] AD-DA11_105 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:03:17 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	

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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVELS 06-08

[Ref] 20240027 [Dwg No] AD-DA11_106 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:04:04 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
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[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVELS 09-16 & 18-28

[Ref] 20240027 [Dwg No] AD-DA11_109 [Rev] A



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:04:19 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 17

[Ref] 20240027 [Dwg No] AD-DA11_117 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:04:31 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	-	-
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX

Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 29

[Ref] 20240027 [Dwg No] AD-DA11_129 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:04:43 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	-	-
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 30

[Ref] 20240027 [Dwg No] AD-DA11_130 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:04:54 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	-	-
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	

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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] URBAN PROPERTY GROUP

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVELS 31-37

[Ref] 20240027 [Dwg No] AD-DA11_131 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 4:05:07 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	PRELIMINARY	14.10.2025
B	FOR COORDINATION	04.11.2025

APARTMENT SCHEDULE - UNIT MIX		
Unit Type	Count	Unit Mix
1 BED	90	24%
2 BED	194	52%
3 BED	83	22%
4 BED	4	1%
	371	

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[Project] 16-20 OLD CASTLE HILL ROAD

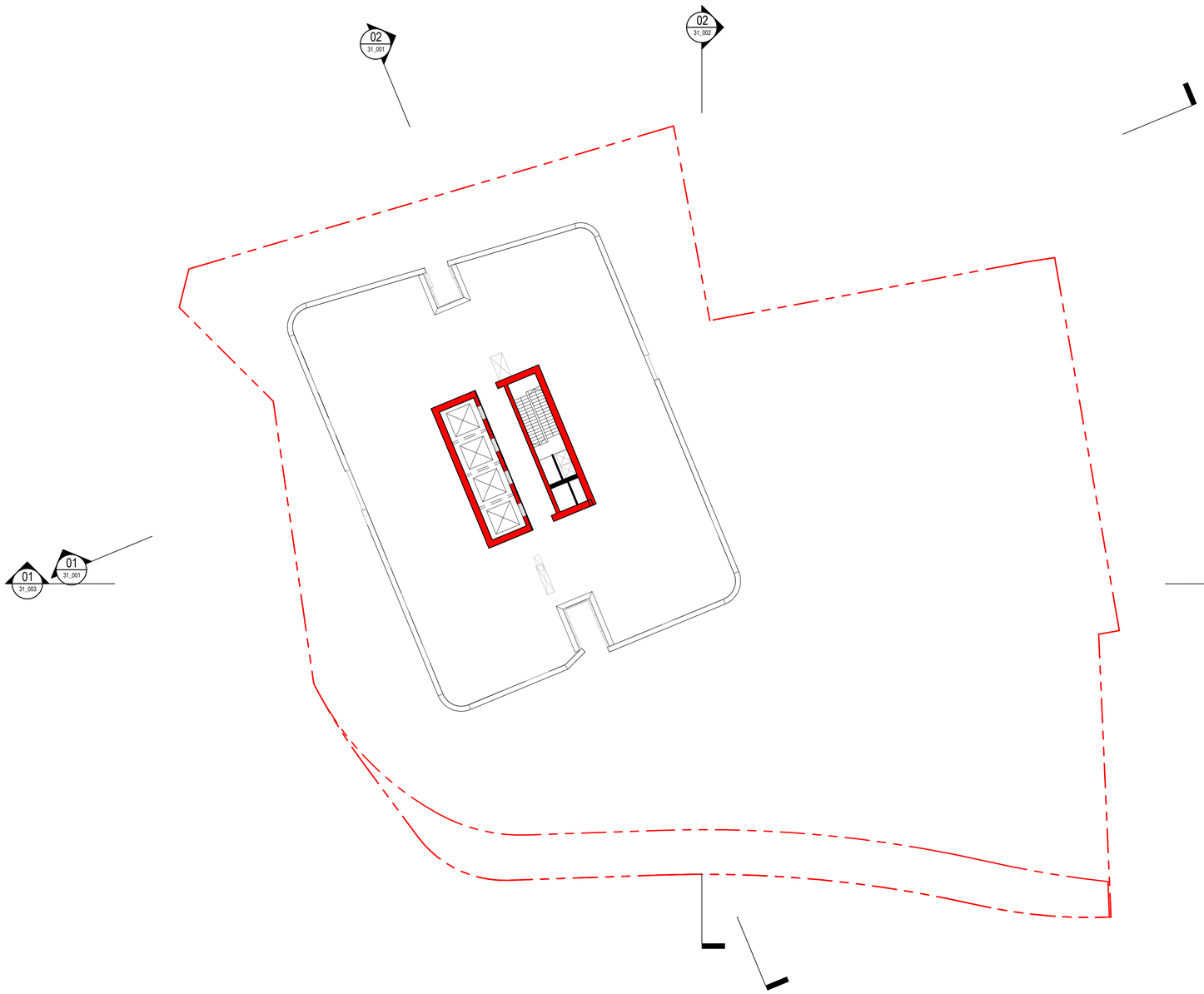
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Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - LEVEL 38-39

[Ref] 20240027 [Dwg No] AD-DA11_138 [Rev] B



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 2:08:04 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
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A	FOR COORDINATION	04.11.2025

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[Project] 16-20 OLD CASTLE HILL ROAD

[Client] UPG

0 2 4 6 8 10 m
Bar Scale 1:200

[Scale] 1 : 200 @ A1

GA PLAN - ROOF LEVEL 40

[Ref] 20240027 [Dwg No] AD-DA11_140 [Rev] A

[Status] PRELIMINARY

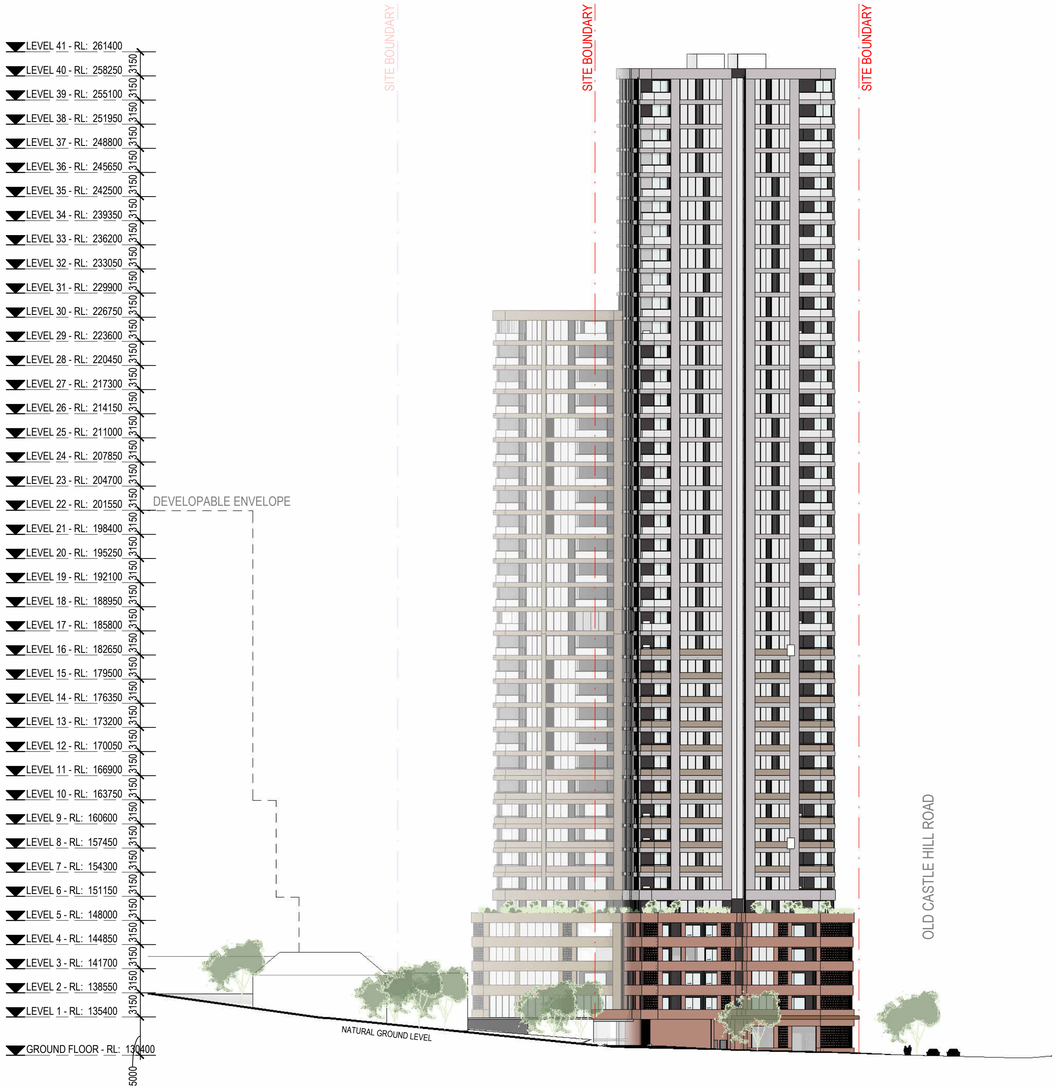
[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 2:09:50 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	FOR COORDINATION	04.11.2025



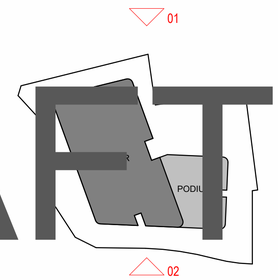
1 NORTHERN ELEVATION - DA

1 : 400



2 SOUTHERN ELEVATION - DA

1 : 400



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[Project] 16-20 OLD CASTLE HILL ROAD

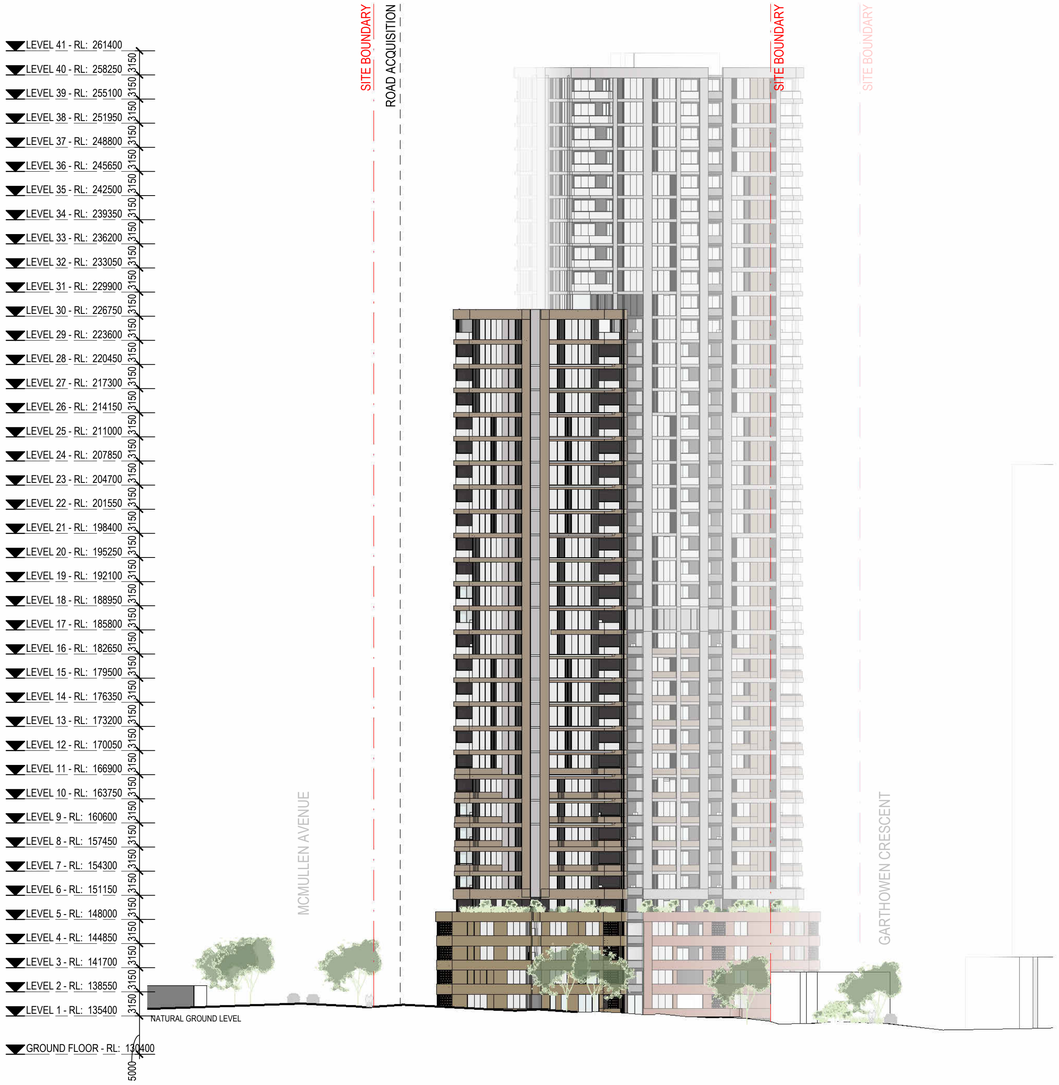
[Client] UPG

0 4 8 12 16 20 m
Bar Scale 1:400

[Scale] 1 : 400 @ A1

OVERALL ELEVATION - SHEET 01

[Ref] 20240027 [Dwg No] AD-DA20_001 [Rev] A



1 EASTERN ELEVATION - DA

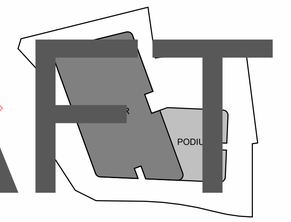
1 : 400



2 WESTERN ELEVATION - DA

1 : 400

DRAFT



[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 2:15:39 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	FOR COORDINATION	04.11.2025

Studio.SC
PRINT IN COLOUR
Suite 2.02, Level 2,155 Clarence Street, Sydney NSW 2000
www.studiosc.com.au +61 2 9957 3988

[Project] 16-20 OLD CASTLE HILL ROAD

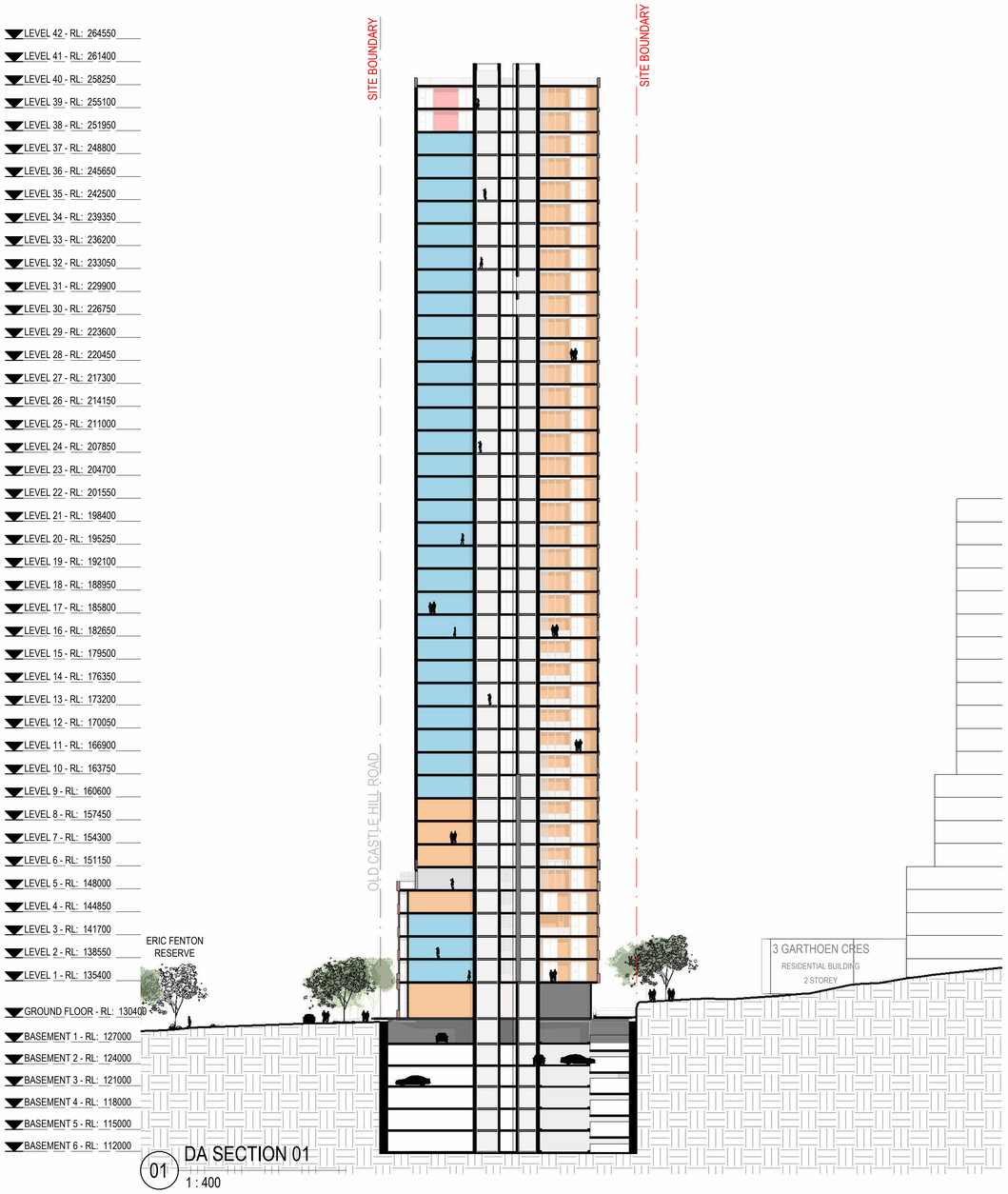
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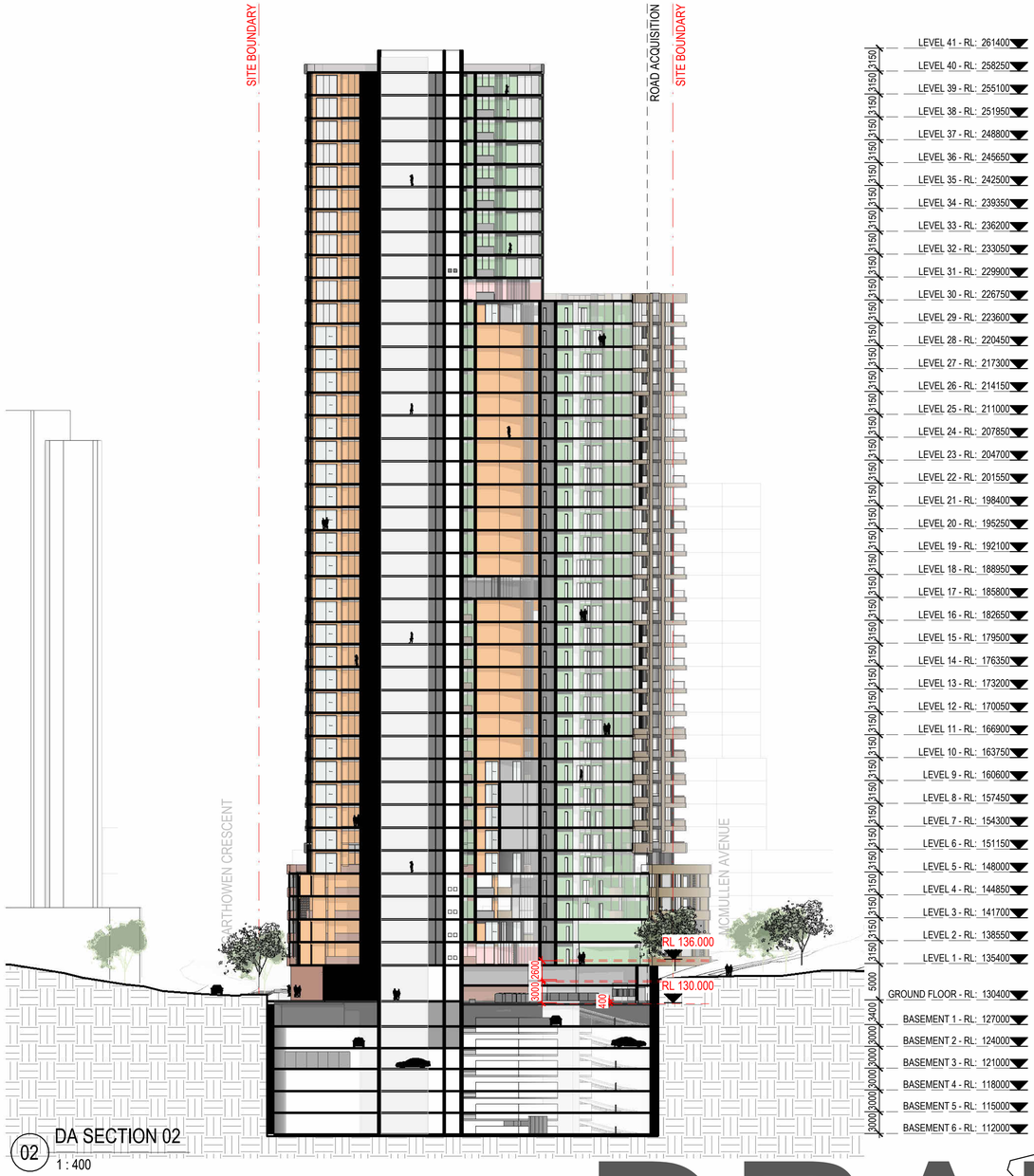
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OVERALL ELEVATION - SHEET 02

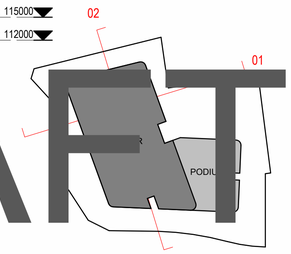
[Ref] 20240027 [Dwg No] AD-DA20_002 [Rev] A



01 DA SECTION 01
1 : 400



02 DA SECTION 02
1 : 400



DRAFT

[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 2:23:16 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	FOR COORDINATION	04.11.2025

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www.studiosc.com.au +61 2 9957 3988

[Project] 16-20 OLD CASTLE HILL ROAD

[Client] UPG

0 4 8 12 16 20 m
Bar Scale 1:400

[Scale] 1 : 400 @ A1

SECTIONS - SHEET 01

[Ref] 20240027 [Dwg No] AD-DA31_001 [Rev] A

[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

[File] 20240027-AB-SK001-R24

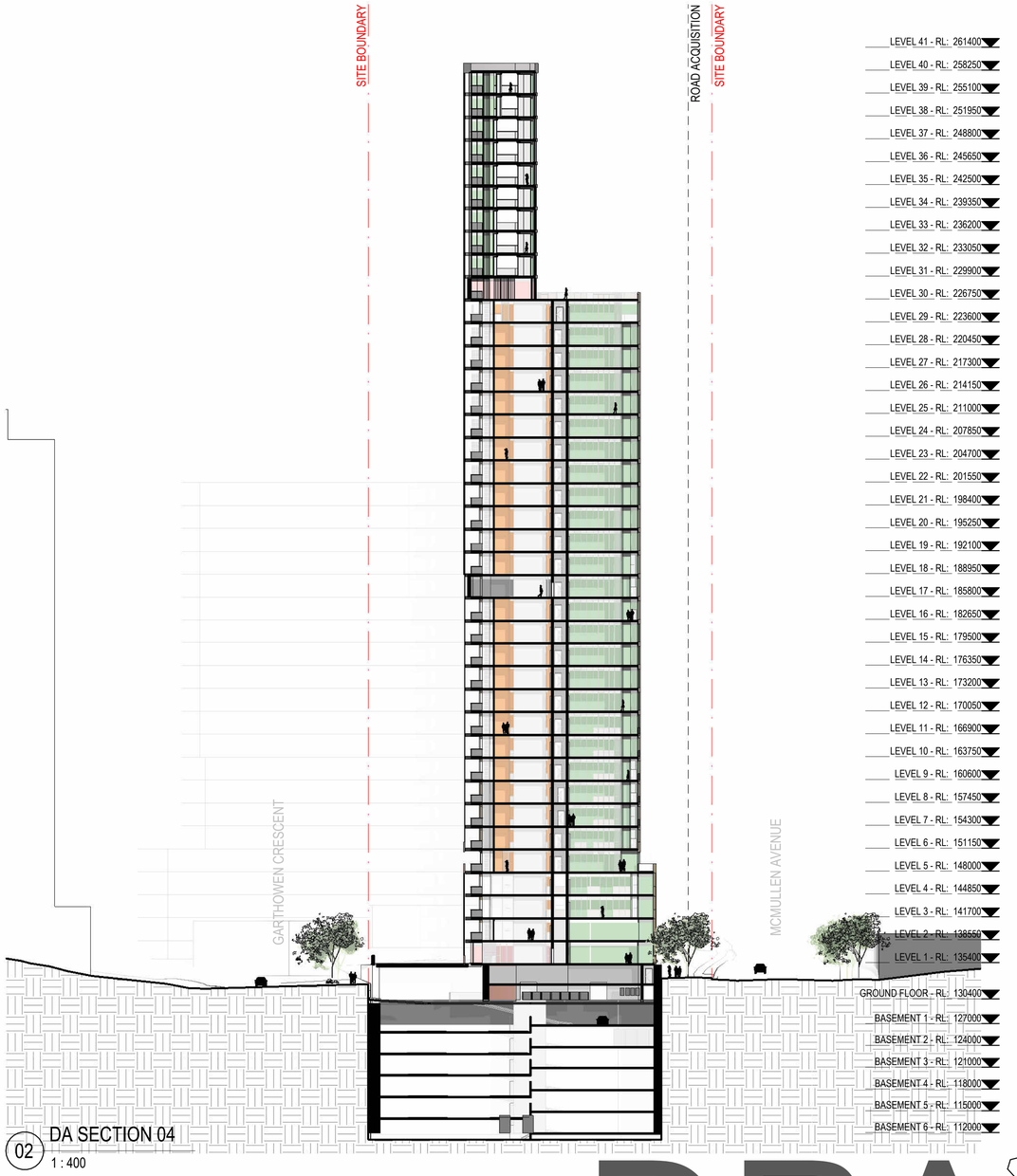
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History

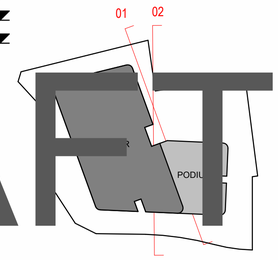
[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	FOR COORDINATION	04.11.2025



01 DA SECTION 03 - LOADING DOCK
1 : 400



02 DA SECTION 04
1 : 400



DRAFT

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www.studiosc.com.au +61 2 9957 3988

[Project] 16-20 OLD CASTLE HILL ROAD

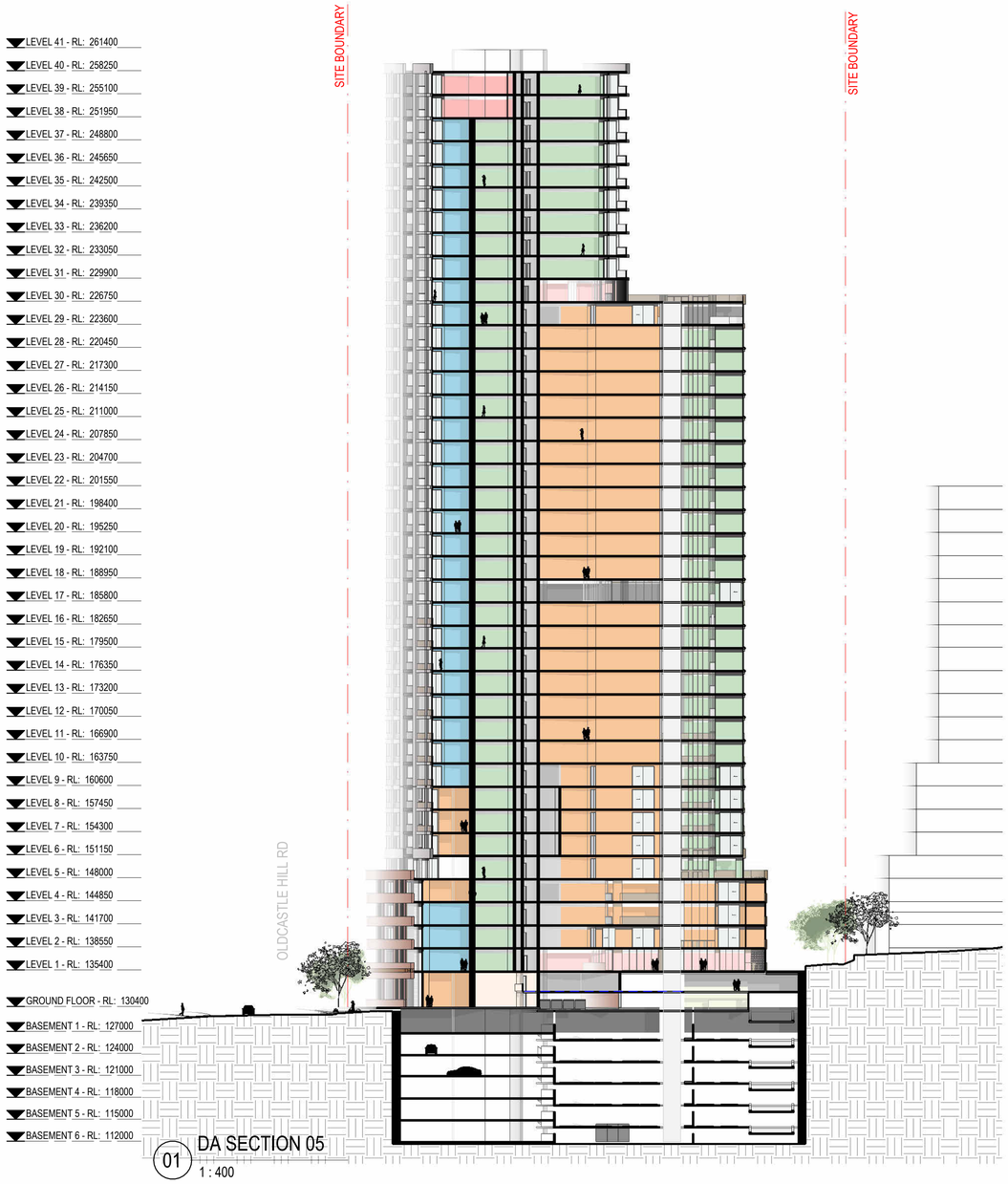
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Bar Scale 1:400

[Scale] 1 : 400 @ A1

SECTIONS - SHEET 02

[Ref] 20240027 [Dwg No] AD-DA31_002 [Rev] A



01 DA SECTION 05
1 : 400

[Status] PRELIMINARY

[Nom. Architect] Nicholas Bandounas /8499

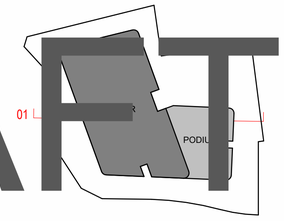
[File] 20240027-AB-SK001-R24

[Print Date] 4/11/2025 2:34:55 PM

History

[Rev#]	[Description]	[Date]dd.mm.yy
-	PRELIMINARY	TBC
A	FOR COORDINATION	04.11.2025

DRAFT



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www.studiosc.com.au +61 2 9957 3988

[Project] 16-20 OLD CASTLE HILL ROAD

[Client] UPG

0 4 8 12 16 20 m
Bar Scale 1:400

[Scale] 1 : 400 @ A1

SECTIONS - SHEET 03

[Ref] 20240027 [Dwg No] AD-DA31_003 [Rev] A

APPENDIX F: LAND TITLE INFORMATION

© Foundation Earth Sciences 2025

Title Search NSW

27/08/2025 12:08 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 10/881332

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2025	12:08 PM	7	16/6/2025

LAND

LOT 10 IN DEPOSITED PLAN 881332
AT CASTLE HILL
LOCAL GOVERNMENT AREA THE HILLS SHIRE
PARISH OF CASTLE HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP881332

FIRST SCHEDULE

PKE HILLS PTY LTD
IN 20/100 SHARE
MAVE CASTLE HILL PTY LTD
IN 80/100 SHARE
AS TENANTS IN COMMON (T AV148978)

SECOND SCHEDULE (3 NOTIFICATIONS)

---

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 C221153 COVENANT
3 G829460 COVENANT

NOTATIONS

DP1202947 NOTE: PLAN OF PROPOSED ACQUISITION

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Historical Title Search NSW

27/08/2025 12:10 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

27/8/2025 12:09PM

FOLIO: 10/881332

First Title(s): OLD SYSTEM

Prior Title(s): Y/402716

Recorded	Number	Type of Instrument	C.T. Issue
3/11/1998	DP881332	DEPOSITED PLAN	FOLIO CREATED EDITION 1
20/11/1998	5409991	TRANSFER	EDITION 2
29/9/2010	AF789041	CHANGE OF NAME	EDITION 3
19/12/2014	DP1202947	DEPOSITED PLAN	
21/5/2024	AU86659	CAVEAT	EDITION 4
23/5/2024	AU86862	CAVEAT	EDITION 5
11/6/2025	AV136282	WITHDRAWAL OF CAVEAT	
11/6/2025	AV136283	WITHDRAWAL OF CAVEAT	EDITION 6
16/6/2025	AV148978	TRANSFER	EDITION 7

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Historical Title Search NSW

27/08/2025 12:18 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

27/8/2025 12:17PM

FOLIO: Y/402716

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 7420 FOL 116

Recorded	Number	Type of Instrument	C.T. Issue
2/9/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
29/10/1992		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
14/11/1997	DP135742	DEPOSITED PLAN	
3/11/1998	DP881332	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Req:R829185 /Doc:CT 07420-116 CT /Rev:10-Aug-2012 /NSW LRS /Prt:27-Aug-2025 12:36 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

202

Primary Appn. No. 7192

Reference to Last Title

Vol. 6439 Fol. 201

Deposited Plan No.10761

New South Wales.

[CERTIFICATE OF TITLE.]

REGISTER BOOK.

VOL. 7420 FOL 116

Issued on Transfer No.C829460

E CR-Y

CANCELLED [R] ON ISSUE OF NEW FOLIO 1/402716 Auto Consol 7420-116.

ROBERT JOHNSTON HOLDER, of Castle Hill, Salesman, and NORMA GRACE HOLDER, his wife, are now the proprietors of an Estate in Fee Simple, as Joint Tenants,

subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in That piece of land

in the Shire of Baulkham Hills Parish of Castle Hill , and County of Cumberland

shown in the plan hereon and therein edged red being Lot Y in plan lodged with Transfer No.C829460 and being part of Portion 136 granted to James Duff on 13th January 1818.

DP 402716

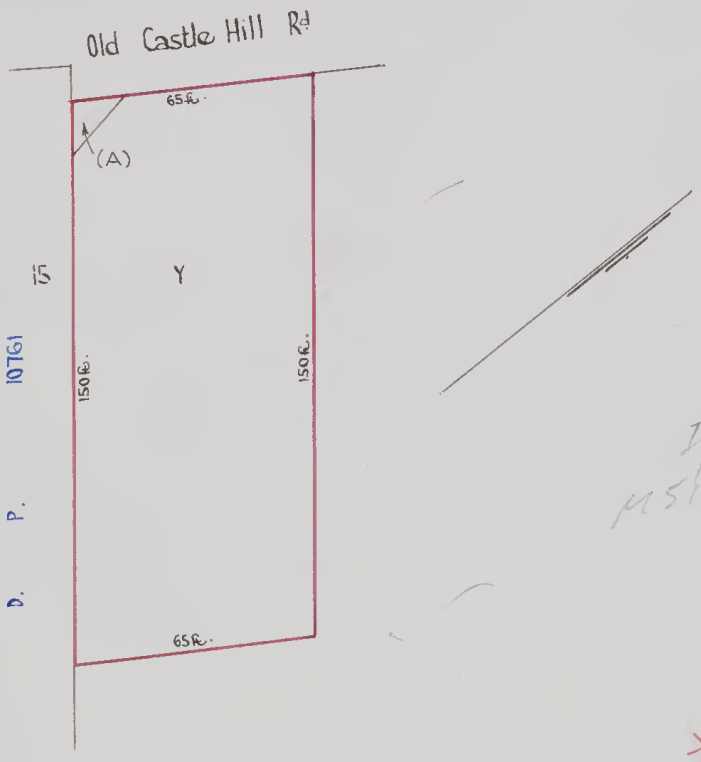
In witness whereof I have hereunto signed my name and affixed my Seal, this Thirty-first day of December , 1957.

Signed in the presence of G. W. Moss

J. Wells

Registrar-General.

REGISTRAR GENERAL NEW SOUTH WALES



(A) ROAD (LOT 2 IN DP 41889) 10·1 m² - 558777

Area: 35½per.
Scale: 40 feet to one inch.

G829460

NOTIFICATION REFERRED TO

Covenants contained in Transfers Nos.C221153P and G829460.

G829460 P

J. Wells

Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES

No. G860821 MORTGAGE dated 10th December 1957
From the said Robert Johnston Holder and Norma Grace Holder to Bank of New South Wales Bank Limited

Entered 21st March 1958

J. Wells

REGISTRAR GENERAL.

MORTGAGE No. G860821 has been discharged.

See M 51019 Entered 6th November 1970

REGISTRAR GENERAL

TRANSFER NO. R737140 The Council of the Shire of Baulkham Hills

now the registered proprietor of the land within described

Registered 1 - 4-1980

REGISTRAR GENERAL

Persons are cautioned against altering or adding to this Certificate or any notification thereon.

76959 2.57 K 2006—2 A. H. Pettifer, Government Printer

Req:R829185 /Doc:CT 07420-116 CT /Rev:10-Aug-2012 /NSW LRS /Prt:27-Aug-2025 12:36 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

XP

The land so indicated on the plan hereon being Lot 2 in D. P. 41884 is now Public Road

by Resumption S 587771.
Registered 2 - 9 - 1981.

REGISTRAR GENERAL.

COMPUTER FOLIO NO FURTHER
DEALINGS TO BE REGISTERED.

116

Lots 1 to 3 Resumed and Declared
Public Road. Gaz. 8-5-81
Fol. 2596.

S 587771 (DT) d/R

116

Req:R829314 /Doc:CT 06439-201 CT /Rev:09-Aug-2012 /NSW LRS /Prt:27-Aug-2025 12:48 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Appn. No. 7192

Reference to Last Certificate

Vol. 5770 Fol. 189

Deposited Plan No. 10761

New South Wales.

60825—2 10.50

[CERTIFICATE OF TITLE.]

ORDER NO. F433942

REGISTER BOOK.

Vol. 6439 Fol. 201

CANCELLED

DOREEN MARIE DAWSON wife of James Francis Dawson of Rose Bay, Contractor, by virtue of Certificate of Title Volume 5770 Folio 189 now surrendered is now the proprietor of an Estate in Fee Simple,

subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in That piece of land situated in the Shire of Baulkham Hills Parish of Castle Hill, and County of Cumberland containing Two roods thirty five and three quarters perches or thereabouts as shown in the plan hereon and therein edged red being Lot A in plan annexed to Instrument of Transfer No. F415258 and being part of 60 acres (Portion 136 of Parish) originally granted to James Duff by Crown Grant dated the 13th day of January 1818.

In witness whereof I have hereunto signed my name and affixed my Seal, this Twenty ninth day of January, 1952.

Signed in the presence of G. McKern

J. Wells

Registrar-General.

REGISTRAR GENERAL OF NEW SOUTH WALES

D. P. 10761

Old Castle Hill Rd.

18

A 2r 35¾p

B

15

D. P. 10761

Scale: 100 feet to one inch

NOTIFICATION REFERRED TO

Covenant contained in Instrument of Transfer No. F221153.

J. Wells

Registrar General.

No. F575560 TRANSFER dated 22nd November 1951

from the said Doreen Marie Dawson to Hilda Lyle Woodriff of Castle Hill, Widow

of the land within described

Produced 23rd November 1951 and entered 13 February 19[illegible]

at 12 o'clock in the noon.

J. Wells

REGISTRAR GENERAL

No. F575561 MORTGAGE dated 18th November 1951

from the said Hilda Lyle Woodriff to The National Bank of Australasia Limited

Produced 23rd November 1951 and entered 12th February 1952

at 12 o'clock in the noon.

J. Wells

REGISTRAR GENERAL

No. F718863 DISCHARGE of within mortgage

No. F575561 dated 15th August 1952

Produced and entered 26th August 1952

at twenty five minutes to one o'clock in the afternoon.

J. Wells

REGISTRAR GENERAL

No. F718864 MORTGAGE dated 15th August 1952

from the said Hilda Lyle Woodriff to Kathleen Grace Lowe of South Widow Margaret Georgia Taylor of Castle Hill Widow Hilda Lyle Woodriff of Castle Hill Widow and Mary Strang of Castle Hill Widow

Produced and entered 26th August 1952

at twenty five minutes to one o'clock in the afternoon.

J. Wells

REGISTRAR GENERAL

MORTGAGE No. F718864 has been discharged.

See F599436 Entered 30th October 1956.

J. Wells

REGISTRAR GENERAL

Req:R829314 /Doc:CT 06439-201 CT /Rev:09-Aug-2012 /NSW LRS /Prt:27-Aug-2025 12:48 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

No. G599437 MORTGAGE dated 24th October 1956
from the said Hilda Kyle Woodriff to Henry Oswald Woodriff of Penrith Estate Agent and Phyllis Muriell Woodriff of Castle Hill Spinster

Entered 29th October 1956

J. Wells
REGISTRAR GENERAL

REGISTRAR GENERAL NEW SOUTH WALES

No. G829460 TRANSFER dated 1st October 1957.
to Robert Johnston Holder and Norma Grace Holder as joint tenants of Lot y on plan annexed to Transfer G829460
of the land within described.
Subject to Covenant. Discharged from Mortgage G599437

Entered 27th December 1957.

As to land in this transfer this deed is cancelled and new certificate issued Vol. ..... Fol. .....

J. Wells
REGISTRAR GENERAL

REGISTRAR GENERAL NEW SOUTH WALES

As to the residue
this Deed is cancelled and new Certificate of Title Issued
Vol 7420 Fol. 115
Vide 0C 816666

J. Wells
Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES

G643790 Abstract Plan
G816666 O Reg (Cancelled)
CT 8/10/57
Cr. 829460 Holder (Norma) N.
G869821 N/C.

Req:R829716 /Doc:CT 05770-189 CT /Rev:08-Aug-2012 /NSW LRS /Prt:27-Aug-2025 13:28 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

201

Appn. No. 7192

Reference to last certificate

Vol. 4613 Fol. 70

New South Wales.

54299 S.47

[CERTIFICATE OF TITLE.]

REGISTER BOOK.
Vol. 5770 Fol. 189

CANCELLED

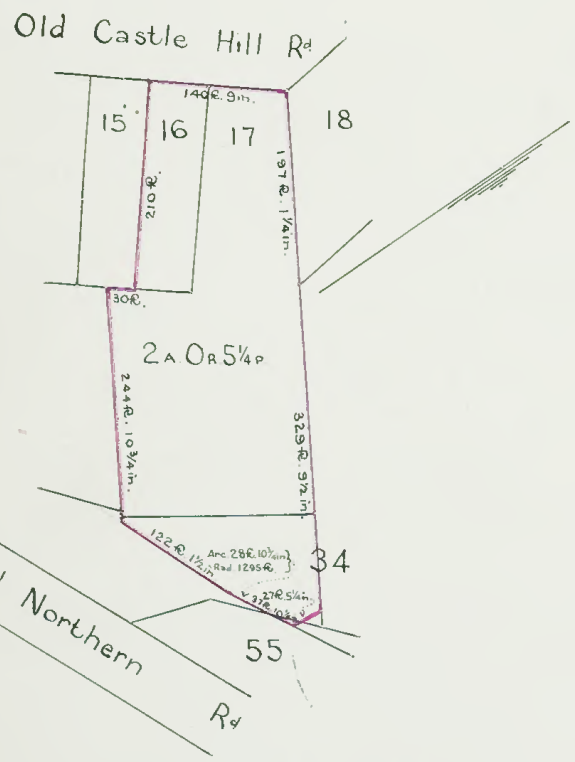
JOHN JAMES O'NEil of Sydney, Company Director, Transferee under Instrument of Transfer No.D695808 is now the proprietor of an Estate in Fee Simple,

subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in That piece of land situated in the Shire of Baulkham Hills Parish of Castle Hill, and County of Cumberland containing Two acres five and one quarter perches or thereabouts as shown in the plan hereon and therein edged red being Lots 16 and 17 and part of lots 34 and 55 in Deposited Plan No.10761 and being part of 60 acres (Portion 136 of Parish) originally granted to James Duff by Crown Grant dated the 13th day of January, 1818.

In witness whereof I have hereunto signed my name and affixed my Seal, this Thirty First day of December 1947

Signed in the presence of

J. Wells
Registrar General.



Scale :- 150 ft. to one inch.

D 695808

NOTIFICATION REFERRED TO

Instrument of Transfer No.C221153 comprising inter alia the land above described contains a covenant in the following words:
"And the transferee for himself and his assigns "hereby for the benefit of the adjoining land namely "the residue of the lands in Certificate of Title "Registered Volume 3727 Folio 140 but only during the "ownership thereof by the transferror his executors "administrators and assigns other than purchasers on "sale covenants with the transferror his executors "administrators and assigns that no fence shall be "erected on the land hereby conveyed or transferred "to divide it from such adjoining land without the "consent of the transferror his executors administrators or assigns but such consent shall not be "withheld if such fence is erected without expense "to the transferror his executors administrators or "assigns and in favour of any person dealing with "the transferee or his assigns such consent shall be "deemed to have been given in respect of every such "fence for the time being erected and this restriction "may be released varied or modified by the owner or "owners for the time being of such adjoining land."

J. Wells
Registrar General.

No. D942656 TRANSFER dated 8th December 1948
from the said John James O'Neill to Doreen Marie Dawson wife of James Francis Dawson of Castle Hill Contractor
of the land within described
Produced and entered 21st December 1948
at 25 mins past 11 o'clock in the fore noon.
J. Wells
REGISTRAR GENERAL.

No. F415258 TRANSFER dated 12th March 1951
from the said Doreen Marie Dawson to Louis Alexander Abood of Sydney Company Director
of part
of the land within described
Produced 16th March 1951 and entered 18th January 1952
at 12 o'clock in the noon.
As to land in this transfer this certificate is cancelled and new Certificate issued Vol. 6139 Fol. 202
J. Wells
REGISTRAR GENERAL.

T. 13.3.51
F415258
F433942 BO
567566 Te 1 M/c

Req:R829716 /Doc:CT 05770-189 CT /Rev:08-Aug-2012 /NSW LRS /Prt:27-Aug-2025 13:28 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

N

The interest of the Council of the Shire of Baulkham Hills in the addition to old CASTLE Hill Road shown in the Miscellaneous Plan of Subdivision (R.P.) Registered No 75128. Dated 18th January 19[illegible]

J. Wells
Registrar General.

REGISTRAR GENERAL * NEW SOUTH WALES *

This Deed is Cancelled and Certificate of Title issued
Vol. 6439 Fol. 201
Pt Residue
J. Wells
Of 433442 REGISTRAR GENERAL.

REGISTRAR GENERAL * NEW SOUTH WALES *

Req:R830328 /Doc:CT 04613-070 CT /Rev:07-Aug-2012 /NSW LRS /Prt:27-Aug-2025 14:18 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

212

Appn. No. 7192

Reference to last certificate,

Vol. 3727 Fol. 140

New South Wales

871

[CERTIFICATE OF TITLE.]

CANCELLED W

REGISTER BOOK.

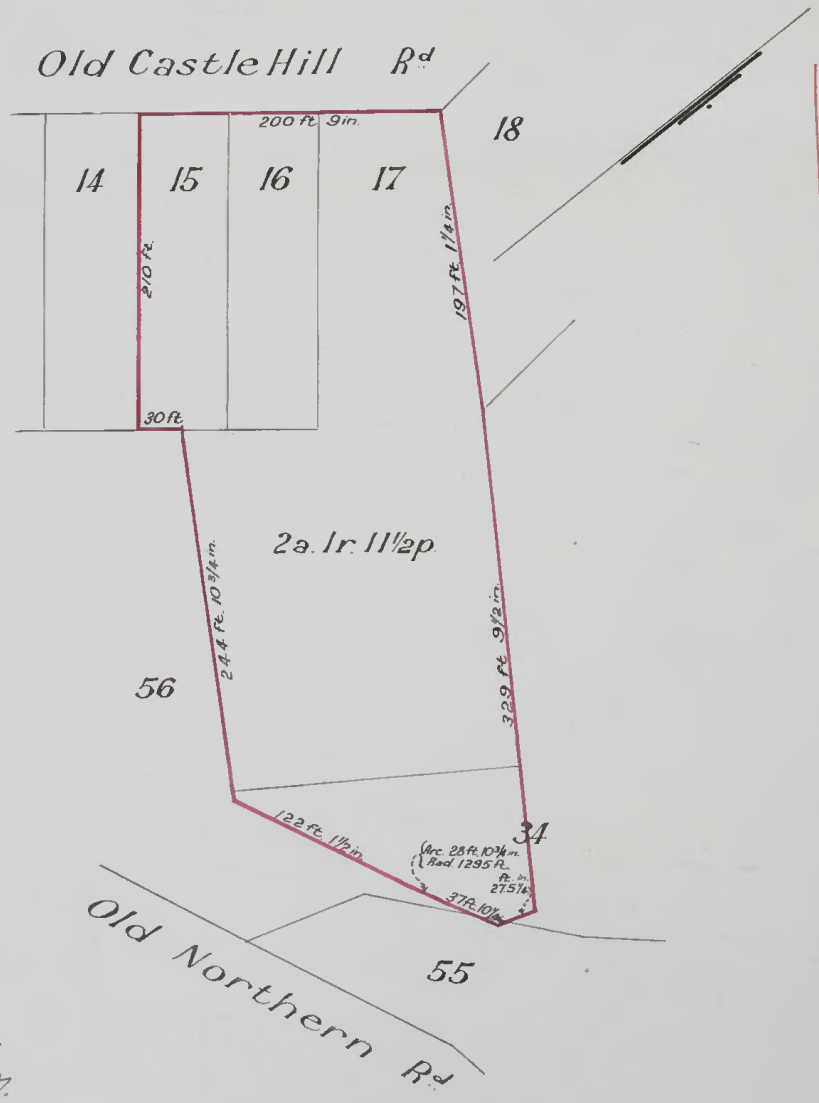
VOL. 4613 FOL. 70

HORACE HARVEY JOHN HANKIN of Ashfield, Manufacturing Engineer, Transferee under Instrument of Transfer No.C 221153 is now the proprietor of an Estate in Fee Simple, subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in that piece of land situated in the Shire of Baulkham Hills Parish of Castle Hill, and County of Cumberland containing Two acres one rood eleven and one half perches or thereabouts, as shown in the Plan hereon and therein edged red, being also shown in plan annexed to the said Instrument of Transfer No.C 221153 being lots 15, 16 and 17 and part of lots 34 and 55 in Deposited Plan No. 10761 and being also part of 60 acres (Portion 136 of Parish) originally granted to James Duff by Crown Grant dated the 13th day of January 1818.

In witness whereof I have hereunto signed my name and affixed my Seal, this twenty second day of February 1934.

Signed in the presence of

Registrar General.



C221153. Scale:-100ft. to one inch.

"sale covenants with the transferror his executors "administrators and assigns that no fence shall be "erected on the land hereby conveyed or transferred "to divide it from such adjoining land without the "consent of the transferror his executors adminis- "trators or assigns but such consent shall not be "withheld if such fence is erected without expense "to the transferror his executors administrators or "assigns and in favour of any person dealing with the "transferee or his assigns such consent shall be "deemed to have been given in respect of every such "fence for the time being erected and this restrict- "ion may be released varied or modified by the owner "or owners for the time being of such adjoining land."

Registrar General.

NOTIFICATION REFERRED TO

The abovementioned Instrument of Transfer No.C 221153 contains a covenant in the following words - "And the transferee for himself and his assigns hereby "for the benefit of the adjoining land namely the "residue of the lands in Certificate of Title regis- "tered Volume 3727 Folio 140 but only during the "ownership thereof by the transferror his executors "administrators and assigns other than purchasers on

No. D695808 TRANSFER dated 9th July 1947 from the said Horace Harvey John Hankin to John James O'Neil of East

of the land within described

Produced 17th July 1947 and entered 5th September 1947 at 12 o'clock in the noon.

As to land in this transfer this Certificate is cancelled and new Certificate issued Vol 5770 Fol 189

J. Wells REGISTRAR GENERAL.

No. D715728 TRANSFER dated 16th July 1947 from the said Horace Harvey John Hankin to Lady Eva Julius, Mary Graham Haly and Lilla O'Malley Wood as joint tenants of Lot 15 D.P. 10761 being residue

of the land within described

Produced 27th August 1947 and entered 5th September 1947 at 12 o'clock in the noon.

As to land in this transfer this Certificate is cancelled and new Certificate issued Vol 5770 Fol 206

J. Wells REGISTRAR GENERAL.

D695808 Lots 16, 17 & Lots 34 & 55

D715728 Lot 15

Req:R831457 /Doc:CT 03727-140 CT /Rev:04-Aug-2012 /NSW LRS /Prt:27-Aug-2025 15:36 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Appn. No. 7192

Reference to Last Certificate

Vol. 887 Fol. 236.

New South Wales.

[CERTIFICATE OF TITLE.]

Order No B198042

REGISTER BOOK,

VOL. 3727 FOL. 140

CANCELLED R

John Strang of Castle Hill Grazier by virtue of Certificate of Title Volume 887 Folio 236 now surrendered is now the proprietor of an Estate in Fee Simple

subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens and interests, as are notified hereon, in Those pieces of land situated in the Shire of Baulkham Hills Parish of Castle Hill, and County of Cumberland containing Twenty eight acres three roods Eighteen perches or thereabouts being Lots 12 to 21 inclusive Lots 23 to 27 inclusive Lots 29 to 32 inclusive Lots 35 and 38. Lots 40 to 47 inclusive Lots 49. 50 and 55 and part of Lots 33 34 and 56 in a plan deposited in the Land Titles Office Sydney. No. 10761 and being also parts of Sixty acres (Portion 136 of Parish) delineated in the public maps of the said Parish in the Department of Lands originally granted to James Duff by Crown Grant dated the thirteenth day of January one thousand eight hundred and eighteen

In witness whereof, I have hereunto signed my name and affixed my Seal, this thirteenth day of May 1925

Signed in the presence of R. Mercy

Registrar General.

Notification referred to

No B 192845 TRANSFER dated 4th March 1925
from the said John Strang to Cecil Edward Fuzzer of Lots 23 & 26 DP 10761

20th March 1925 of the land within described
Produced and entered 15th May 1925
at 4 o'clock in the after noon.

Cancelled & Certificate of Title issued Vol. 3732 Fol. 178

REGISTRAR GENERAL.

No B 203639 TRANSFER dated 16th March 1925
from the said John Strang to Arthur Whiting of Lot 56 DP 10761 Railway Commissioners for New South Wales of part of Lot 56 DP 10761

20th April 1925 of the land within described
Produced and entered 15th May 1925
at 4 o'clock in the after noon.

Cancelled & Certificate of Title issued Vol. 3732 Fol. 180

REGISTRAR GENERAL.

No. B 240569 TRANSFER dated 7th July 1925
from the said John Strang to Railway Commissioners for New South Wales
part

22nd July 1925 of the land within described
Produced and entered 17th September 1925
at 10 o'clock in the fore noon.

Cancelled & Certificate of Title issued Vol. 3777 Fol. 150

REGISTRAR GENERAL.

B192845 A
203639 A

No B 280382 TRANSFER dated 23rd October 1925
from the said John Strang to Hilda Lyle Strang q. Lots 13 DP 10761

of the land within described
Produced and entered 30th October 1925
at 2 mts pt 3 o'clock in the after noon.

Cancelled & Certificate of Title issued Vol. 3797 Fol. 115

REGISTRAR GENERAL.

No. B [illegible] TRANSFER dated 28th January 1924
from the said John Strang to Charles Ernest Woodyatt
pt Lot 24

of the land within described
Produced and entered 4th February 1924.
at 59 mts to pt 2 o'clock in the after noon.

Cancelled & Certificate of Title issued Vol. 3968 Fol. 155

REGISTRAR GENERAL.

No. B [illegible] TRANSFER dated 28th January 1924
from the said John Strang to Dewey Alfred Woodyatt
pt Lot 25

of the land within described
Produced and entered 4th February 1924.
at 59 mts to pt 2 o'clock in the after noon.

Cancelled & Certificate of Title issued Vol. 3968 Fol. 156.

REGISTRAR GENERAL.

No. B492654 TRANSFER dated 14th April 1927
from the said John Strang to Beryl Alice Edna Pursuit of Lot 25 DP 10761
(24)

of the land within described
Produced 9th April 1927 and entered 9th April 1927
at 39 mts pt to o'clock in the fore noon.

Cancelled & Certificate of Title issued Vol. 3995 Fol. 108

REGISTRAR GENERAL.

Req:R831457 /Doc:CT 03727-140 CT /Rev:04-Aug-2012 /NSW LRS /Prt:27-Aug-2025 15:36 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

No. B 541433 TRANSFER dated 27 July 1927
from the said John Strang To Arthur Edward Hopkins of Lot 32 & part of Lot 33 D.P. 10761
of the land within described
Produced 3rd August 1927 and entered 12th August 1927
at 4 o'clock in the after noon.
Cancelled & Certificate of Title issued Vol 4039 Fol. 218
REGISTRAR GENERAL.

This Deed is Cancelled and Certificate of Title issued
Vol. 4644 Fol. 3 for Lot 1 4 0 of 10
Registrar General.
C 771154

This Deed is Cancelled and Certificate of Title issued
Vol. 4644 Fol. 69 for part
Registrar General.
C 771155

No. B 620224 TRANSFER dated 23rd January 1928.
from the said John Strang to Ellis McMullen of Lot 12 D.P. 10761 (Subject to Covenant)
of the land within described
Produced and entered 8th February 1928.
at 12 o'clock in the noon.
Cancelled & Certificate of Title issued Vol 4111 Fol. 86
Acting REGISTRAR GENERAL.

No. C 329095 TRANSFER dated 4th April 1935.
from the said John Strang To Allan William Britliff of Lot 30 D.P. 10761.
of the Land within described
Produced 9th April 1935.
entered 23rd April 1935
at 4 o'clock in the after noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 4687 Fol. 75
REGISTRAR GENERAL.

No. B 660158 TRANSFER dated 7th May 1928
from the said John Strang to Alfred James Tuckwell of Lots 19 and 20 on D.P. 10761
of the land within described
Produced 10th May 1928 and entered 24th May 1928
at 2 o'clock in the after noon.
Cancelled & Certificate of Title issued Vol 4117 Fol. 206
Acting REGISTRAR GENERAL.

No. C 360819 TRANSFER dated 8th August 1935.
from the said John Strang to Allan Williams Britliff of Lot 31 D.P. 10761
of the land within described
Produced 9th August 1935 and
entered 10th August 1935
at 3 o'clock in the after noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 4708 Fol. 240
REGISTRAR GENERAL.

No. B 888599 TRANSFER dated 1st October 1929
from the said John Strang to Martha Eveline Thomas of Lot 21 D.P. 10761 (Subject to Covenants)
1st October 1929
Produced and entered 23rd October 1929
at 10 o'clock in the fore noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 4343 Fol. 1
REGISTRAR GENERAL.

No. B 476916 TRANSFER dated 4th February 1930
from the said John Strang to Frank Challoner of Lot 29 D.P. 10761
of the land within described
Produced 10th February 1930 and
entered 28th March 1930
at 11 o'clock in the After noon
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 4411 Fol. 186
REGISTRAR GENERAL.

No. B 998701 TRANSFER dated 8th April 1930
from the said John Strang to Margaret Georgina Taylor of (part of Lot 134 together with right of way)
5th April 1930
Produced and entered 1st September 1930
of the land within described
at 3 o'clock in the after noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol 4434 Fol. 23
REGISTRAR GENERAL.

No. C 22153 TRANSFER dated 8th November 1933
from the said John Strang to Horace Harvey John Hankin of Part (Subject to Covenant)
of the Land within described
Produced 12th December 1933 and
entered 15th February 1934
at 4 o'clock in the After noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol 4613 Fol. 70
REGISTRAR GENERAL.

Req:R831658 /Doc:DL 5409991 /Rev:25-Nov-1998 /NSW LRS /Pgs:ALL /Prt:27-Aug-2025 15:50 /Seq:1 of 1
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Form: 97-01T
Licence: 10V/0096/96
Edition: 9804

TRANSFER

New South Wales
Real Property Act 1900

5409991Y

STAMP DUTY Office of State Revenue use only

OFFICE OF STATE REVENUE
13/8/97 ASSESS PTO
NO STAMP DUTY IS PAYABLE ON THIS INSTRUMENT

(A) **TORRENS TITLE** If appropriate, specify the part or share transferred
Folio Identifier 10/881332

(B) **LODGED BY**

LTO Box	Name, Address or DX and Telephone	CODES
74S	ALLEN ALLEN & HEMSLEY DX 105 SYDNEY 9230 4000 Reference (optional): NJC1208852BXP	T TS (s713) TW (Sheriff)

(C) **TRANSFEROR** *THE COUNCIL OF THE SHIRE OF BAULKHAM HILLS*

(D) The transferor acknowledges receipt of the consideration of $ 275,000 and as regards the land specified above transfers to the transferee an estate in fee simple.

(E) Encumbrances (if applicable): 1. 2. 3.

(F) **TRANSFEREE** *QUEENSLAND INVESTMENT CORPORATION*

(G) **TENANCY:**

(H) We certify this dealing correct for the purposes of the Real Property Act 1900. **DATE:** DO NOT DATE

Signed in my presence by the transferor who is personally known to me.

THE COMMON SEAL of THE COUNCIL OF THE SHIRE OF BAULKHAM HILLS was hereunto affixed on the 13TH day of NOVEMBER 1998 pursuant to a resolution passed on the 25TH day of AUGUST 1998

~~Signature of witness~~:

~~Name of witness~~:

~~Address of witness~~:

~~Signature of transferor~~:

Mayor

General Manager

Signed in my presence by the transferee who is personally known to me.

Signature of witness:

Name of witness:

Address of witness:

Signature of transferee:

Nicholas Cowie

If signed on the transferee's behalf by a solicitor or licensed conveyancer, show the signatory's full name and capacity below:

Nicholas Cowie, Transferee's solcitor

All handwriting must be in block capitals.
A set of notes on this form (97-01T-2) is available from the Land Titles Office.

Checked by (LTO use):

Req:R831645 /Doc:DL AF789041 /Rev:01-Oct-2010 /NSW LRS /Pgs:ALL /Prt:27-Aug-2025 15:48 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Form: 10CN
Release: 3.0
www.lpma.nsw.gov.au

CHANGE OF NAME

New South Wales
Real Property Act 1900

AF789041E

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Regi... by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

(A) **TORRENS TITLE**

101/774379, 1/135699, 1/573243, 10/881332

(B) **REGISTERED DEALING**

Number	Torrens Title

(C) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODE
745	LLPN: 123024W Allens Arthur Robinson, DX105 Sydney, Tel 9230 4000 Reference: 120091879	CN

(D) **REGISTERED PROPRIETOR**

Whose name is to be changed; show the name as it currently appears on the folio of the Register

Queensland Investment Corporation

(E) **NEW NAME**

Of the above registered proprietor in full

QIC Limited (ACN 130 539 123)

(F) The registered proprietor(s) of the above land applies to have its new name recorded in the Register in respect of that land

(G) **STATUTORY DECLARATION BY THE APPLICANT***

I, Grant Richard Higgins of 58A Finney Road, Indooroopilly, QLD, solicitor

solemnly and sincerely declare that—

1. I am the solicitor for the registered proprietor.
2. See Annexure A.

I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Oaths Act 1867, and

I certify this application to be correct for the purposes of the Real Property Act 1900.

Made and subscribed at Brisbane in the State of Queensland

on 24 September 2010 in the presence of—

Signature of witness: _____ Signature of applicant: _____

Name of witness: SARA JANE IRONSIDE

Address of witness: 1/325 BRUNSWICK ST
NEW FARM QLD 4005

Qualification of witness: ☐ Justice of the Peace ☒ Practising Solicitor ☐ Other qualified witness *[specify]* _____

* As the Land and Property Management Authority may not be able to provide the services of a justice of the peace or other qualified witness, the statutory declaration should be signed and witnessed prior to lodgment.

(H) *This section is to be completed where a notice of sale is required and the relevant data has been forwarded to LPMA through eNOS.*

The applicant certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. _____ Full name: _____ Signature: _____

1003

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.

LAND AND PROPERTY MANAGEMENT AUTHORITY

B volume : EV 57545

Req:R831645 /Doc:DL AF789041 /Rev:01-Oct-2010 /NSW LRS /Pgs:ALL /Prt:27-Aug-2025 15:48 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Annexure **A** to CHANGE OF NAME

Parties:

QIC Limited (ACN 130 539 123)

Dated 24/9/10

QIC Limited (ACN 130 539 123)is a Government Owned Corporation under the Government Owned Corporations Act 1993 (Qld).

Until 30 September 2008 QIC Limited was a statutory Government Owned Corporation, existing as a body corporate established under the Queensland Investment Corporation Act 1991 (Qld) and named Queensland Investment Corporation.

On 30 September 2008 the Government Owned Corporations Amendment Regulation (No. 2) 2008 commenced and provided for Queensland Investment Corporation to continue in existence under the name QIC (section 4) and for QIC to be listed as a company Government Owned Corporation (schedule 2) known as QIC Limited. Attached and marked "A1" is a copy of the Government Owned Corporations Amendment Regulation (No. 2) 2008.

On 30 September 2008 QIC was registered under Part 5B.1 of the Corporations Act 2001 (Cth) as a public company limited by shares. QIC remains a company Government Owned Corporation (wholly owned by the State of Queensland) under the Government Owned Corporations Act 1993 (Qld).

Upon its registration under Part 5B.1 of the Corporations Act 2001 (Cth) on 30 September 2008 as a public company, QIC became known as QIC Limited. In accordance with section 601BM of the Corporations Act 2001, registration of QIC Limited under Part 5B.1 did not create a new legal entity, affect QIC Limited's existing property, rights or obligations (except as against the members of the body in their capacity as members) or render defective any legal proceedings by or against the body or its members. Attached and marked "A2" is a copy of the Certificate of Registration of a company for QIC Limited (ACN 130 539 123).

QIC Limited (ACN 130 539 123) is the same entity as Queensland Investment Corporation.

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

Title Search NSW

27/08/2025 12:11 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 11/881332

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2025	12:10 PM	2	22/7/2024

LAND

LOT 11 IN DEPOSITED PLAN 881332
AT CASTLE HILL
LOCAL GOVERNMENT AREA THE HILLS SHIRE
PARISH OF CASTLE HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP881332

FIRST SCHEDULE

RUTH HIRSCH

SECOND SCHEDULE (4 NOTIFICATIONS)

---

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 C221153 COVENANT
* 3 AK612646 CAVEAT BY RUTH HIRSCH
* 4 AU87109 CAVEAT BY PKE HILLS PTY LTD & MAVE CASTLE PTY LTD

NOTATIONS

DP1202947 NOTE: PLAN OF PROPOSED ACQUISITION

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

DI-E3391-2 PRINTED ON 27/8/2025

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register.
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Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Historical Title Search NSW

27/08/2025 12:11 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

27/8/2025 12:10PM

FOLIO: 11/881332

First Title(s): OLD SYSTEM

Prior Title(s): 2/204335

Recorded	Number	Type of Instrument	C.T. Issue
3/11/1998	DP881332	DEPOSITED PLAN	FOLIO CREATED EDITION 1
19/12/2014	DP1202947	DEPOSITED PLAN	
21/7/2016	AK612646	CAVEAT	
22/7/2024	AU87109	CAVEAT	EDITION 2

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Historical Title Search NSW

27/08/2025 04:11 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

27/8/2025 4:11PM

FOLIO: 2/204335

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 9047 FOL 33

Recorded	Number	Type of Instrument	C.T. Issue
4/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
6/6/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
3/11/1998	DP881332	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Req:R831981 /Doc:CT 09047-033 CT /Rev:08-Feb-2011 /NSW LRS /Pgs:ALL /Prt:27-Aug-2025 16:15 /Seq:1 of 2
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G. 1

NEW SOUTH WALES

[redacted]ICATE OF TITLE

[redacted]TY ACT, 1900, as amended.

(For Grant and title reference prior to first edition see Deposited Plan.)

09047033

Vol. 9047 Fol. 33

1st Edition issued 1-11-1961.

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

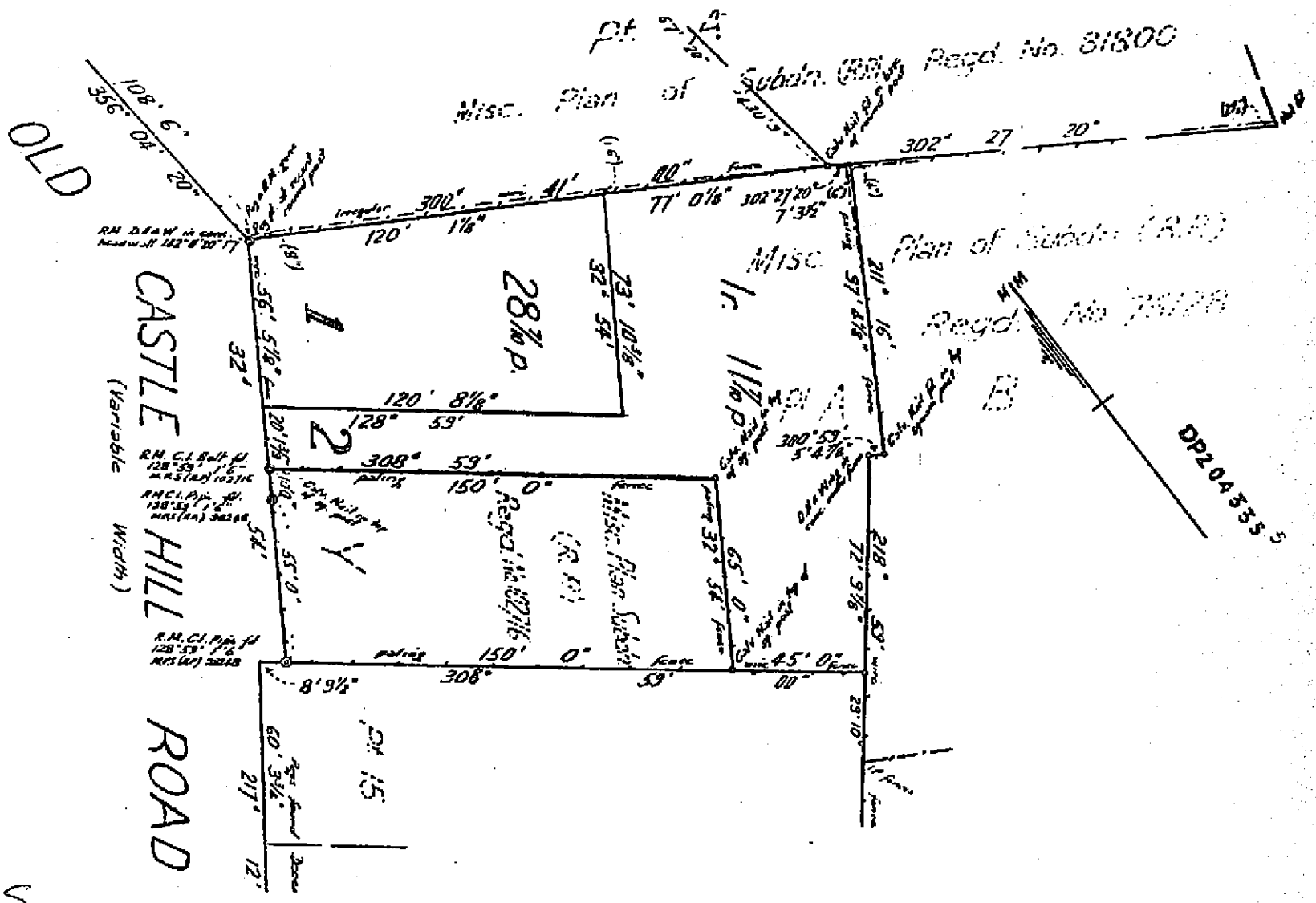
Witness J Jones

CANCELLED Janvalson

Registrar-General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND.



ESTATE AND LAND REFERRED TO.

Estate in Fee Simple in Lot 2 in Deposited Plan 204335s in the Shire of Baulkham Hills Parish of Castle Hill and County of Cumberland.

FIRST SCHEDULE (Continued overleaf)

~~HELDA LYLE WOODRIFF, of Castle Hill, Widow.~~

Janvalson

Registrar General.

GRY

SECOND SCHEDULE (Continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant(s) referred to in the said Deposited Plan.
2. Covenant created by Transfer No. C221153.
3. ~~Mortgage No. G599437 to Henry Oswald Woodriff of Penrith Estate Agent and Phyllis Muriel Woodriff of Castle Hill Spinster. Entered 29-10-1956.~~ discharged J440923

Janvalson

Registrar General.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

33 Fol. 9047 Vol. (Page 1)

25031 11.60 5t 1609 V. C. N. Blight, Government Printer

FIRST SCHEDULE (continued)

Vol. 9047 Fol. 33

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
~~Ebenezer Hurwitz of Castle Hill, shop keeper and Ruth Hurwitz his wife, as joint tenants~~ Ruth Hirsch by Transfer S622513. Registered 10-8-1981.	~~Transfer~~	~~T440924~~	~~4-9-1965~~	~~17-9-1965~~	

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
~~Mortgage~~	~~K96175~~	~~25-8-1965~~	~~to Ernst Hirsch, Clerk and Bertha Hirsch Saleswoman~~ both of Bondi	7-9-1965.		Discharged	M133402	

(Page 2 of 2 pages)

FORM No. 184

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

M133402
C.T. 6078
S622513
R

Req:R831981 /Doc:CT 09047-033 CT /Rev:08-Feb-2011 /NSW LRS /
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2
/Pgs:ALL /Prt:27-Aug-2025 16:15 /Seq:2 of 2

Req:R831650 /Doc:DL AV148978 /Rev:16-Jun-2025 /NSW LRS /Prt:27-Aug-2025 15:49 /Seq:1 of 2
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System Document Identification

Form Number: 01T-e
Template Number: t_nsw18
ELN Document ID: 3164896073
ELN NOS ID: 3164896075

TRANSFER

New South Wales
Real Property Act 1900

Land Registry Document Identification

AV148978

Stamp Duty: 11191334-001

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

LODGED BY:

Responsible Subscriber: UPG CONSULTING PTY LTD ABN 42666106716
Address: L 10, 11 Deane ST
Burwood 2134
Email: j.gillard@urbanpropertygroup.com.au
ELNO Subscriber Number: 2666892
Customer Account Number: 508060X
Document Collection Box: 1W
Client Reference: 16 Old Castle H

LAND TITLE REFERENCE

10/881332

TRANSFEROR

QIC LIMITED ACN 130539123
Registered company

TRANSFEREE

PKE HILLS PTY LTD ACN 675588600
Registered company
Share of whole of land/interest: 20/ 100

MAVE CASTLE HILL PTY LTD ACN 686187557
Registered company
Share of whole of land/interest: 80/ 100

Tenancy: Tenants in Common

CONSIDERATION

The transferor acknowledges receipt of the consideration of $2,799,500.00

ESTATE TRANSFERRED

FEE SIMPLE

The Transferor transfers to the Transferee the Estate specified in this Instrument and acknowledges receipt of any Consideration shown.

SIGNING FOR TRANSFEROR

I certify that:

1. The Certifier has taken reasonable steps to verify the identity of the transferor or his, her or its administrator or attorney.
2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
3. The Certifier has retained the evidence supporting this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.

Party Represented by Subscriber:

QIC LIMITED

Signed By: Andrew Graeme Steele
ELNO Signer Number: 68453
Signer Capacity: Practitioner Certifier
Digital Signing Certificate Number:

Req:R831650 /Doc:DL AV148978 /Rev:16-Jun-2025 /NSW LRS /Prt:27-Aug-2025 15:49 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Signed for Subscriber: PARTNERS OF CLAYTON UTZ ABN 35740217343

CLAYTON UTZ

Subscriber Capacity: Representative Subscriber

ELNO Subscriber Number: 8398 **Customer Account Number:** 501328

Date: 16/06/2025

SIGNING FOR TRANSFEREE

I certify that:

1. The Certifier has taken reasonable steps to verify the identity of the transferee or his, her or its administrator or attorney.
2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
3. The Certifier has retained the evidence supporting this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.

Party Represented by Subscriber:

PKE HILLS PTY LTD
MAVE CASTLE HILL PTY LTD

Signed By: Jayde Gillard **Signer Capacity:** Practitioner Certifier

ELNO Signer Number: 8421994 **Digital Signing Certificate Number:**

Signed for Subscriber: UPG CONSULTING PTY LTD ABN 42666106716

UPG CONSULTING PTY LTD

Subscriber Capacity: Representative Subscriber

ELNO Subscriber Number: 2666892 **Customer Account Number:** 508060

Date: 16/06/2025

Title Search NSW

27/08/2025 12:12 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/204335

SEARCH DATE	TIME	EDITION NO	DATE
27/8/2025	12:12 PM	1	22/7/2024

LAND

LOT 1 IN DEPOSITED PLAN 204335

LOCAL GOVERNMENT AREA THE HILLS SHIRE

PARISH OF CASTLE HILL COUNTY OF CUMBERLAND

TITLE DIAGRAM DP204335

FIRST SCHEDULE

RUTH HIRSCH (T S622512)

SECOND SCHEDULE (5 NOTIFICATIONS)

---

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

2 C221153 COVENANT

* 3 AK612646 CAVEAT BY RUTH HIRSCH

* 4 AU87010 CAVEAT BY MAVE CASTLE PTY LTD & PKE HILLS PTY LTD

* 5 AU87109 CAVEAT BY PKE HILLS PTY LTD & MAVE CASTLE PTY LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Historical Title Search NSW

27/08/2025 12:13 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

27/8/2025 12:12PM

FOLIO: 1/204335

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 9047 FOL 32

Recorded	Number	Type of Instrument	C.T. Issue
4/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
6/6/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
21/7/2016	AK612646	CAVEAT	
22/7/2024	AU87010	CAVEAT	
22/7/2024	AU87109	CAVEAT	EDITION 1

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Req:R832143 /Doc:CT 09047-032 CT /Rev:08-Feb-2011 /NSW LRS /Pgs:ALL /Prt:27-Aug-2025 16:30 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

G. 1

NEW SOUTH WALES

[redacted]ICATE OF TITLE

R[redacted]TY ACT, 1900, as amended.

09047032

(For Grant and title reference prior to first edition see Deposited Plan.)

Vol. 9047 Fol. 32

1st Edition issued 1-11-1961.

Vol. 9047 Fol. 32 (Page 1)

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

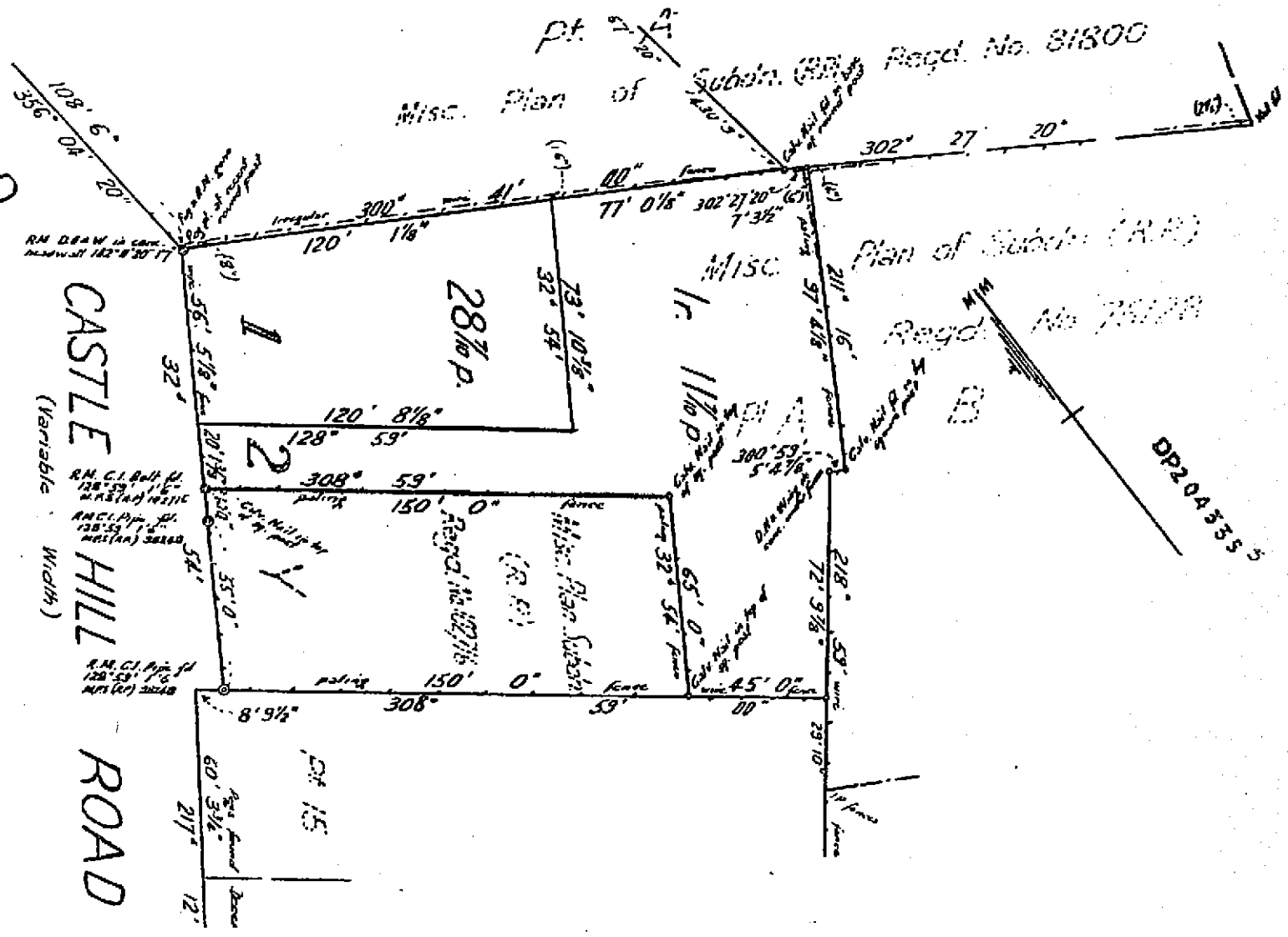
CANCELLED

Witness J Jona

Registrar-General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND.



ESTATE AND LAND REFERRED TO.

Estate in Fee Simple in Lot 1 in Deposited Plan 204335s in the Shire of Baulkham Hills Parish of Castle Hill and County of Cumberland.

FIRST SCHEDULE (Continued overleaf)

~~HILDA LYLE WOODRIFF, of Castle Hill, Widow.~~

Registrar General.

SECOND SCHEDULE (Continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant(s) referred to in the said Deposited Plan.
2. Covenant created by Transfer No. C221153.
3. ~~Mortgage No. G599437 to [redacted] Oswald Woodriff of Penrith Estate Agent and Phyllis Muriel Woodriff of Castle Hill Spinster. Entered 29-10-1956.~~ Discharged H939602

Registrar General.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED.

25031 11.60 St 1609 V. C. N. Blight, Government Printer

Vol. 9047 Fol. 32

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
~~Elc Bert Hirsch of Wintonthille, Hopfleifer and Ruth Hirsch as wife as joint tenants~~	~~Transfer~~	~~H939602~~	~~10-11-1966~~	~~8-12-1966~~	~~[signature]~~
Ruth Hirsch by Transfer S622512. Registered 10-8-1981.					[signature]

CANCELLED

SEE AUTO FOLIO

LTP 006

C.T. 6749

S622512T

R

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
~~Mortgage~~	~~H663600~~	~~23-3-1962~~	~~to The Commercial Bank of Australia Limited~~	~~14-6-1962~~	~~[signature]~~	~~Discharged~~	~~J951819~~	~~[signature]~~
~~Mortgage~~	~~J951820~~	~~18-1-1965~~	~~to Commonwealth Trading Bank of Australia~~	~~21-6-1965~~	~~[signature]~~	~~Discharged~~	~~L773006~~	~~[signature]~~

(Page 2 of 2 pages)

FORM No. 184

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

Req:R832143 /Doc:CT 09047-032 CT /Rev:08-Feb-2011 /NSW LRS /Pgs:ALL /Prt:27-Aug-2025 16:30 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Title Search NSW

08/09/2025 04:21 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 20/222257

SEARCH DATE	TIME	EDITION NO	DATE
8/9/2025	4:20 PM	2	22/7/2024

LAND

LOT 20 IN DEPOSITED PLAN 222257
AT CASTLE HILL
LOCAL GOVERNMENT AREA THE HILLS SHIRE
PARISH OF CASTLE HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP222257

FIRST SCHEDULE

RUTH HIRSCH (ND 6083562)

SECOND SCHEDULE (4 NOTIFICATIONS)

---

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 J716262 COVENANT
* 3 AK612646 CAVEAT BY RUTH HIRSCH
* 4 AU87109 CAVEAT BY PKE HILLS PTY LTD & MAVE CASTLE PTY LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Historical Title Search NSW

08/09/2025 04:21 PM

Client Reference: DI-E3391-2

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/9/2025 4:21PM

FOLIO: 20/222257

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 9896 FOL 123

Recorded	Number	Type of Instrument	C.T. Issue
4/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
29/4/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
19/8/1999	6083562	NOTICE OF DEATH	EDITION 1
21/7/2016	AK612646	CAVEAT	
22/7/2024	AU87109	CAVEAT	EDITION 2

*** END OF SEARCH ***

Direct Info Pty Ltd - ABN 25 160 378 263 an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar-General in accordance with Section 96B (2) of the Real Property Act, 1900.

Req:R893085 /Doc:CT 09896-123 CT /Rev:15-Feb-2011 /NSW LRS /Pgs:ALL /Prt:08-Sep-2025 16:23 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

[redacted]

IFICATE OF TITLE

NEW SOUTH WALES — ERTY ACT, 1900, as amended.

08896123

Vol. 9896 Fol. 123

Appln. No. 7192
Prior Title Vol. 6662 Fol. 63

1st Edition issued 17-12-1964.

(Page 1) Vol. 9896 Fol. 123

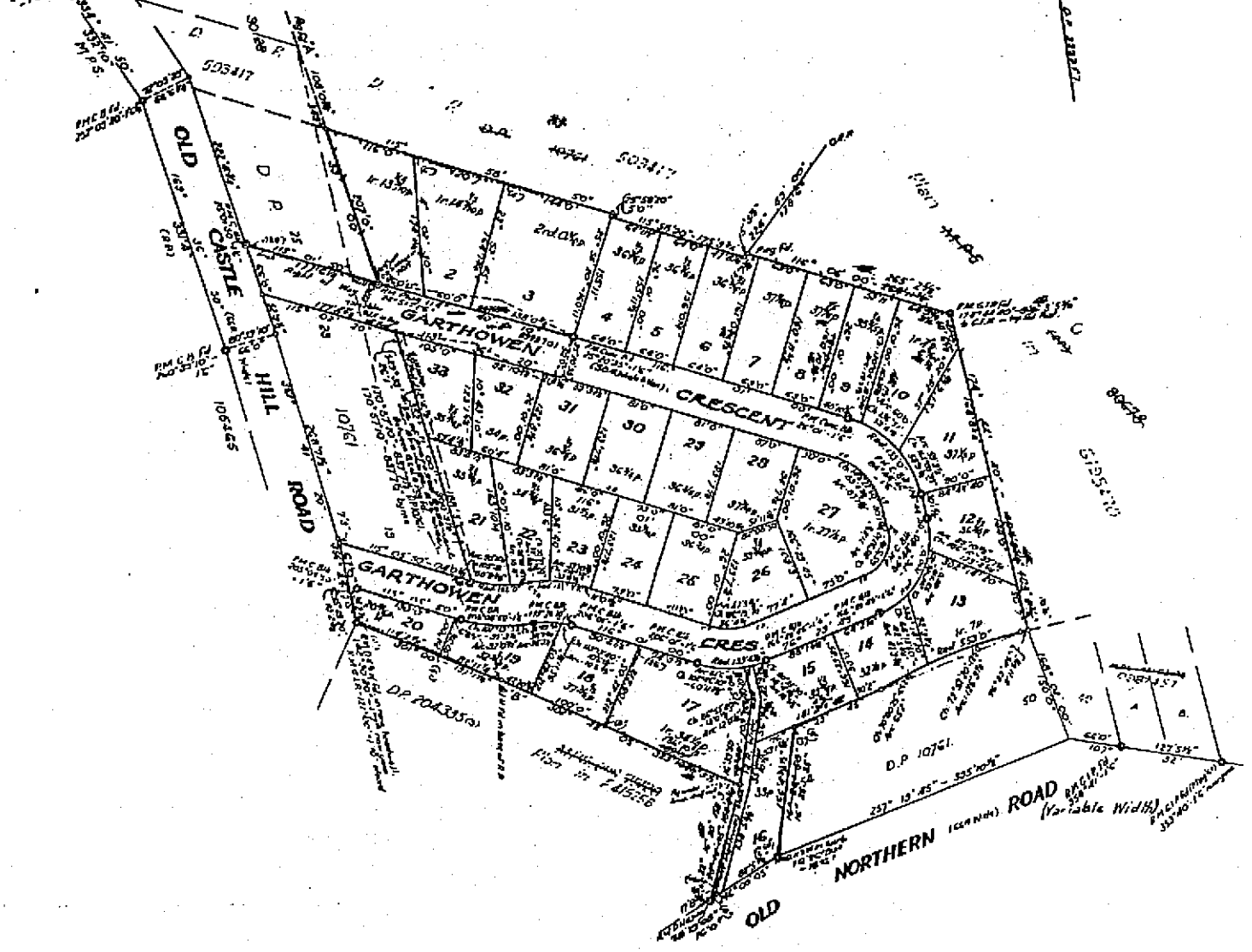
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *Mohen*

CANCELLED
Registrar General.

PLAN SHOWING LOCATION OF LAND

SEE AUTO FOLIO



ESTATE AND LAND REFERRED TO.

Estate in Fee Simple in Lot 20 in Deposited Plan 222257 at Castle Hill in the Shire of Baulkham Hills Parish of Castle Hill and County of Cumberland being part of Portion 136 granted to James Duff on 13-1-1818.

FIRST SCHEDULE (Continued overleaf)

~~JAMES DOUGLAS HAWKINS, Builder and THOMAS GORDON GEOFFREY HAWKINS, Accountant, both of Epping, as Tenants in Common.~~

Registrar General.

SECOND SCHEDULE (Continued overleaf)

GRY 1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
CV 2. Covenant created by Transfer No. J716262.

Registrar General.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Req:R893085 /Doc:CT 09896-123 CT /Rev:15-Feb-2011 /NSW LRS /Pgs:ALL /Prt:08-Sep-2025 16:23 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Vol. 9896 Fol. 123

BT 1608 V. C. N. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
The Council of the Shire of Baulkham Hills	Transfer	K287254	1-1-1965	7.7.1965	
Ui Bert Hirsch of Castle Hill, Merchant and Ruth Hirsch his wife, as joint tenants	Transfer	K671218	20-12-1965	22.5.1967	

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
			SEE AUTO FOLIO			

CANCELLED

FORM No. 62

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Req:R893164 /Doc:CT 06662-063 CT /Rev:09-Aug-2012 /NSW LRS /Prt:08-Sep-2025 16:31 /Seq:1 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

202

Appn. No. 7192

Reference to last Certificate

Vol. 5272 Fol. 44

Deposited Plan No.10761

New South Wales.

[CERTIFICATE OF TITLE.]

CANCELLED

Register Book.
Vol. 6662 Fol. 63

CANCELLED

WALTER ROBILLIARD THOMAS, of North Sydney, Grazier, Transferee under Instrument of Transfer No. F816011 is now the proprietor of an Estate in Fee Simple,

subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in that piece of land situated in the Shire of Baulkham Hills Parish of Castle Hill, and County of Cumberland containing Two acres one rood or thereabouts as shown in the plan hereon and therein edged red being Lot A in plan annexed to the said Instrument of Transfer No.F816011 and being part of 60 acres (Portion 136 of Parish) originally granted to James Duff by Crown Grant dated the 13th day of January 1818.

In witness whereof I have hereunto signed my name and affixed my Seal, this Fourth day of May, 1953

Signed in the presence of L.R. FitzGerald

J. Wells
Registrar-General.

NOTIFICATION REFERRED TO

No.F816011 Grant of Right of carriage way and right of footway as appurtenant to the land above described over the piece of land coloured brown in plan hereon.

J. Wells
Registrar General.

No.F816011 Grant of Easement as appurtenant to the land above described affecting the piece of land coloured brown in plan hereon.

J. Wells
Registrar General.



Scale: 100 feet to one inch

Alan Robert Debus of Castle Hill Supply Superintendent and Rita June Debus, his wife, are now the registered proprietors of the land within described as joint tenants

Subject to TRANSFER No. H 775780 dated 18th February 19 64.

Entered 28th February 19 64.

REGISTRAR GENERAL

No. H 956391 NOTICE OF RESUMPTION

THE COUNCIL OF THE SHIRE OF BAULKHAM HILLS is the proprietor of part of the land within described (including mines and deposits as provided by by Section 536 AA of the Local Government Act 1919 freed from all other interests

Entered 12th February 1963

REGISTRAR GENERAL

F816011

H956391 N/R Pt 2
J 155348 Mc
J 256226 Dmge
J 271140 Plot
Lot 2 Plan

Req:R893164 /Doc:CT 06662-063 CT /Rev:09-Aug-2012 /NSW LRS /Prt:08-Sep-2025 16:31 /Seq:2 of 2
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Mtge J155348 to The Commercial Banking Company of Sydney Limited of the residue

No. J155348 MORTGAGE dated 18th February 1961

Entered 28th February 1963

REGISTRAR GENERAL

DM J256226 Doc

MORTGAGE No. J155348 has been discharged.

No. J256226 Entered 28th February 1963.

REGISTRAR GENERAL

No. J271140 caveat. Produced 15th February 1963

Pte Entered 29th April 1963

J271140 as regards Lot 2 on plan annexed to caveat No. ~~J271140~~

Registrar General

The interest of the Council of the Shire of Baulkham Hills in the new road & appurtenant easement.

shown on D.P. 222257

Entered 23/9/1964

Registrar General

CAVEAT No. J271140 has been withdrawn.

See J747488 Entered 1st October 1964

REGISTRAR GENERAL

The easement, right of carriageway and right of footway created by Transfer No. F816011 have been released.

See J716259

See Transfer No. J716259.

Entered. 1st October, 1964.

Registrar General.

James Douglas Hawkins Builder and Thomas Gordon Geoffrey Hawkins Accountant both of Epping are

LOTS 18, 19 and 20 in DP and part of LOTS 21, 22, 23 part

now the registered proprietors of the land within described

as tenants in common

See TRANSFER No. J716262 dated 18th February 1963

Entered 1st October 1964

REGISTRAR GENERAL

The within mentioned Transfer No. J716262 contains a restrictive covenant affecting the land - Transfer J716262

Entered. 1st. October, 1964

Registrar General.

Prog. Lett. rec'd Phs. D.P. 222257

No dealings to be registered without reference to S.O.B.

This deed is cancelled as to the whole (ex road)

New Certificates of Title have issued for lots in Deposited Plan No. 222257 as follows:-

Lots 4 to 33 (incl) Vol. 9896 Fols 107 to 136 (incl) respectively

REGISTRAR GENERAL

Fee returned

Transfer J716262

CT 22-5-64 D.P. 222257 CT J716262 Lots 18, 19, 20, 21, 22, 23 Pt 24, 25 Pt

J747488 W/X (J271140) R

Prog. Lett. rec'd Phs. D.P. being whole CT (ex road)

Req:R893265 /Doc:CT 05272-044 CT /Rev:07-Aug-2012 /NSW LRS /Prt:08-Sep-2025 16:43 /Seq:1 of 4
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

Application No. 7192

Reference to last certificates

Vol. 4644 Fol. 69

" 4665 " 203

New South Wales.

85619

[CERTIFICATE OF TITLE.]

REGISTER BOOK.

Vol. 5272 Fol. 44

JOHN STRANG, of Castle Hill, Retired Grazier, Transferee as to part under Instrument of Transfer No. D56677 and as to the other part by virtue of Certificate of Title Volume 4644 Folio 69, now surrendered for consolidation is now the proprietor of an Estate in Fee Simple, subject nevertheless to the reservations and conditions if any contained in the Grant hereinafter referred to and also subject to such encumbrances liens and interests as are notified hereon in That piece of land situated in the Shire of Baulkham Hills Parish of Castle Hill and County of Cumberland containing Fourteen acres thirty one perches or thereabouts as shown in the plan hereon and therein edged red and also shown as to part in plan endorsed on Order No. C271155 and as to the other part in plan annexed to the said Instrument of Transfer No. D56677 being Lot 18 and part of Lots 34, 35 and 55 in Deposited Plan No. 10761 and being also part of 60 acres (Portion 136 of Parish) originally granted to James Duff by Crown Grant dated the 13th day of January 1818.

IN WITNESS whereof I have hereunto signed my name and affixed my Seal, this Fifteenth day of October, 1941.

Signed in the presence of J. H. Ledgard

Registrar General.

NOTIFICATION REFERRED TO

No. B998701 Grant of Right of Way over the piece of land 66 feet wide and variable width coloured brown in plan hereon.

Registrar General.

No. D 128841 APPLICATION BY TRANSMISSION Hilda Lyle Woodriff of Palmwoody Queensland, Kathleen Grace Lowe of Penrith, Married Women and Margaret Georgina Taylor of Avalon, Widow, are now the registered Proprietors as joint tenants of the land within described in pursuance of the above Application Produced 12th May 1942 and entered 2nd July 1942 at 12 o'clock in the noon.

REGISTRAR GENERAL

No. D 128842 CAVEAT dated 12th May 1942 by the Registrar General. Produced 12th May 1942 and entered 2nd July 1942 at 12 o'clock in the noon.

REGISTRAR GENERAL

No. D 844582 MORTGAGE dated 28th April 1948 from the said Hilda Lyle Woodriff Kathleen Grace Lowe and Margaret Georgina Taylor to The National Bank of Australasia Limited. Produced 30th June 1948 and entered 28th June 1948 at 2 minutes to 3 o'clock in the after noon.

REGISTRAR GENERAL

No. F 353055 TRANSFER dated 10th October 1950 from the said Hilda Lyle Woodriff Kathleen Grace Lowe and Margaret Georgina Taylor to the said Hilda Lyle Woodriff Kathleen Grace Lowe and Penrith Married Women and Margaret Georgina Taylor of Avalon Widow of the land within described Produced 28th November 1950 and entered 20th March 19[illegible] at 12 o'clock in the noon.

J. Wells

REGISTRAR GENERAL

No. F 659194 DISCHARGE of within mortgage No. D 844 582 dated 1st May 1952 Produced and entered 5th May 1952 at 46 minutes past 1 o'clock in the after noon.

J. Wells

REGISTRAR GENERAL

No. F 816011 TRANSFER dated 22nd April 1952 from the said Hilda Lyle Woodriff Kathleen Grace Lowe Margaret Georgina Taylor and Mary Strang to Walter Robilliard Thomas of North Sydney Grazier of part Together with right of carriage way and foot way and together with easement of the land within described Produced 7th May 1952 and entered 1st May 1952 at 12 o'clock in the noon.

As to land in this Transfer this Certificate is cancelled and new Certificate issued Vol. 6662 Fol. 63

J. Wells

REGISTRAR GENERAL

This Deed is Cancelled and Certificate of Title Issued Vol. 6662 Fol. 65 for residue

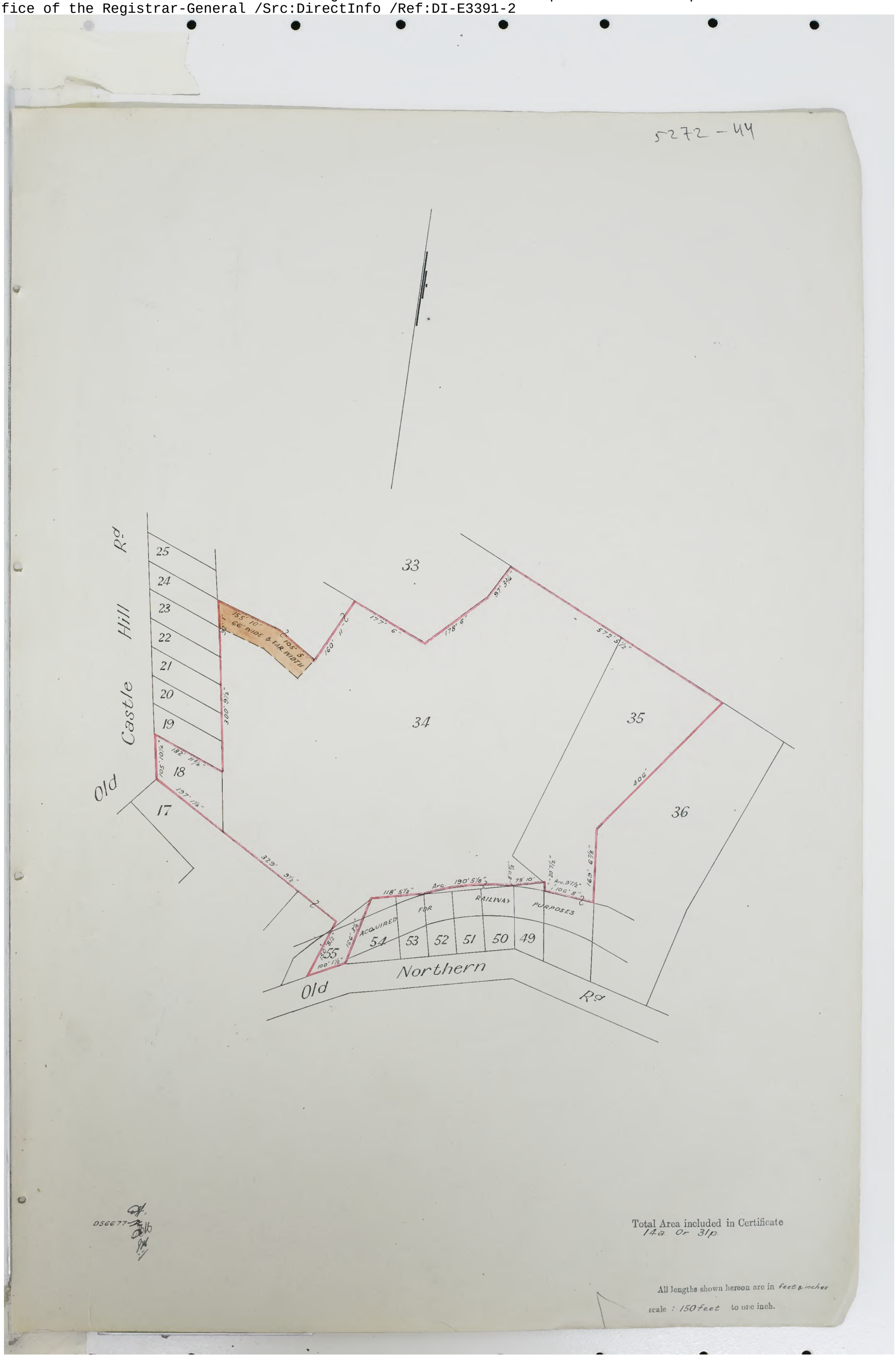
J. Wells

REGISTRAR GENERAL

D 128841 2R D 844582 MR C.T. 7.11.50 F353055 R F659195 B/O (Withdrawn 6.1.53) (Withdrawn) F660335 Lot A (Plan) Rejected 6.1.53 F816011 Lot (a) (Plan) 2 plan. with Refusal F821682 O Rel

Req:R893265 /Doc:CT 05272-044 CT /Rev:07-Aug-2012 /NSW LRS /Prt:08-Sep-2025 16:43 /Seq:3 of 4
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5272 - 44



056677

Total Area included in Certificate
14a 0r 31p.

All lengths shown hereon are in feet & inches

Scale : 150 feet to one inch.

Req:R893673 /Doc:CT 04644-069 CT /Rev:07-Aug-2012 /NSW LRS /Prt:08-Sep-2025 17:36 /Seq:1 of 4
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203.

New South Wales.

16793 11.33

No. of Application 7192
Reference to last Certificate
Volume 3727 Folio 140

[CERTIFICATE OF TITLE.]

Order No C 271155

REGISTER BOOK.
VOL. 4644 FOL. 69

CANCELLED

John Strang of Castle Hill Retired Grazier by virtue of Certificate of Title Volume 3727 Folio 140 now surrendered is now the proprietor of an estate in fee simple subject nevertheless to the reservations and conditions if any, contained in the Grant hereinafter referred to and also subject to such encumbrances, liens and interests as are notified hereon in That piece of land situated in the State of Baulkham Hills Parish of Castle Hill and County of Cumberland containing Fourteen acres two perches or thereabouts as shown in the plan hereon and therein edged red, and also shown in plan endorsed on Order No C 271155 being Lot 18 and part of Lots 34, 35 and 55 in Deposited Plan No 10761 and being also part of 60 acres (Portion 136 of Parish) originally granted to James Duff by Crown Grant dated the 13th day of January 1818

In Witness whereof I have hereunto signed my name and affixed my seal this Twenty-eighth day of August 1934

Signed in the presence of [illegible]

Roy W. Wells
Registrar General

Notification referred to

No B998701 Grant of Right of Way over the piece of land 66 feet wide and variable width colored brown in plan hereon

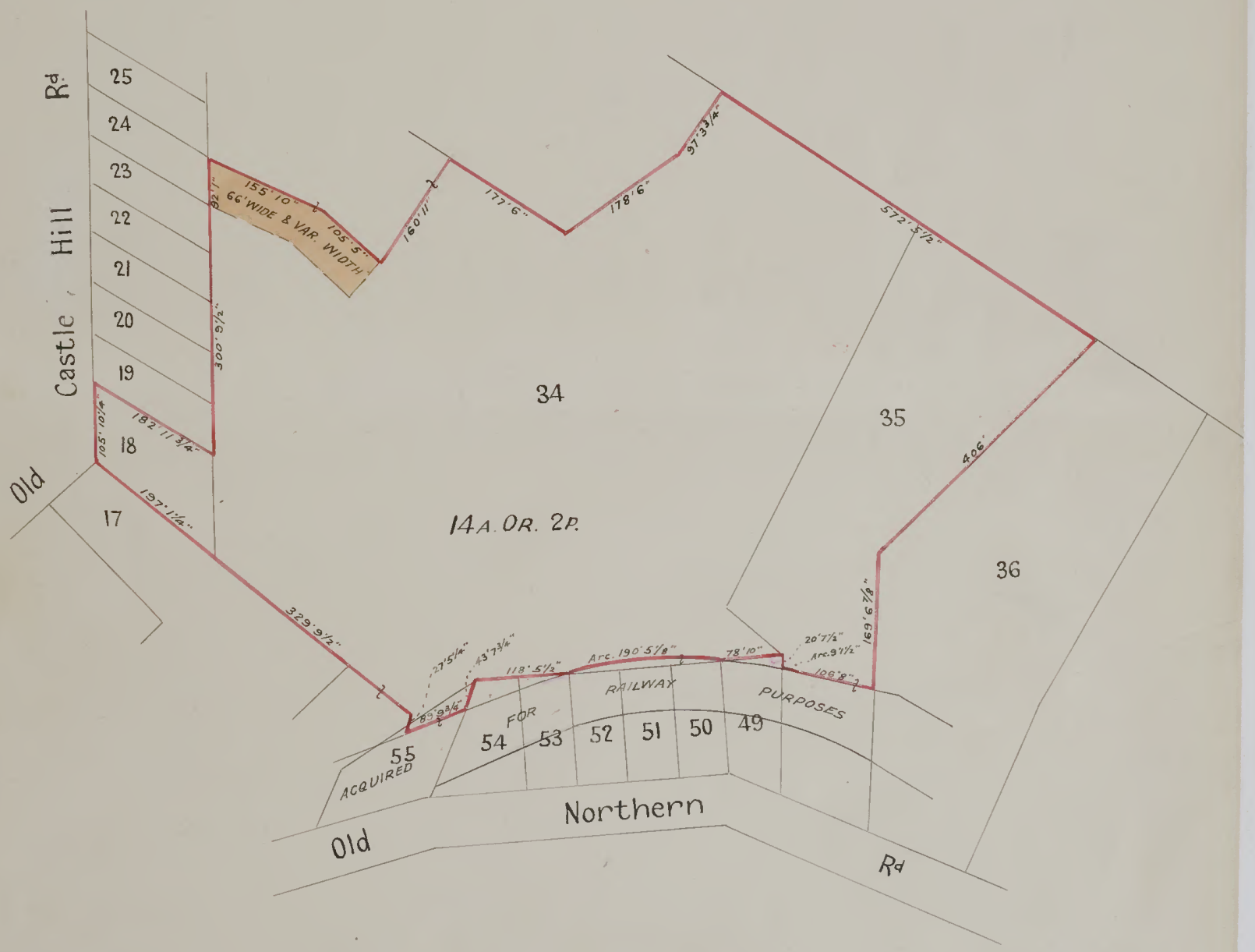
Roy W. Wells
Registrar General

This Deed is Cancelled and Certificate of Title issued
Vol. 5272 Fol 44
Roy W. Wells
Registrar General.
T. D56677

D56677 Cancelled.

Req:R893673 /Doc:CT 04644-069 CT /Rev:07-Aug-2012 /NSW LRS /Prt:08-Sep-2025 17:36 /Seq:3 of 4
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

4644 - 69



C 271158

~~Total Area included in Certificate~~

All lengths shown hereon are in feet and inches

Scale 150 ft. to one inch.

18793 11.33

Req:R893676 /Doc:CT 04665-203 CT /Rev:07-Aug-2012 /NSW LRS /Prt:08-Sep-2025 17:36 /Seq:1 of 4
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

03.

Application No.7192

Reference to last certificate

Volume 3777 Folio 150.

New South Wales.

Partially Cancelled 20503 .630

[CERTIFICATE OF TITLE.]

ORDER No. C289142

RESIDUE AFTER SURRENDER No.C289845.

REGISTER BOOK.

VOL. 4665 FOL. 203

CANCELLED

THE COMMISSIONER FOR RAILWAYS by virtue of Certificate of Title Volume 3777 Folio 150 now surrendered as to residue after Surrender No.C289845 is now the proprietor of an Estate in Fee Simple subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens and interests as are notified hereon, in those pieces of land situated in the Shire of Baulkham Hills, Parish of Castle Hill, and County of Cumberland, containing Seven acres six perches or thereabouts as shown in the plan hereon and therein edged red, being Lot 38, Lots 40 to 47 inclusive, Lots 49 and 50, part of Lots 35 and 55 and parts of Lot 34 in Deposited Plan No.10761, and being also parts of 60 acres (Portion 136 of Parish) originally granted to James Duff by Crown Grant dated the 13th day of January 1818.

In witness whereof I have hereunto signed my name and affixed my Seal, this 16th day of January 1935.

Signed in the presence of

Roy W. Wills
Registrar General.

Notification referred to

No. C445084 TRANSFER dated 3rd June 1936
from the said The Commissioner for Railways to George Alexander Miers of Lot 38 and 40 to 47 inclusive D.P.10761
of the land within described
Produced 12th June 1936 and entered 26th June 1936
at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 4771 Fol. 93
REGISTRAR GENERAL.

PARTIALLY CANCELLED Certificate of Title delivered pursuant to Section 50 of the Real Property Act 1900.
Vide 1936 Mu286
REGISTRAR GENERAL

No. D26572 TRANSFER dated 5th September 1941
from the said The Commissioner for Railways to Horace Harvey John Rankin, of part
of the land within described
Produced 24th February 1944 and entered 6th April 1944
at 10 o'clock in the fore noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 5272 Fol. 46
REGISTRAR GENERAL.

CANCELLED

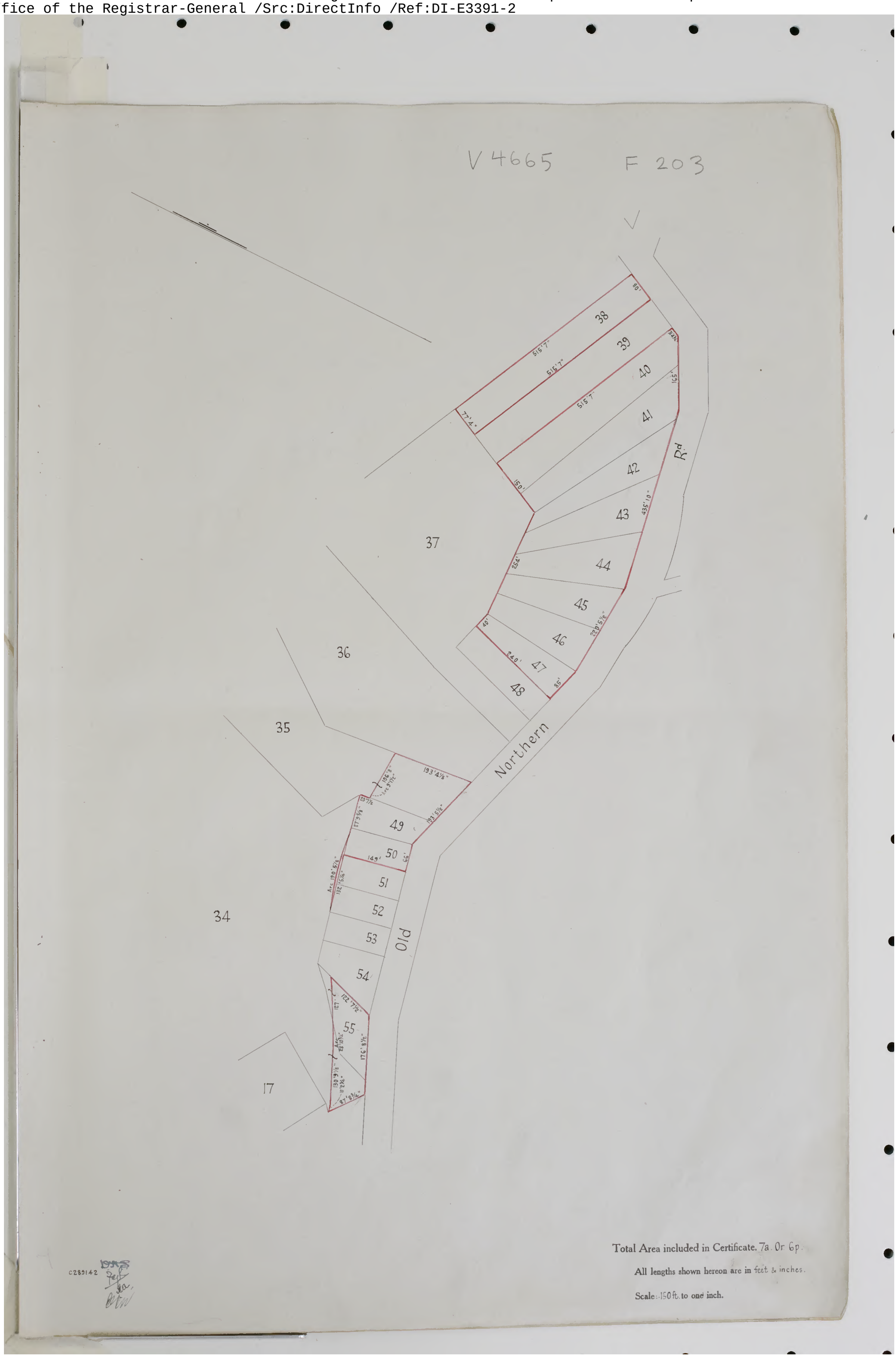
No. D26677 TRANSFER dated 2nd September 1941
from the said The Commissioner for Railways to John Strang of part Lot 55 DP 10761
of the land within described
Produced 10th September 1941 and entered 9th October 1941
at 11 o'clock in the fore noon.
As to land in this transfer this Certificate is cancelled and new Certificate is and Vol. 5272 Fol. 44
REGISTRAR GENERAL.

No. D28770 TRANSFER dated 18th June 1941
from the said The Commissioner for Railways to Joseph Alexander Jackson of part
of the land within described
Produced 20th June 1941 and entered 28th November 1941
at 12 o'clock in the noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 5247 Fol. 22/23
REGISTRAR GENERAL.

C 445084 Lots 38 etc 10761 R
Cert'd 6/9/1941
6/9/1941
D28770R
D26677 R
D26572 R

Req:R893676 /Doc:CT 04665-203 CT /Rev:07-Aug-2012 /NSW LRS /Prt:08-Sep-2025 17:36 /Seq:3 of 4
© Office of the Registrar-General /Src:DirectInfo /Ref:DI-E3391-2

V 4665 F 203



Total Area included in Certificate. 7a. 0r. 6p.

All lengths shown hereon are in feet & inches.

Scale: 150 ft. to one inch.

C283142

APPENDIX G: BOREHOLE LOGS

© Foundation Earth Sciences 2025

FOUNDATION EARTH SCIENCES

Borehole No: BH1

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.73035	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00923	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 138(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 1 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			137.7	0.3		F	Silty Clay (F): high plasticity, brown, with fine gravel, stiff to very stiff, w = ll.	w ≈ LL	D-St-VSt	E3391-2_BH1_0_0.1_		
						CH	Silty Clay (CH): high plasticity, brown & red, stiff to very stiff, w > pl.	w > PL	St-VSt	E3391-2_BH1_0.3_0.4_		
			137.2	0.8		CH	Silty Clay (CH): high plasticity, light brown & grey mottled red, stiff to very stiff, w = pl.	w ≈ PL	St-VSt			
			137.0				BH1 Terminated at 1 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH2

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.73018	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00905	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 132.62(m)	**Reviewed By**	:	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 1.5 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			132.0			CH	Silty Clay (CH): high plasticity, brown & red, stiff to very stiff, w = ll.	w ≈ LL	St-VSt	E3391-2_BH2_0_0.1_		
			131.72	0.9						E3391-2_BH2_0.3_0.4_		
				1		CH	Silty Clay (CH): high plasticity, light brown & grey mottled red, very stiff, w = pl.	w ≈ PL	VSt			1
							BH2 Terminated at 1.5 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH3

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.72990	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00916	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 132.66(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 0.5 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			132.56	0.1		F	Silty Sandy Clay (F): medium plasticity, fine grained sand, brown, soft, w = pl.	w ≈ PL	VL-S			
						F	Silty Clay (F): medium to high plasticity, brown, trace fine gravel, firm, w = pl.	w ≈ PL	MD-F	E3391-2_BH3_0.2_0.3_		
			132.26	0.4		CH	Silty Clay (CH): high plasticity, brown & red, stiff, w = pl.	w ≈ PL	St			
							BH3 Terminated at 0.5 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH4

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.72998	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00955	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 133(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 0.6 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			132.9	0.1		F	Silty Clay (F): high plasticity, dark brown, Trace fine sand, soft to firm, w = pl.	w ≈ PL	L-S-F			
						F	Silty Clay (F): high plasticity, brown, firm, w = pl.	w ≈ PL	MD-F	E3391-2_BH4_0.1_0.2_		
			132.7	0.3		CH	Silty Clay (CH): high plasticity, brown & grey mottled orange, firm to stiff, w = pl.	w ≈ PL	F-St			
			132.5	0.5		CH	Silty Clay (CH): high plasticity, brown & red, stiff to very stiff, w = pl.	w ≈ PL	St-VSt			
							BH4 Terminated at 0.6 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH5

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.73013	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00958	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 137.05(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 1 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			137.0			F	Silty Gravelly Clay (F): high plasticity, dark brown, firm, w = pl.	w ≈ PL	MD-D-F	E3391-2_BH5_0.1_0.2_		
			136.75	0.3		CH	Silty Clay (CH): high plasticity, brown & red, stiff to very stiff, w = pl.	w ≈ PL	St-VSt	E3391-2_BH5_0.4_0.5_		
							BH5 Terminated at 1 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH6

UTM	: 56H	**Driller Rig**	:	**Job Number**	: E3391-2
Latitude	: -33.73013	**Driller Supplier**	:	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00953	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 136.55(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 0.5 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			136.25	0.3		F	Silty Clay (F): medium plasticity, dark brown to brown, trace fine gravel, soft to firm, w = pl.	w ≈ PL	L-MD-S-F	E3391-2_BH6_0_0.1_		
						CH	Silty Clay (CH): high plasticity, brown & red, stiff to very stiff, w = pl.	w ≈ PL	St-VSt	E3391-2_BH6_0.3_0.4_		
							BH6 Terminated at 0.5 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH7

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.73036	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00936	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 139.75(m)	**Reviewed By**	:	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 0.3 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			139.55	0.2		F	Silty Gravelly Clay (F): medium to high plasticity, dark brown, firm to stiff, w = pl.	w ≈ PL	MD-F-St	E3391-2_BH7_0_0.1_		
						F	Silty Gravelly Clay (F): high plasticity, brown, firm to stiff, w = pl.	w ≈ PL	MD-D-F-St			
							BH7 Refusal at 0.3 m (Refusal large rocks)					

FOUNDATION EARTH SCIENCES

Borehole No: BH8

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.72990	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00942	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 133.72(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 1 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			133.62	0.1		F	Silty Clay (F): high plasticity, dark brown, Trace fine sand, soft to firm, w = pl.	w ≈ PL	L-S-F			
						F	Silty Clay (F): high plasticity, brown, firm, w = pl.	w ≈ PL	MD-F	E3391-2_BH8_0.1_0.2_		
			133.32	0.4		CH	Silty Clay (CH): high plasticity, brown & red, firm to stiff, w = pl.	w ≈ PL	F-St	E3391-2_BH8_0.5_0.6_		
			133.02 133.0	0.7		CH	Silty Clay (CH): high plasticity, light brown & grey mottled red, stiff to very stiff, w = pl.	w ≈ PL	St-VSt			
							BH8 Terminated at 1 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH9

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.73021	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00930	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 136.93(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 0.5 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			136.83	0.1		F	Silty Clay (F): medium to high plasticity, brown & dark brown, Trace fine sand, soft to firm, w = pl.	w ≈ PL	MD-S-F			
						F	Silty Clay (F): high plasticity, brown, firm to stiff, w = pl.	w ≈ PL	MD-F-St	E3391-2_BH9_0.1_0.2_		
			136.63	0.3		CH	Silty Clay (CH): high plasticity, brown & red, stiff, w = pl.	w ≈ PL	St	E3391-2_BH9_0.3_0.4_		
							BH9 Terminated at 0.5 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH10

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.73010	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00917	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 133.97(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 0.6 m	**Date**	: 22/08/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			133.57	0.4		F	Silty Gravelly Clay (F): medium plasticity, dark brown, Trace fine sand, soft to firm, w = pl.	w ≈ PL	MD-S-F	E3391-2_BH10_0.1_0.2_		
						CH	Silty Clay (CH): high plasticity, brown & red, stiff, w = pl.	w ≈ PL	St			
							BH10 Terminated at 0.6 m					

FOUNDATION EARTH SCIENCES

Borehole No: BH11

UTM	: 56H	**Driller Rig**	: Hand Auger	**Job Number**	: E3391-2
Latitude	: -33.73026	**Driller Supplier**	: Foundation Earth Sciences	**Client**	: UPG Castle Corner Pty Ltd
Longitude	: 151.00950	**Logged By**	: Daniel Gibbs	**Project**	: Castle Hill
Elevation	: 138.85(m)	**Reviewed By**	: Michael Silk	**Location**	: 16-20 Old Castle Hill Rd, Castle Hill NSW 2154, Australia
Total Depth	: 0.4 m	**Date**	: 08/09/2025	**Loc Comment**	:

Drilling Method	Water	Well Diagram	RL (m)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture	Consistency	Samples Tests Remarks	Additional Observations	Depth (m)
			138.65	0.2		F	Silty Gravelly Clay (F): medium to high plasticity, dark brown, Trace fine sand, firm, w = pl.	w ≈ PL	L-MD-F	E3391-2_BH11_0.1_0.2_		
						CH	Silty Clay (CH): high plasticity, brown & red, stiff, w = pl.	w ≈ PL	St			
							BH11 Terminated at 0.4 m					

FOUNDATION EARTH SCIENCES

METHODS OF SOIL DESCRIPTION USED ON BOREHOLE LOGS

FILL	ORGANIC SOILS (OL, OH, Pt)	CLAY (CL, CI, or CH)
COUBLES or BOULDERS	SILT (ML or MH)	SAND (SP or SW)
GRAVEL (GP or GW)	Combinations of these basic symbols may be sued to indicate mixed materials	

CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil is broadly classified and described in borehole logs using the preferred method given in AS 1726:2017, section 6.1 soil descriptions and classification.

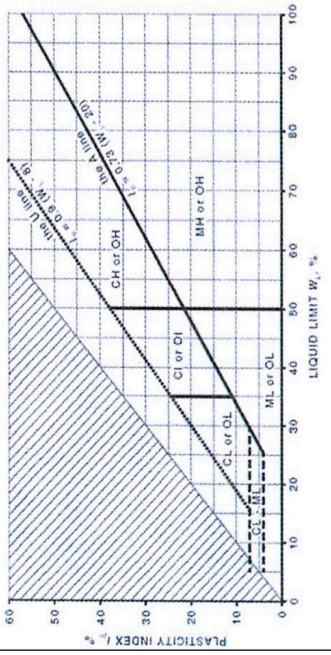
GROUP SYMBOLS

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

PARTICLE SIZE CHARACTERISTICS

Fraction	Components	Subdivision	Size mm
Oversize	BOULDERS		>200
	COBBLES		63-200
	GRAVEL	Coarse	19-63
		Medium	6.7-19
		Fine	2.36-6.7
	SAND	Coarse	0.6-2.36
		Medium	0.21-0.6
		Fine	0.075-0.21
	SILT		0.002-0.075
	CLAY		<0.002

PLASTICITY PREOPERTIES



FOUNDATION EARTH SCIENCES

ABBREVIATIONS AND DESCRIPTIONS FOR ROCK MATERIAL AND DEFECTS

MOISTURE CONDITION

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

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

CONSISTENCY

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

DENSITY

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

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

MINOR COMPONENTS

TERM	ASSESSMENT GUIDE	PROPORTION BY MASS
Trace	Presence just detectable by feel or eye but soil properties little or no difference to general properties of primary component	Coarse grained soils: <%5 Fine grained soils: <15%
With	Presence easily detectable by feel or eye but soil properties little or no difference to general properties of primary component	Coarse grained soils: 5-12% Fine grained soils: 15-30%
Prefix	Presence easily detectable by feel or eye in conjunction with the general properties of primary component	Coarse grained soils: >12% Fine grained soils: >30%

CLASSIFICATION AND INFERRED STRATIGRAPHY

Rock is broadly classified and described in borehole logs using the preferred method given in AS 1726:2017, section 6.2 Rock identification, descriptions, and classification.

ROCK MATERIAL DESCRIPTION

Layering

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

Structure

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

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT TYPES

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

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT SHAPE AND ROUGHNESS

Shape	Abbr.	Description	Roughness	Abbr.	Description
Planar	Pl	Consistent Orientation	Polished	Pol	Shiny smooth surface
Curved	Cu	Gradual change in orientation	Slickensided	SL	Grooved or stained surface, usually polished
Undulating	Un	Wavy surface	Smooth	S	Smooth to touch. Few or no surface irregularities
Stepped	St	One or more well defined steps	Rough	RF	Many small surface irregularities, amplitude generally <1mm. Feels like fine to coarse sandpaper
Irregular	Ir	Many sharp changes in orientation	Very Rough	VR	Many large surface irregularities, amplitude generally >1mm. Feels like very coarse sandpaper.

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

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT COATING

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

DEFECT APERTURE

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

FOUNDATION EARTH SCIENCES

TERMS FOR ROCK MATERIAL STRENGTH AND WEATHERING

CLASSIFICATION AND INFERRED STRATIGRAPHY

Rock is broadly classified and described in borehole logs using the preferred method given in AS 1726:2017, section 6.2 Rock identification, descriptions, and classification.

ROCK MATERIAL STRENGTH CLASSIFICATION

Symbol	Term	Point Load Index $I_{s(50)}$ (MPa)#	Field Guide
VL	Very Low	0.03 To 0.01	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut triaxial sample by hand. Pieces up to 30mm can be broken by finger pressure.
L	Low	0.1 to 0.3	Easily scored with knife; indentations 1mm to 3mm show in the specimen with firm blows of pick point; has dull sound under hammer. A piece of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
M	Medium	0.3 – 1	Readily scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty
H	High	1 to 3	A piece of core 150mm long by 50mm diameter cannot be broken by hand but can be broken with a pick with a single firm blow; rock rings under hammer.
VH	Very High	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
EH	Extremely High	>10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

#Rock Strength Test Results

▼ Point Load Strength Index, Is (50) Axial Test (MPa)

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

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

ROCK MATERIAL WEATHERING CLASSIFICATION

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

APPENDIX H: NATA ACCREDICTED LABORATORY CERTIFICATE

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CERTIFICATE OF ANALYSIS 389888

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3391-2 Castle Hill**
Number of Samples	1 Water
Date samples received	02/09/2025
Date completed instructions received	02/09/2025

Analysis Details

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

Samples were analysed as received from the client unless as indicated below in the method summaries. 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	09/09/2025
Date of Issue	04/09/2025

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

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

Authorised By
Nancy Zhang, Laboratory Manager

VOCs in water		
Our Reference		389888-1
Your Reference	UNITS	SS1
Date Sampled		01/09/2025
Type of sample		Water
Date Extracted	-	03/09/2025
Date Analysed	-	04/09/2025
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1

VOCs in water		
Our Reference		389888-1
Your Reference	UNITS	SS1
Date Sampled		01/09/2025
Type of sample		Water
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	95
Surrogate Toluene-d8	%	97
Surrogate 4-Bromofluorobenzene	%	95

vTRH(C6-C10)/BTEXN in Water		
Our Reference	UNITS	389888-1
Your Reference		SS1
Date Sampled		01/09/2025
Type of sample		Water
Date extracted	-	03/09/2025
Date analysed	-	04/09/2025
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	95
Surrogate Toluene-d8	%	97
Surrogate 4-Bromofluorobenzene	%	95

svTRH (C10-C40) in Water		
Our Reference	UNITS	389888-1
Your Reference		SS1
Date Sampled		01/09/2025
Type of sample		Water
Date extracted	-	03/09/2025
Date analysed	-	04/09/2025
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	<50
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	<50
Surrogate o-Terphenyl	%	99

PAHs in Water		
Our Reference		389888-1
Your Reference	UNITS	SS1
Date Sampled		01/09/2025
Type of sample		Water
Date extracted	-	03/09/2025
Date analysed	-	04/09/2025
Naphthalene	µg/L	<0.1
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5
Total +ve PAH's	µg/L	<0.1
Surrogate p-Terphenyl-d14	%	104

HM in water - dissolved		
Our Reference		389888-1
Your Reference	UNITS	SS1
Date Sampled		01/09/2025
Type of sample		Water
Date prepared	-	03/09/2025
Date analysed	-	03/09/2025
Arsenic-Dissolved	µg/L	1
Cadmium-Dissolved	µg/L	0.2
Chromium-Dissolved	µg/L	1
Copper-Dissolved	µg/L	1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	6
Zinc-Dissolved	µg/L	20

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation.
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-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date Extracted	-			03/09/2025	[NT]	[NT]	[NT]	[NT]	03/09/2025	[NT]
Date Analysed	-			04/09/2025	[NT]	[NT]	[NT]	[NT]	04/09/2025	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	119	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	109	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate Toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	92	[NT]	[NT]	[NT]	[NT]	104	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			03/09/2025	[NT]	[NT]	[NT]	[NT]	03/09/2025	[NT]
Date analysed	-			04/09/2025	[NT]	[NT]	[NT]	[NT]	04/09/2025	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	111	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	111	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	119	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	109	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate Toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	92	[NT]	[NT]	[NT]	[NT]	104	[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	-			03/09/2025	[NT]	[NT]	[NT]	[NT]	03/09/2025	[NT]
Date analysed	-			04/09/2025	[NT]	[NT]	[NT]	[NT]	04/09/2025	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	106	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	113	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	106	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	113	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	108	[NT]	[NT]	[NT]	[NT]	115	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			03/09/2025	[NT]	[NT]	[NT]	[NT]	03/09/2025	[NT]
Date analysed	-			04/09/2025	[NT]	[NT]	[NT]	[NT]	04/09/2025	[NT]
Naphthalene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	66	[NT]
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	68	[NT]
Fluorene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	68	[NT]
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	69	[NT]
Anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	69	[NT]
Pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	67	[NT]
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	64	[NT]
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	88	[NT]	[NT]	[NT]	[NT]	84	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date prepared	-			03/09/2025	[NT]	[NT]	[NT]	[NT]	03/09/2025	[NT]
Date analysed	-			03/09/2025	[NT]	[NT]	[NT]	[NT]	03/09/2025	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	109	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	93	[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.

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.

Air volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volumes) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

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.

For Dust Deposit Gauge (DDG) analysis the sampling, sampling period and funnel exposure area do not fall under Envirolab's NATA accreditation (unless the Newcastle laboratory where responsible for the sampling), hence the annotation on the DDG units of reporting.

Urine Analysis - The BEI values listed are taken from the 2022 edition of "TLVs and BEIs Threshold Limits" by ACGIH.

VOC 2/9/25, 1657

FOUNDATION EARTH SCIENCES

Client Details:			
Delivery Details:			

#	Sample ID	Depth	Date Sampled	Matrix	Analytes: Heavy Metals (8)	TRH	BTEXN	PAH Low	VOC	TRH C6-C10 & BTEXN	PFAS							Envirolab Suites	Sample Comments
1	SS1	-	01/09/25	Water	X	X	X	X	X										Keep
																			Keep
																			Keep
																			Keep
																			Keep
																			Keep

Special Directions and Coments:

Relinquished by	DG	Received By		Method of shipment
Signature	DG	Signature		Courier
Date	02/09/25	Date		

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

Job No: 389888
Date Received: 2.9.25
Time Received: 1550
Received By: ACD
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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

SAMPLE RECEIPT ADVICE

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley

Sample Login Details

Your reference	E3391-2 Castle Hill
Envirolab Reference	389888
Date Sample Received	02/09/2025
Date Instructions Received	02/09/2025
Date Results Expected to be Reported	09/09/2025

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

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

Analysis Underway, details on the following page:

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

Sample ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	HM in water - dissolved
SS1	✓	✓	✓	✓	✓

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

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

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill**
Order Number	**E3391--2**
Samples	6

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE288675 R0**
Date Received	2/9/2025
Date Reported	9/9/2025

COMMENTS

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

SIGNATORIES

Bennet LO
Senior Chemist

Gemma MOON
Organic Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

VOCs in Water [AN433] Tested: 4/9/2025

PARAMETER	UOM	LOR	GW1 WATER - 1/9/2025 SE288675.001	GW2 WATER - 1/9/2025 SE288675.002	GW3 WATER - 1/9/2025 SE288675.003	D1 WATER - 1/9/2025 SE288675.004	TS WATER - 1/9/2025 SE288675.005
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[103%]
Toluene	µg/L	0.5	<0.5	<0.5	**0.8**	<0.5	[102%]
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[103%]
m/p-xylene	µg/L	1	<1	<1	<1	<1	[102%]
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[103%]
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	-
Total BTEX	µg/L	3	<3	<3	<3	<3	-
Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	[89%]
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	0.5	<0.5	<0.5	<0.5	<0.5	-
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	**0.9**	**40**	**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	-
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	**14**	<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	-
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	**1.6**	<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	-
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	-
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	-
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	-

VOCs in Water [AN433] Tested: 4/9/2025 (continued)

PARAMETER	UOM	LOR	GW1 WATER - 1/9/2025 SE288675.001	GW2 WATER - 1/9/2025 SE288675.002	GW3 WATER - 1/9/2025 SE288675.003	D1 WATER - 1/9/2025 SE288675.004	TS WATER - 1/9/2025 SE288675.005
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	-
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	-
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	-
cis-1,4-dichloro-2-butene	µg/L	1	-	-	-	-	-
Total VOC	µg/L	10	<10	<10	57	<10	-

VOCs in Water [AN433] Tested: 4/9/2025 (continued)

PARAMETER	UOM	LOR	TB WATER - 1/9/2025 SE288675.006
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
m/p-xylene	µg/L	1	<1
o-xylene	µg/L	0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene (VOC)*	µg/L	0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	-
Chloromethane	µg/L	5	-
Vinyl chloride (Chloroethene)	µg/L	0.3	-
Bromomethane	µg/L	10	-
Chloroethane	µg/L	5	-
Trichlorofluoromethane	µg/L	1	-
Acetone (2-propanone)	µg/L	10	-
Iodomethane	µg/L	5	-
1,1-dichloroethene	µg/L	0.5	-
Acrylonitrile	µg/L	0.5	-
Dichloromethane (Methylene chloride)	µg/L	5	-
Allyl chloride	µg/L	2	-
Carbon disulfide	µg/L	2	-
trans-1,2-dichloroethene	µg/L	0.5	-
MtBE (Methyl-tert-butyl ether)	µg/L	0.5	-
1,1-dichloroethane	µg/L	0.5	-
Vinyl acetate*	µg/L	10	-
MEK (2-butanone)	µg/L	10	-
cis-1,2-dichloroethene	µg/L	0.5	-
Bromochloromethane	µg/L	0.5	-
Chloroform (THM)	µg/L	0.5	-
2,2-dichloropropane	µg/L	0.5	-
1,2-dichloroethane	µg/L	0.5	-
1,1,1-trichloroethane	µg/L	0.5	-
1,1-dichloropropene	µg/L	0.5	-
Carbon tetrachloride	µg/L	0.5	-
Dibromomethane	µg/L	0.5	-
1,2-dichloropropane	µg/L	0.5	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	-
2-nitropropane	µg/L	100	-
Bromodichloromethane (THM)	µg/L	0.5	-
MIBK (4-methyl-2-pentanone)	µg/L	5	-
cis-1,3-dichloropropene	µg/L	0.5	-
trans-1,3-dichloropropene	µg/L	0.5	-
1,1,2-trichloroethane	µg/L	0.5	-
1,3-dichloropropane	µg/L	0.5	-
Dibromochloromethane (THM)	µg/L	0.5	-
2-hexanone (MBK)	µg/L	5	-
1,2-dibromoethane (EDB)	µg/L	0.5	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	-
1,1,1,2-tetrachloroethane	µg/L	0.5	-
Chlorobenzene	µg/L	0.5	-
Bromoform (THM)	µg/L	0.5	-
Styrene (Vinyl benzene)	µg/L	0.5	-
1,1,2,2-tetrachloroethane	µg/L	0.5	-
1,2,3-trichloropropane	µg/L	0.5	-
trans-1,4-dichloro-2-butene	µg/L	1	-
Isopropylbenzene (Cumene)	µg/L	0.5	-

VOCs in Water [AN433] Tested: 4/9/2025 (continued)

PARAMETER	UOM	LOR	TB WATER - 1/9/2025 SE288675.006
Bromobenzene	µg/L	0.5	-
n-propylbenzene	µg/L	0.5	-
2-chlorotoluene	µg/L	0.5	-
4-chlorotoluene	µg/L	0.5	-
1,3,5-trimethylbenzene	µg/L	0.5	-
tert-butylbenzene	µg/L	0.5	-
1,2,4-trimethylbenzene	µg/L	0.5	-
sec-butylbenzene	µg/L	0.5	-
1,3-dichlorobenzene	µg/L	0.5	-
1,4-dichlorobenzene	µg/L	0.3	-
p-isopropyltoluene	µg/L	0.5	-
1,2-dichlorobenzene	µg/L	0.5	-
n-butylbenzene	µg/L	0.5	-
1,2-dibromo-3-chloropropane	µg/L	0.5	-
1,2,4-trichlorobenzene	µg/L	0.5	-
Hexachlorobutadiene	µg/L	0.5	-
1,2,3-trichlorobenzene	µg/L	0.5	-
cis-1,4-dichloro-2-butene	µg/L	1	-
Total VOC	µg/L	10	-

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 4/9/2025

PARAMETER	UOM	LOR	GW1 WATER - 1/9/2025 SE288675.001	GW2 WATER - 1/9/2025 SE288675.002	GW3 WATER - 1/9/2025 SE288675.003	D1 WATER - 1/9/2025 SE288675.004	TB WATER - 1/9/2025 SE288675.006
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 8/9/2025

PARAMETER	UOM	LOR	GW1 WATER - 1/9/2025 SE288675.001	GW2 WATER - 1/9/2025 SE288675.002	GW3 WATER - 1/9/2025 SE288675.003	D1 WATER - 1/9/2025 SE288675.004
TRH C10-C14	µg/L	50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320	<320

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 8/9/2025

PARAMETER	UOM	LOR	GW1 WATER - 1/9/2025 SE288675.001	GW2 WATER - 1/9/2025 SE288675.002	GW3 WATER - 1/9/2025 SE288675.003	D1 WATER - 1/9/2025 SE288675.004
Naphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	**0.1**	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	**0.1**	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1	**0.2**	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1	<1	<1

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 5/9/2025

PARAMETER	UOM	LOR	GW1 WATER - 1/9/2025 SE288675.001	GW2 WATER - 1/9/2025 SE288675.002	GW3 WATER - 1/9/2025 SE288675.003	D1 WATER - 1/9/2025 SE288675.004
Arsenic	µg/L	1	1	14	17	1
Cadmium	µg/L	0.1	<0.1	<0.1	<0.1	0.2
Chromium	µg/L	1	<1	<1	5	<1
Copper	µg/L	1	<1	2	16	1
Lead	µg/L	1	<1	<1	2	<1
Nickel	µg/L	1	3	18	4	5
Zinc	µg/L	5	10	16	12	18

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 4/9/2025

PARAMETER	UOM	LOR	GW1 WATER - 1/9/2025 SE288675.001	GW2 WATER - 1/9/2025 SE288675.002	GW3 WATER - 1/9/2025 SE288675.003	D1 WATER - 1/9/2025 SE288675.004
Mercury, Hg	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoveerable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		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: https://www.sgs.com/en-au/industry/environmental-health-and-safety .

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STATEMENT OF QA/QC PERFORMANCE

SE288675 R0

CLIENT DETAILS

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Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill**
Order Number	**E3391--2**
Samples	6

LABORATORY DETAILS

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SGS Reference	**SE288675 R0**
Date Received	02 Sep 2025
Date Reported	09 Sep 2025

COMMENTS

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

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

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

SAMPLE SUMMARY

Sample counts by matrix	6 Water	Date documentation received	2/9/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.3°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

HOLDING TIME SUMMARY

SE288675 R0

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

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

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

Mercury (dissolved) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW1	SE288675.001	LB359693	01 Sep 2025	02 Sep 2025	29 Sep 2025	04 Sep 2025	29 Sep 2025	05 Sep 2025
GW2	SE288675.002	LB359693	01 Sep 2025	02 Sep 2025	29 Sep 2025	04 Sep 2025	29 Sep 2025	05 Sep 2025
GW3	SE288675.003	LB359693	01 Sep 2025	02 Sep 2025	29 Sep 2025	04 Sep 2025	29 Sep 2025	05 Sep 2025
D1	SE288675.004	LB359693	01 Sep 2025	02 Sep 2025	29 Sep 2025	04 Sep 2025	29 Sep 2025	05 Sep 2025

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW1	SE288675.001	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025
GW2	SE288675.002	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025
GW3	SE288675.003	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025
D1	SE288675.004	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025

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
GW1	SE288675.001	LB359795	01 Sep 2025	02 Sep 2025	28 Feb 2026	05 Sep 2025	28 Feb 2026	08 Sep 2025
GW2	SE288675.002	LB359795	01 Sep 2025	02 Sep 2025	28 Feb 2026	05 Sep 2025	28 Feb 2026	08 Sep 2025
GW3	SE288675.003	LB359795	01 Sep 2025	02 Sep 2025	28 Feb 2026	05 Sep 2025	28 Feb 2026	08 Sep 2025
D1	SE288675.004	LB359795	01 Sep 2025	02 Sep 2025	28 Feb 2026	05 Sep 2025	28 Feb 2026	08 Sep 2025

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
GW1	SE288675.001	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025
GW2	SE288675.002	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025
GW3	SE288675.003	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025
D1	SE288675.004	LB359963	01 Sep 2025	02 Sep 2025	08 Sep 2025	08 Sep 2025	18 Oct 2025	09 Sep 2025

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW1	SE288675.001	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
GW2	SE288675.002	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
GW3	SE288675.003	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
D1	SE288675.004	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
TS	SE288675.005	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
TB	SE288675.006	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GW1	SE288675.001	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
GW2	SE288675.002	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
GW3	SE288675.003	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
D1	SE288675.004	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025
TS	SE288675.005	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	08 Sep 2025
TB	SE288675.006	LB359678	01 Sep 2025	02 Sep 2025	15 Sep 2025	04 Sep 2025	15 Sep 2025	05 Sep 2025

SURROGATES

SE288675 R0

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GW1	SE288675.001	%	40 - 130%	66
	GW2	SE288675.002	%	40 - 130%	63
	GW3	SE288675.003	%	40 - 130%	71
	D1	SE288675.004	%	40 - 130%	70
d14-p-terphenyl (Surrogate)	GW1	SE288675.001	%	40 - 130%	72
	GW2	SE288675.002	%	40 - 130%	71
	GW3	SE288675.003	%	40 - 130%	71
	D1	SE288675.004	%	40 - 130%	75
d5-nitrobenzene (Surrogate)	GW1	SE288675.001	%	40 - 130%	71
	GW2	SE288675.002	%	40 - 130%	65
	GW3	SE288675.003	%	40 - 130%	72
	D1	SE288675.004	%	40 - 130%	71

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GW1	SE288675.001	%	40 - 130%	97
	GW2	SE288675.002	%	40 - 130%	99
	GW3	SE288675.003	%	40 - 130%	98
	D1	SE288675.004	%	40 - 130%	97
	TS	SE288675.005	%	40 - 130%	96
	TB	SE288675.006	%	40 - 130%	96
d4-1,2-dichloroethane (Surrogate)	GW1	SE288675.001	%	40 - 130%	87
	GW2	SE288675.002	%	40 - 130%	87
	GW3	SE288675.003	%	40 - 130%	78
	D1	SE288675.004	%	40 - 130%	87
	TS	SE288675.005	%	40 - 130%	100
	TB	SE288675.006	%	40 - 130%	82
d8-toluene (Surrogate)	GW1	SE288675.001	%	40 - 130%	80
	GW2	SE288675.002	%	40 - 130%	81
	GW3	SE288675.003	%	40 - 130%	78
	D1	SE288675.004	%	40 - 130%	80
	TS	SE288675.005	%	40 - 130%	93
	TB	SE288675.006	%	40 - 130%	79

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GW1	SE288675.001	%	40 - 130%	97
	GW2	SE288675.002	%	40 - 130%	99
	GW3	SE288675.003	%	40 - 130%	98
	D1	SE288675.004	%	40 - 130%	97
	TB	SE288675.006	%	40 - 130%	96
d4-1,2-dichloroethane (Surrogate)	GW1	SE288675.001	%	60 - 130%	87
	GW2	SE288675.002	%	60 - 130%	87
	GW3	SE288675.003	%	60 - 130%	78
	D1	SE288675.004	%	60 - 130%	87
	TB	SE288675.006	%	60 - 130%	82
d8-toluene (Surrogate)	GW1	SE288675.001	%	40 - 130%	80
	GW2	SE288675.002	%	40 - 130%	81
	GW3	SE288675.003	%	40 - 130%	78
	D1	SE288675.004	%	40 - 130%	80
	TB	SE288675.006	%	40 - 130%	79

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

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

Mercury (dissolved) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB359693.001	Mercury, Hg	mg/L	0.0001	<0.0001

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result
LB359963.001		Naphthalene	µg/L	0.1	<0.1
		2-methylnaphthalene	µg/L	0.1	<0.1
		1-methylnaphthalene	µg/L	0.1	<0.1
		Acenaphthylene	µg/L	0.1	<0.1
		Acenaphthene	µg/L	0.1	<0.1
		Fluorene	µg/L	0.1	<0.1
		Phenanthrene	µg/L	0.1	<0.1
		Anthracene	µg/L	0.1	<0.1
		Fluoranthene	µg/L	0.1	<0.1
		Pyrene	µg/L	0.1	<0.1
		Benzo(a)anthracene	µg/L	0.1	<0.1
		Chrysene	µg/L	0.1	<0.1
		Benzo(a)pyrene	µg/L	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
		Dibenzo(ah)anthracene	µg/L	0.1	<0.1
		Benzo(ghi)perylene	µg/L	0.1	<0.1
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	48
		2-fluorobiphenyl (Surrogate)	%	-	45
		d14-p-terphenyl (Surrogate)	%	-	46

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number	Parameter	Units	LOR	Result
LB359795.001	Arsenic	µg/L	1	<1
	Cadmium	µg/L	0.1	<0.1
	Chromium	µg/L	1	<1
	Copper	µg/L	1	<1
	Lead	µg/L	1	<1
	Nickel	µg/L	1	<1
	Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB359963.001	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
LB359678.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Bromomethane	µg/L	10	<10
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		1,1-dichloroethene	µg/L	0.5	<0.5
		Iodomethane	µg/L	5	<5
		Dichloromethane (Methylene chloride)	µg/L	5	<5
		Allyl chloride	µg/L	2	<2
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5

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
LB359678.001	Halogenated Aliphatics	Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		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
		1,2,4-trimethylbenzene	µg/L	0.5	<0.5
		sec-butylbenzene	µg/L	0.5	<0.5
		p-isopropyltoluene	µg/L	0.5	<0.5
		n-butylbenzene	µg/L	0.5	<0.5
	Nitrogenous Compounds	Acrylonitrile	µg/L	0.5	<0.5
	Oxygenated Compounds	Acetone (2-propanone)	µg/L	10	<10
		MtBE (Methyl-tert-butyl ether)	µg/L	0.5	<0.5
		Vinyl acetate*	µg/L	10	<10
		MEK (2-butanone)	µg/L	10	<10
		MIBK (4-methyl-2-pentanone)	µg/L	5	<5
		2-hexanone (MBK)	µg/L	5	<5
	Polycyclic VOCs	Naphthalene (VOC)*	µg/L	0.5	<0.5
	Sulphonated	Carbon disulfide	µg/L	2	<2
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	81
		d8-toluene (Surrogate)	%	-	77
		Bromofluorobenzene (Surrogate)	%	-	92
	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
LB359678.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	81
		d8-toluene (Surrogate)	%	-	77

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

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

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

Sample Number		Parameter	Units	LOR	Result
LB359678.001	Surrogates	Bromofluorobenzene (Surrogate)	%	-	92

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 %
SE288662.015	LB359693.014	Mercury, Hg	µg/L	0.0001	<0.0001	<0.0001	129	0

Trace Metals (Dissolved) in Water by ICPMS

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288675.001	LB359795.014	Arsenic	µg/L	1	1	1	100	1
		Cadmium	µg/L	0.1	<0.1	<0.1	148	0
		Chromium	µg/L	1	<1	<1	200	0
		Copper	µg/L	1	<1	<1	200	0
		Lead	µg/L	1	<1	<1	200	0
		Nickel	µg/L	1	3	3	53	0
		Zinc	µg/L	5	10	9	68	2
SE288805.001	LB359795.024	Arsenic	µg/L	1	1	1	97	1
		Cadmium	µg/L	0.1	<0.1	<0.1	200	0
		Chromium	µg/L	1	<1	<1	194	0
		Copper	µg/L	1	<1	<1	118	0
		Lead	µg/L	1	<1	<1	200	0
		Nickel	µg/L	1	15	15	22	1
		Zinc	µg/L	5	78	78	21	0

VOCs in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288618.001	LB359678.024	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.4	8.0	30	5
			d8-toluene (Surrogate)	µg/L	-	8.0	7.5	30	7
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	7.9	30	21
		Totals	Total BTEX	µg/L	3	<3	<3	200	0
SE288652.025	LB359678.025	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
			Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.2	7.5	30	10
			d8-toluene (Surrogate)	µg/L	-	7.9	7.5	30	5
			Bromofluorobenzene (Surrogate)	µg/L	-	9.7	8.0	30	19
		Totals	Total BTEX	µg/L	3	<3	<3	200	0

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288618.001	LB359678.024		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.4	8.0	30	5
			d8-toluene (Surrogate)	µg/L	-	8.0	7.5	30	7
			Bromofluorobenzene (Surrogate)	µg/L	-	9.8	7.9	30	21
		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
SE288652.025	LB359678.025		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.2	7.5	30	10
			d8-toluene (Surrogate)	µg/L	-	7.9	7.5	30	5
			Bromofluorobenzene (Surrogate)	µg/L	-	9.7	8.0	30	19
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB359963.002		Naphthalene	µg/L	0.1	29	40	60 - 140	72
		Acenaphthylene	µg/L	0.1	31	40	60 - 140	77
		Acenaphthene	µg/L	0.1	31	40	60 - 140	77
		Phenanthrene	µg/L	0.1	30	40	60 - 140	76
		Anthracene	µg/L	0.1	29	40	60 - 140	72
		Fluoranthene	µg/L	0.1	29	40	60 - 140	73
		Pyrene	µg/L	0.1	31	40	60 - 140	78
		Benzo(a)pyrene	µg/L	0.1	32	40	60 - 140	80
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.2	0.5	40 - 130	46
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.2	0.5	40 - 130	47
		d14-p-terphenyl (Surrogate)	µg/L	-	0.2	0.5	40 - 130	46

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB359795.002		Arsenic	µg/L	1	20	20	80 - 120	99
		Cadmium	µg/L	0.1	20	20	80 - 120	102
		Chromium	µg/L	1	21	20	80 - 120	103
		Copper	µg/L	1	21	20	80 - 120	106
		Lead	µg/L	1	21	20	80 - 120	107
		Nickel	µg/L	1	21	20	80 - 120	105
		Zinc	µg/L	5	21	20	80 - 120	103

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB359963.002		TRH C10-C14	µg/L	50	1100	1000	60 - 140	110
	TRH F Bands	TRH >C10-C16	µg/L	60	1100	1000	60 - 140	111

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB359678.002	Halogenated	1,1-dichloroethene	µg/L	0.5	62	45.45	60 - 140	136
	Aliphatics	1,2-dichloroethane	µg/L	0.5	55	45.45	60 - 140	120
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	42	45.45	60 - 140	92
	Halogenated	Chlorobenzene	µg/L	0.5	39	45.45	60 - 140	86
	Monocyclic	Benzene	µg/L	0.5	27	25	60 - 140	109
	Aromatic	Toluene	µg/L	0.5	27	25	60 - 140	107
		Ethylbenzene	µg/L	0.5	26	25	60 - 140	103
		m/p-xylene	µg/L	1	49	50	60 - 140	98
		o-xylene	µg/L	0.5	25	25	60 - 140	102
	Trihalomethan	Chloroform (THM)	µg/L	0.5	54	45.45	60 - 140	118

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB359678.002		TRH C6-C10	µg/L	50	390	400	60 - 140	98
		TRH C6-C9	µg/L	40	360	350	60 - 140	102

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%
SE288595.001	LB359693.004	Mercury, Hg	mg/L	0.0001	0.0018	<0.0001	0.008	93

Trace Metals (Dissolved) in Water by ICPMS

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE288873.008	LB359795.004	Arsenic	µg/L	1	20	<1	20	102
		Cadmium	µg/L	0.1	21	<0.1	20	105
		Chromium	µg/L	1	21	<1	20	106
		Copper	µg/L	1	22	<1	20	109
		Lead	µg/L	1	22	<1	20	110
		Nickel	µg/L	1	22	<1	20	108
		Zinc	µg/L	5	22	<5	20	109

VOCs in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE288662.015	LB359678.026	Monocyclic Aromatic	Benzene	µg/L	0.5	0.01987775199	25	110
			Toluene	µg/L	0.5	0.06386182050	25	109
			Ethylbenzene	µg/L	0.5	0.00900429487	25	99
			m/p-xylene	µg/L	1	0.03833711857	50	99
			o-xylene	µg/L	0.5	0.01098808222	25	99
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	0.03144078606	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.55664213307	-	75
			d8-toluene (Surrogate)	µg/L	-	7.93606690555	-	74
			Bromofluorobenzene (Surrogate)	µg/L	-	9.71679360897	-	82
		Totals	Total BTEX	µg/L	3	0	-	-

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE288662.015	LB359678.026		TRH C6-C10	µg/L	50	0	400	88
			TRH C6-C9	µg/L	40	0	350	91
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.55664213307	-	75
			d8-toluene (Surrogate)	µg/L	-	7.93606690555	-	74
			Bromofluorobenzene (Surrogate)	µg/L	-	9.71679360897	-	82
		VPH F Bands	Benzene (F0)	µg/L	0.5	0.01987775199	-	-
			TRH C6-C10 minus BTEX (F1)	µg/L	50	0	-	-

MATRIX SPIKE DUPLICATES

SE288675 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/en-au/industry/environmental-health-and-safety

*	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.
NA	Not Applicable
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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FOUNDATION EARTH SCIENCES

Chain of Custody Record

Client Details:	Foundation Earth Sciences PO Box 4405, East Gosford NSW 2250 email: ben@foundationes.com.au, d.gibbs@foundationes.com.au michael@foundationes.com.au; khy@foundationes.com.au ph: +61466 385 221	**Project Manager:**	Michael Silk	**Project #:** E3391-2	
		Sampled By:	DG	**Project Name:** Castle Hill	
Delivery Details:	SGS Laboratories Pty Ltd Unit 16, 33 Maddox Street, Alexandria NSW 2015 email: au.samplereceipt@sgs.com ph: +612 8594 0400	**Purchase Order #:**	N/A	**Quote #:**	
		Page #:	1	**Turnaround:** Standard	

#	Sample ID	Depth	Date Sampled	Matrix	Analytes													Sample Comments
					TDS		EC	HM	TRH	BTEXN	PAH Low		VOC	TSS	Turbidity	Oil and Grease	Faecal Coliforms	Suites	
1	GW1	-	01/09/25	Water				X	X	X	X		X					CL12 & CL18	Keep
2	GW2	-	01/09/25	Water				X	X	X	X		X					CL12 & CL18	Keep
3	GW3	-	01/09/25	Water				X	X	X	X		X					CL12 & CL18	Keep
4	D1		01/09/25	Water				X	X	X	X		X					CL12 & CL18	Keep
5-6	TS/TB	-	01/09/25	Water					x	X			x						Keep

Special Directions and Coments:

Relinquished by	DG	**Received By**	Jel K
Signature	DG	**Signature**	
Date	02/09/25	**Date**	2/9 @ 5:35

SGS EHS Sydney COC

SE288675

source: Document_250905_135204.pdf page: 1 SGS Ref: SE288675_COC

Yin, Emily (Alexandria)

From: Michael Silk <michael@foundationes.com.au>
Sent: Friday, 5 September 2025 11:27 AM
To: AU.Environmental.Sydney, AU (Sydney)
Cc: AU.SampleReceipt.Sydney, AU (Sydney); ben@foundationes.com.au; andrew@foundationes.com.au; d.gibbs@foundationes.com.au; khy@foundationes.com.au
Subject: [EXTERNAL] Re: SGS Sample Receipt Advice (Ref: E3391-2 Castle Hill, Lab Ref: SE288675)

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

Hi
please stick with the regular lor for 200ml
cheers

Michael Silk
Foundation Earth Sciences
Senior Environmental Scientist
0407 757 951
michael@foundationes.com.au

This email, including any attachments contain information, which is confidential, and may be subject to legal privilege. If you are not the intended recipient you must not use, or distribute or copy this email. If you have received this email in error, please notify the sender by returning this email, and then delete all copies from your system.
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P Please consider the environment before printing this email.

On Fri, 5 Sept 2025 at 11:23, AU.Environmental.Sydney, AU (Sydney) <AU.Environmental.Sydney@sgs.com> wrote:

> Hi Michael.
>
> For this job, the lab team have advised that they only received a 200mL amber glass bottle, which is insufficient for Low Level PAH.
> We can use the 500mL HDPE bottle to run Low Level PAH, but please note that, as this is the incorrect bottle for this analysis, we will need to add a comment to the report advising of such.
> Please advise ASAP if you would like us to proceed with Low Level analysis using the 500mL HDPE bottle, or stick to regular LOR with the correct Amber Glass bottle.

SAMPLE RECEIPT ADVICE

SE288675

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill**
Order Number	**E3391--2**
Samples	6

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 2/9/2025
Report Due	Tue 9/9/2025
SGS Reference	**SE288675**

SUBMISSION DETAILS

This is to confirm that 6 samples were received on Tuesday 2/9/2025. Results are expected to be ready by COB Tuesday 9/9/2025. Please quote SGS reference SE288675 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	6 Water	Date documentation received	2/9/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.3°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

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

SE288675

CLIENT DETAILS

Client FOUNDATION EARTH SCIENCES PTY LTD

Project E3391-2 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	GW1	1	22	7	9	78	7
002	GW2	1	22	7	9	78	7
003	GW3	1	22	7	9	78	7
004	D1	1	22	7	9	78	7
005	TS	-	-	-	-	9	-
006	TB	-	-	-	-	11	7

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

ANALYTICAL REPORT

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill - Additional**
Order Number	**E3391--2**
Samples	6

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE288675A R0**
Date Received	26/9/2025
Date Reported	23/10/2025

COMMENTS

Whilst SGS laboratories conform to ISO:17025 standards, results of analysis in this report fall outside of the current scope of NATA accreditation .

Analysis subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420, ME385356

SIGNATORIES



Shane MCDERMOTT

Laboratory Manager

Metals in Water Speciated [MA1400_SP] Tested: 23/10/2025

PARAMETER	UOM	LOR	GW2 WATER - 1/9/2025 SE288675A.002	GW3 WATER - 1/9/2025 SE288675A.003
Arsenic (III)*	µg/L	0.5	<0.5	<0.5
Arsenic (V)*	µg/L	0.5	**0.7**	**1.8**

METHOD	METHODOLOGY SUMMARY
MA1400_SP	Speciated metals are determined by liquid chromatography – inductively coupled plasma mass spectrometer (LC /ICPMS) after an appropriate sample preparation as determined by the target metals species.

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			
***	Indicates that both * and ** apply.		Sample listed, but not received.		
NAD	No Asbestos Detected.	NA	Not Applicable.		

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: https://www.sgs.com/en-au/industry/environmental-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE288675A R0

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill - Additional**
Order Number	**E3391--2**
Samples	6

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE288675A R0**
Date Received	26 Sep 2025
Date Reported	23 Oct 2025

COMMENTS

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

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

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

SAMPLE SUMMARY

Sample counts by matrix	2 Water	Date documentation received	26/9/2025@12:29pr
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.3°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

HOLDING TIME SUMMARY

SE288675A 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

No holding time data is available for this job.

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.

No method blanks were required for this job.

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.

No laboratory control standards were required for this job.

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 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/en-au/industry/environmental-health-and-safety

*	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.
NA	Not Applicable
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: Document_250926_152547.pdf page: 1 SGS Ref: SE288675A_COC

Yin, Emily (Alexandria)

From: Michael Silk <michael@foundationes.com.au>
Sent: Friday, 26 September 2025 12:29 PM
To: AU.Environmental.Sydney, AU (Sydney); AU.SampleReceipt.Sydney, AU (Sydney)
Cc: Ben Buckley
Subject: [EXTERNAL] SE288675 - E3391/2 Castle Hill

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

Hi
Is it possible to run a speciation of the dissolved arsenic results for GW2 & GW3 ?
thanks

Michael Silk
Foundation Earth Sciences
Senior Environmental Scientist
0407 757 951
michael@foundationes.com.au

SGS EHS Alexandria Laboratory
SE288675A COC
Received: 26-Sep-2025

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SAMPLE RECEIPT ADVICE

SE288675A

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill - Additional**
Order Number	**E3391--2**
Samples	6

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 26/9/2025
Report Due	Mon 13/10/2025
SGS Reference	**SE288675A**

SUBMISSION DETAILS

This is to confirm that 6 samples were received on Friday 26/9/2025. Results are expected to be ready by COB Monday 13/10/2025. Please quote SGS reference SE288675A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	2 Water	Date documentation received	26/9/2025@12:29pm
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	10.3°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

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

COMMENTS

Analysis subcontracted to SGS Melbourne, 10/585 Blackburn Road, Notting Hill, VIC, NATA Accreditation Number. 2562/14420.

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Envirolab Services Pty Ltd
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www.envirolab.com.au

CERTIFICATE OF ANALYSIS 389320

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3391-2 Castle Hill**
Number of Samples	1 Soil
Date samples received	26/08/2025
Date completed instructions received	26/08/2025

Analysis Details

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

Samples were analysed as received from the client unless as indicated below in the method summaries. Results relate specifically to the samples as received.

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

Report Details

Date results requested by	02/09/2025
Date of Issue	29/08/2025

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

Results Approved By
Jack Wallis, Senior Chemist
Larry Ye, Senior Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		389320-1
Your Reference	UNITS	SS1
Date Sampled		22/08/2025
Type of sample		Soil
Date extracted	-	27/08/2025
Date analysed	-	28/08/2025
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	91

svTRH (C10-C40) in Soil		
Our Reference		389320-1
Your Reference	UNITS	SS1
Date Sampled		22/08/2025
Type of sample		Soil
Date extracted	-	27/08/2025
Date analysed	-	27/08/2025
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	%	77

PAHs in Soil		
Our Reference		389320-1
Your Reference	UNITS	SS1
Date Sampled		22/08/2025
Type of sample		Soil
Date extracted	-	27/08/2025
Date analysed	-	28/08/2025
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	109

Organochlorine Pesticides in soil		
Our Reference		389320-1
Your Reference	UNITS	SS1
Date Sampled		22/08/2025
Type of sample		Soil
Date extracted	-	27/08/2025
Date analysed	-	28/08/2025
alpha-BHC	mg/kg	<0.1
HCB	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Mirex	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1
Surrogate 4-Chloro-3-NBTF	%	104

PCBs in Soil		
Our Reference		389320-1
Your Reference	UNITS	SS1
Date Sampled		22/08/2025
Type of sample		Soil
Date extracted	-	27/08/2025
Date analysed	-	28/08/2025
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate 2-Fluorobiphenyl	%	108

Acid Extractable metals in soil		
Our Reference		389320-1
Your Reference	UNITS	SS1
Date Sampled		22/08/2025
Type of sample		Soil
Date prepared	-	27/08/2025
Date analysed	-	27/08/2025
Arsenic	mg/kg	8
Cadmium	mg/kg	0.5
Chromium	mg/kg	18
Copper	mg/kg	30
Lead	mg/kg	45
Mercury	mg/kg	<0.1
Nickel	mg/kg	5
Zinc	mg/kg	110

Moisture		
Our Reference		389320-1
Your Reference	UNITS	SS1
Date Sampled		22/08/2025
Type of sample		Soil
Date prepared	-	27/08/2025
Date analysed	-	28/08/2025
Moisture	%	32

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/elements by ICP-AES. Total Phosphate determined stochiometrically from Phosphorus (assumed to be present as Phosphate). Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation. Submission of low masses of sample e.g. for dust samples, may result in raised PQLs. Where molecular anion forms are calculated from an element (e.g. SO4 from S or PO4 from P stoichiometrically), the assumption is that the element is only present in that molecular anion form.
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-021/022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
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-4	[NT]
Date extracted	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
Date analysed	-			28/08/2025	[NT]	[NT]	[NT]	[NT]	28/08/2025	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	111	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	111	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	129	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	109	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	82	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
Date analysed	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	112	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	112	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	84	[NT]	[NT]	[NT]	[NT]	82	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
Date analysed	-			28/08/2025	[NT]	[NT]	[NT]	[NT]	28/08/2025	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	84	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	109	[NT]	[NT]	[NT]	[NT]	112	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
Date analysed	-			28/08/2025	[NT]	[NT]	[NT]	[NT]	28/08/2025	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	66	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	126	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	100	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
Date analysed	-			28/08/2025	[NT]	[NT]	[NT]	[NT]	28/08/2025	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	106	[NT]	[NT]	[NT]	[NT]	104	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
Date analysed	-			27/08/2025	[NT]	[NT]	[NT]	[NT]	27/08/2025	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	108	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	101	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[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]	93	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	110	[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.

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.

Air volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volumes) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

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.

For Dust Deposit Gauge (DDG) analysis the sampling, sampling period and funnel exposure area do not fall under Envirolab's NATA accreditation (unless the Newcastle laboratory where responsible for the sampling), hence the annotation on the DDG units of reporting.

Urine Analysis - The BEI values listed are taken from the 2022 edition of "TLVs and BEIs Threshold Limits" by ACGIH.

COC 25/8/25, 1753.

FOUNDATION EARTH SCIENCES

Chain of Custody Record

Client Details:	Foundation Earth Sciences PO Box 4405, East Gosford NSW 2250 email: ben@foundationes.com.au michael@foundationes.com.au; d.gibbs@foundationes.com.au ph: +61466 385 221	**Project Manager:** Ben Buckley **Sampled By:** DG **Purchase Order #:** N/A **Page #:** 1	**Project #:** E3391-2 **Project Name:** Castle Hill **Quote #:** **Turnaround:** Standard
Delivery Details:	Envirolab Pty Ltd 12 Ashley Street, Chatswood NSW 2067 email: ahie@envirolab.com.au ph: +612 9910 6200		

#	Sample ID	Depth	Date Sampled	Matrix	Analytes														Sample Comments
					ph	CEC	%CLAY	Heavy Metals (8)	TRH	BTEXN	PAH	OC	PCB / OCP	Asbestos ID	Asbestos %w/w (NEPM /WA)	Phenol		Suites	
1	SS1	-	22/08/25	Soil				X	X	X	X		X					Combo5	Keep

Special Directions and Comments:

Relinquished by	Daniel Gibbs	Received By	Richard Hwang
Signature	DG	Signature	
Date	25/08/25	Date	26/8/25

ENVIROLAB

Envirolab Pty Ltd
12 Ashley Street
Chatswood NSW
Ph: (02) 9910 6200

Job No: 389320

Date Received: 26/8/25
Time Received: 1315
Received By: RH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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

SAMPLE RECEIPT ADVICE

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley

Sample Login Details

Your reference	E3391-2 Castle Hill
Envirolab Reference	389320
Date Sample Received	26/08/2025
Date Instructions Received	26/08/2025
Date Results Expected to be Reported	02/09/2025

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

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

Analysis Underway, details on the following page:

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

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil
SS1	✓	✓	✓	✓	✓	✓

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

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

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill**
Order Number	**E3391-2**
Samples	19

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE288300 R0**
Date Received	26/8/2025
Date Reported	2/9/2025

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin.
% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report No: CE183940.

SIGNATORIES

Bennet LO
Senior Chemist

Gemma MOON
Organic Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Ying Ying ZHANG
Laboratory Technician

VOC's in Soil [AN433] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016	TS SOIL - 22/8/2025 SE288300.017	TB SOIL - 22/8/2025 SE288300.018
Benzene	mg/kg	0.1	<0.1	[82%]	<0.1
Toluene	mg/kg	0.1	<0.1	[88%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	[94%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	[93%]	<0.2
o-xylene	mg/kg	0.1	<0.1	[93%]	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	-	<0.3
Total BTEX*	mg/kg	0.6	<0.6	-	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	-	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
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	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
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	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016	TB SOIL - 22/8/2025 SE288300.018
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	**78**	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	**100**	<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	**160**	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	**180**	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	**71**	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	**91**	<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	**140**	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	**160**	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 27/8/2025 (continued)

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 27/8/2025 (continued)

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	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
Lindane (gamma 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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	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
Endosulfan sulphate	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
Endrin ketone	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
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total OC Pesticides	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 27/8/2025 (continued)

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	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
Lindane (gamma 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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	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
Endosulfan sulphate	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
Endrin ketone	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
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total OC Pesticides	mg/kg	0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 27/8/2025 (continued)

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	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
Lindane (gamma 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	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	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
Endosulfan sulphate	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
Endrin ketone	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
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total OC Pesticides	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 27/8/2025 (continued)

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016
Alpha BHC	mg/kg	0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.1	<0.1
Endrin	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Total OC Pesticides	mg/kg	0.1	<0.1
Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1
Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1

PCBs in Soil [AN420] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
Arochlor 1016	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
Arochlor 1016	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
Arochlor 1016	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016
Arochlor 1016	mg/kg	0.1	<0.1
Arochlor 1221	mg/kg	0.1	<0.1
Arochlor 1232	mg/kg	0.1	<0.1
Arochlor 1242	mg/kg	0.1	<0.1
Arochlor 1248	mg/kg	0.1	<0.1
Arochlor 1254	mg/kg	0.1	<0.1
Arochlor 1260	mg/kg	0.1	<0.1
Total PCBs	mg/kg	0.1	<0.1

pH in soil (1:5) [AN101] Tested: 28/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007
pH	pH Units	0.1	6.0	4.9	6.0	5.0	6.0

PARAMETER	UOM	LOR	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013
pH	pH Units	0.1	5.2	6.1	5.4	5.4	5.2

Conductivity and TDS by Calculation - Soil [AN106] Tested: 28/8/2025

PARAMETER	UOM	LOR	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	22	36	27	45	110
Resistivity of extract (1:5 as received)*	ohm m	0.1	550	340	490	290	120

PARAMETER	UOM	LOR	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	76	24	25
Resistivity of extract (1:5 as received)*	ohm m	0.1	180	530	520

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 28/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002
Exchangeable Calcium, Ca	mg/kg	2	2200	460
Exchangeable Calcium, Ca	meq/100g	0.01	11	2.3
Exchangeable Calcium Percentage*	%	0.1	75.7	39.6
Exchangeable Potassium, K	mg/kg	2	310	120
Exchangeable Potassium, K	meq/100g	0.01	0.78	0.30
Exchangeable Potassium Percentage*	%	0.1	5.4	5.3
Exchangeable Magnesium, Mg	mg/kg	2	310	330
Exchangeable Magnesium, Mg	meq/100g	0.02	2.5	2.7
Exchangeable Magnesium Percentage*	%	0.1	17.3	47.5
Exchangeable Sodium, Na	mg/kg	2	53	100
Exchangeable Sodium, Na	meq/100g	0.01	0.23	0.44
Exchangeable Sodium Percentage*	%	0.1	1.6	7.7
Cation Exchange Capacity	meq/100g	0.02	14	5.8

Soluble Anions (1:5) in Soil/Solids by Ion Chromatography [AN245] Tested: 28/8/2025

PARAMETER	UOM	LOR	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009
Chloride	mg/kg	0.25	6.4	12	6.3	21	20
Sulfate	mg/kg	5	22	41	6.0	44	40

PARAMETER	UOM	LOR	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013
Chloride	mg/kg	0.25	16	5.4	1.9
Sulfate	mg/kg	5	86	22	27

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
Arsenic, As	mg/kg	1	6	5	4	3	5
Cadmium, Cd	mg/kg	0.3	0.8	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	15	7.8	6.4	3.2	8.4
Copper, Cu	mg/kg	0.5	28	12	19	11	17
Lead, Pb	mg/kg	1	50	20	15	19	23
Nickel, Ni	mg/kg	0.5	3.5	0.6	6.5	0.5	3.0
Zinc, Zn	mg/kg	2	110	7.4	28	5.9	36

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
Arsenic, As	mg/kg	1	4	6	3	6	6
Cadmium, Cd	mg/kg	0.3	<0.3	0.4	<0.3	0.7	<0.3
Chromium, Cr	mg/kg	0.5	6.9	17	8.2	15	14
Copper, Cu	mg/kg	0.5	15	50	10	53	12
Lead, Pb	mg/kg	1	18	68	17	100	20
Nickel, Ni	mg/kg	0.5	1.5	6.4	1.0	7.0	1.3
Zinc, Zn	mg/kg	2	21	190	7.9	240	15

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
Arsenic, As	mg/kg	1	5	5	6	4	4
Cadmium, Cd	mg/kg	0.3	0.5	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	14	9.3	11	7.1	12
Copper, Cu	mg/kg	0.5	40	13	20	15	24
Lead, Pb	mg/kg	1	66	19	17	19	20
Nickel, Ni	mg/kg	0.5	5.5	3.0	2.0	4.7	0.9
Zinc, Zn	mg/kg	2	150	23	25	21	18

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016
Arsenic, As	mg/kg	1	6
Cadmium, Cd	mg/kg	0.3	0.4
Chromium, Cr	mg/kg	0.5	13
Copper, Cu	mg/kg	0.5	24
Lead, Pb	mg/kg	1	49
Nickel, Ni	mg/kg	0.5	3.8
Zinc, Zn	mg/kg	2	85

Mercury in Soil [AN312] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	**0.05**	<0.05

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
Mercury	mg/kg	0.05	**0.05**	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016
Mercury	mg/kg	0.05	<0.05

Moisture Content [AN002] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH2 0.3-0.4 SOIL - 22/8/2025 SE288300.004	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005
% Moisture	%w/w	1	**30.3**	**26.6**	**18.4**	**18.8**	**24.1**

PARAMETER	UOM	LOR	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010
% Moisture	%w/w	1	**19.1**	**24.1**	**22.5**	**23.1**	**25.0**

PARAMETER	UOM	LOR	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014	BH9 0.3-0.4 SOIL - 22/8/2025 SE288300.015
% Moisture	%w/w	1	**25.7**	**22.6**	**21.9**	**18.4**	**25.6**

PARAMETER	UOM	LOR	D1 SOIL - 22/8/2025 SE288300.016	TB SOIL - 22/8/2025 SE288300.018
% Moisture	%w/w	1	**27.2**	<1.0

Fibre Identification in soil [AS4964/AN602] Tested: 28/8/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002	BH2 0.0-0.1 SOIL - 22/8/2025 SE288300.003	BH3 0.2-0.3 SOIL - 22/8/2025 SE288300.005	BH4 0.1-0.2 SOIL - 22/8/2025 SE288300.006
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00

PARAMETER	UOM	LOR	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH5 0.4-0.5 SOIL - 22/8/2025 SE288300.008	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH6 0.3-0.4 SOIL - 22/8/2025 SE288300.010	BH7 0-0.1 SOIL - 22/8/2025 SE288300.011
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00

PARAMETER	UOM	LOR	BH8 0.1-0.2 SOIL - 22/8/2025 SE288300.012	BH8 0.5-0.6 SOIL - 22/8/2025 SE288300.013	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 28/8/2025

PARAMETER	UOM	LOR	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014
Date Analysed*	No unit	-	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00
Total Sample Weight*	g	1	**421**	**413**	**539**
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD

Fibre ID in bulk materials [AN602/AS4964] Tested: 1/9/2025

PARAMETER	UOM	LOR	F1 MATERIAL - 22/8/2025 SE288300.019
Asbestos Detected	No unit	-	No
Date Analysed*	No unit	-	02/09/2025 00:00

Particle sizing of soils <75µm by hydrometer [AN005] Tested: 2/9/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002
Clay (<0.002mm)*	%w/w	0.1	**20**	**48**

Particle sizing of soils by sieving [AN005] Tested: 2/9/2025

PARAMETER	UOM	LOR	BH1 0.0-0.1 SOIL - 22/8/2025 SE288300.001	BH1 0.3-0.4 SOIL - 22/8/2025 SE288300.002
Passing 75µm*	%w/w	1	**78**	**94**
Retained 75µm*	%w/w	1	**22**	**6**

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.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
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+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos /cm or µS/cm @ 25°C. For soils, an extract of as received sample with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.

AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken . This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.
AN605	Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.
AN-605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

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			
***	Indicates that both * and ** apply.		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

SE288300 R0

CLIENT DETAILS

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Project	**E3391-2 Castle Hill**
Order Number	**E3391-2**
Samples	19

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SGS Reference	**SE288300 R0**
Date Received	26 Aug 2025
Date Reported	02 Sep 2025

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	Soluble Anions (1:5) in Soil/Solids by Ion Chromatography	1 item
	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

Sample counts by matrix	18 Soil, 1 Material	Date documentation received	26/8/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	13.2°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

HOLDING TIME SUMMARY

SE288300 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

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	29 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	29 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH6 0-0.1	SE288300.009	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358912	22 Aug 2025	26 Aug 2025	19 Sep 2025	28 Aug 2025	19 Sep 2025	28 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358912	22 Aug 2025	26 Aug 2025	19 Sep 2025	28 Aug 2025	19 Sep 2025	28 Aug 2025

Fibre ID in bulk materials

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
F1	SE288300.019	LB359175	22 Aug 2025	26 Aug 2025	22 Aug 2026	01 Sep 2025	22 Aug 2026	02 Sep 2025

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH1 0.3-0.4	SE288300.002	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH2 0.0-0.1	SE288300.003	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH3 0.2-0.3	SE288300.005	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH4 0.1-0.2	SE288300.006	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH5 0.1-0.2	SE288300.007	LB358915	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH5 0.4-0.5	SE288300.008	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH6 0-0.1	SE288300.009	LB358915	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH6 0.3-0.4	SE288300.010	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH7 0-0.1	SE288300.011	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH8 0.1-0.2	SE288300.012	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH8 0.5-0.6	SE288300.013	LB358919	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025
BH9 0.1-0.2	SE288300.014	LB358915	22 Aug 2025	26 Aug 2025	22 Aug 2026	28 Aug 2025	22 Aug 2026	02 Sep 2025

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH5 0.1-0.2	SE288300.007	LB358915	22 Aug 2025	26 Aug 2025	18 Feb 2026	28 Aug 2025	18 Feb 2026	02 Sep 2025
BH6 0-0.1	SE288300.009	LB358915	22 Aug 2025	26 Aug 2025	18 Feb 2026	28 Aug 2025	18 Feb 2026	02 Sep 2025
BH9 0.1-0.2	SE288300.014	LB358915	22 Aug 2025	26 Aug 2025	18 Feb 2026	28 Aug 2025	18 Feb 2026	02 Sep 2025

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH1 0.3-0.4	SE288300.002	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH2 0.0-0.1	SE288300.003	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH2 0.3-0.4	SE288300.004	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH3 0.2-0.3	SE288300.005	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH4 0.1-0.2	SE288300.006	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH5 0.1-0.2	SE288300.007	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH5 0.4-0.5	SE288300.008	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH6 0-0.1	SE288300.009	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH6 0.3-0.4	SE288300.010	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH7 0-0.1	SE288300.011	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH8 0.1-0.2	SE288300.012	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH8 0.5-0.6	SE288300.013	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH9 0.1-0.2	SE288300.014	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
BH9 0.3-0.4	SE288300.015	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025
D1	SE288300.016	LB358757	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	01 Sep 2025

HOLDING TIME SUMMARY

SE288300 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

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH6 0-0.1	SE288300.009	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH7 0-0.1	SE288300.011	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
D1	SE288300.016	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025
TB	SE288300.018	LB358759	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	01 Sep 2025	28 Aug 2025

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0-0.1	SE288300.009	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH7 0-0.1	SE288300.011	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
D1	SE288300.016	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025

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
BH1 0.0-0.1	SE288300.001	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0-0.1	SE288300.009	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH7 0-0.1	SE288300.011	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
D1	SE288300.016	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025

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

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

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

PCBs in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2 0.3-0.4	SE288300.004	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0-0.1	SE288300.009	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH7 0-0.1	SE288300.011	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
D1	SE288300.016	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025

pH in soil (1:5)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH6 0-0.1	SE288300.009	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358881	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	29 Aug 2025	28 Aug 2025

Soluble Anions (1:5) in Soil/Solids by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2 0.0-0.1	SE288300.003	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025
BH2 0.3-0.4	SE288300.004	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025
BH5 0.1-0.2	SE288300.007	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025
BH5 0.4-0.5	SE288300.008	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025
BH6 0-0.1	SE288300.009	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025
BH6 0.3-0.4	SE288300.010	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025
BH8 0.1-0.2	SE288300.012	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025
BH8 0.5-0.6	SE288300.013	LB358911	22 Aug 2025	26 Aug 2025	29 Aug 2025	28 Aug 2025	25 Sep 2025	01 Sep 2025

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
BH1 0.0-0.1	SE288300.001	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH6 0-0.1	SE288300.009	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH7 0-0.1	SE288300.011	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025
D1	SE288300.016	LB358755	22 Aug 2025	26 Aug 2025	18 Feb 2026	27 Aug 2025	18 Feb 2026	29 Aug 2025

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
BH1 0.0-0.1	SE288300.001	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025

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

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2 0.3-0.4	SE288300.004	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0-0.1	SE288300.009	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH7 0-0.1	SE288300.011	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025
D1	SE288300.016	LB358754	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	06 Oct 2025	29 Aug 2025

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH6 0-0.1	SE288300.009	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH7 0-0.1	SE288300.011	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
D1	SE288300.016	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
TS	SE288300.017	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
TB	SE288300.018	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE288300.001	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH1 0.3-0.4	SE288300.002	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH2 0.0-0.1	SE288300.003	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH2 0.3-0.4	SE288300.004	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH3 0.2-0.3	SE288300.005	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH4 0.1-0.2	SE288300.006	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH5 0.1-0.2	SE288300.007	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH5 0.4-0.5	SE288300.008	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH6 0-0.1	SE288300.009	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH6 0.3-0.4	SE288300.010	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH7 0-0.1	SE288300.011	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH8 0.1-0.2	SE288300.012	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH8 0.5-0.6	SE288300.013	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH9 0.1-0.2	SE288300.014	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
BH9 0.3-0.4	SE288300.015	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
D1	SE288300.016	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
TS	SE288300.017	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025
TB	SE288300.018	LB358768	22 Aug 2025	26 Aug 2025	05 Sep 2025	27 Aug 2025	05 Sep 2025	28 Aug 2025

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)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	103
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	94
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	99
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	100
	BH3 0.2-0.3	SE288300.005	%	60 - 130%	102
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	102
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	106
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	99
	BH6 0-0.1	SE288300.009	%	60 - 130%	106
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	96
	BH7 0-0.1	SE288300.011	%	60 - 130%	105
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	101
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	102
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	101
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	101
	D1	SE288300.016	%	60 - 130%	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1 0.0-0.1	SE288300.001	%	70 - 130%	95
	BH1 0.3-0.4	SE288300.002	%	70 - 130%	87
	BH2 0.0-0.1	SE288300.003	%	70 - 130%	94
	BH2 0.3-0.4	SE288300.004	%	70 - 130%	97
	BH3 0.2-0.3	SE288300.005	%	70 - 130%	94
	BH4 0.1-0.2	SE288300.006	%	70 - 130%	95
	BH5 0.1-0.2	SE288300.007	%	70 - 130%	98
	BH5 0.4-0.5	SE288300.008	%	70 - 130%	92
	BH6 0-0.1	SE288300.009	%	70 - 130%	96
	BH6 0.3-0.4	SE288300.010	%	70 - 130%	89
	BH7 0-0.1	SE288300.011	%	70 - 130%	100
	BH8 0.1-0.2	SE288300.012	%	70 - 130%	94
	BH8 0.5-0.6	SE288300.013	%	70 - 130%	98
	BH9 0.1-0.2	SE288300.014	%	70 - 130%	98
	BH9 0.3-0.4	SE288300.015	%	70 - 130%	93
	D1	SE288300.016	%	70 - 130%	96
d14-p-terphenyl (Surrogate)	BH1 0.0-0.1	SE288300.001	%	70 - 130%	92
	BH1 0.3-0.4	SE288300.002	%	70 - 130%	82
	BH2 0.0-0.1	SE288300.003	%	70 - 130%	89
	BH2 0.3-0.4	SE288300.004	%	70 - 130%	89
	BH3 0.2-0.3	SE288300.005	%	70 - 130%	90
	BH4 0.1-0.2	SE288300.006	%	70 - 130%	90
	BH5 0.1-0.2	SE288300.007	%	70 - 130%	93
	BH5 0.4-0.5	SE288300.008	%	70 - 130%	88
	BH6 0-0.1	SE288300.009	%	70 - 130%	92
	BH6 0.3-0.4	SE288300.010	%	70 - 130%	83
	BH7 0-0.1	SE288300.011	%	70 - 130%	92
	BH8 0.1-0.2	SE288300.012	%	70 - 130%	88
	BH8 0.5-0.6	SE288300.013	%	70 - 130%	92
	BH9 0.1-0.2	SE288300.014	%	70 - 130%	88
	BH9 0.3-0.4	SE288300.015	%	70 - 130%	87
	D1	SE288300.016	%	70 - 130%	91
d5-nitrobenzene (Surrogate)	BH1 0.0-0.1	SE288300.001	%	70 - 130%	99
	BH1 0.3-0.4	SE288300.002	%	70 - 130%	91
	BH2 0.0-0.1	SE288300.003	%	70 - 130%	94
	BH2 0.3-0.4	SE288300.004	%	70 - 130%	95
	BH3 0.2-0.3	SE288300.005	%	70 - 130%	92
	BH4 0.1-0.2	SE288300.006	%	70 - 130%	96
	BH5 0.1-0.2	SE288300.007	%	70 - 130%	99
	BH5 0.4-0.5	SE288300.008	%	70 - 130%	94
	BH6 0-0.1	SE288300.009	%	70 - 130%	96
	BH6 0.3-0.4	SE288300.010	%	70 - 130%	92

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	BH7 0-0.1	SE288300.011	%	70 - 130%	97
	BH8 0.1-0.2	SE288300.012	%	70 - 130%	96
	BH8 0.5-0.6	SE288300.013	%	70 - 130%	96
	BH9 0.1-0.2	SE288300.014	%	70 - 130%	94
	BH9 0.3-0.4	SE288300.015	%	70 - 130%	93
	D1	SE288300.016	%	70 - 130%	94

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	103
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	94
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	99
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	100
	BH3 0.2-0.3	SE288300.005	%	60 - 130%	102
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	102
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	106
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	99
	BH6 0-0.1	SE288300.009	%	60 - 130%	106
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	96
	BH7 0-0.1	SE288300.011	%	60 - 130%	105
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	101
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	102
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	101
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	101
	D1	SE288300.016	%	60 - 130%	103

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	76
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	86
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	87
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	94
	BH3 0.2-0.3	SE288300.005	%	60 - 130%	86
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	86
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	79
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	74
	BH6 0-0.1	SE288300.009	%	60 - 130%	86
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	78
	BH7 0-0.1	SE288300.011	%	60 - 130%	83
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	84
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	90
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	91
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	89
	D1	SE288300.016	%	60 - 130%	88
	TS	SE288300.017	%	60 - 130%	84
	TB	SE288300.018	%	60 - 130%	99
d4-1,2-dichloroethane (Surrogate)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	70
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	79
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	81
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	86
	BH3 0.2-0.3	SE288300.005	%	60 - 130%	79
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	81
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	74
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	73
	BH6 0-0.1	SE288300.009	%	60 - 130%	84
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	73
	BH7 0-0.1	SE288300.011	%	60 - 130%	83
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	80
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	90
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	85
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	86
	D1	SE288300.016	%	60 - 130%	86

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

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

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	TS	SE288300.017	%	60 - 130%	84
	TB	SE288300.018	%	60 - 130%	98
d8-toluene (Surrogate)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	68
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	81
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	83
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	90
	BH3 0.2-0.3	SE288300.005	%	60 - 130%	82
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	82
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	75
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	71
	BH6 0-0.1	SE288300.009	%	60 - 130%	86
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	74
	BH7 0-0.1	SE288300.011	%	60 - 130%	82
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	78
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	85
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	84
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	85
	D1	SE288300.016	%	60 - 130%	84
	TS	SE288300.017	%	60 - 130%	83
	TB	SE288300.018	%	60 - 130%	95

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	76
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	86
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	87
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	94
	BH3 0.2-0.3	SE288300.005	%	60 - 130%	86
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	86
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	79
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	74
	BH6 0-0.1	SE288300.009	%	60 - 130%	86
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	78
	BH7 0-0.1	SE288300.011	%	60 - 130%	83
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	84
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	90
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	91
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	89
	D1	SE288300.016	%	60 - 130%	88
	TB	SE288300.018	%	60 - 130%	99
d4-1,2-dichloroethane (Surrogate)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	70
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	79
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	81
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	86
	BH3 0.2-0.3	SE288300.005	%	60 - 130%	79
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	81
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	74
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	73
	BH6 0-0.1	SE288300.009	%	60 - 130%	84
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	73
	BH7 0-0.1	SE288300.011	%	60 - 130%	83
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	80
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	90
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	85
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	86
	D1	SE288300.016	%	60 - 130%	86
	TB	SE288300.018	%	60 - 130%	98
d8-toluene (Surrogate)	BH1 0.0-0.1	SE288300.001	%	60 - 130%	68
	BH1 0.3-0.4	SE288300.002	%	60 - 130%	81
	BH2 0.0-0.1	SE288300.003	%	60 - 130%	83
	BH2 0.3-0.4	SE288300.004	%	60 - 130%	90

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH3 0.2-0.3	SE288300.005	%	60 - 130%	82
	BH4 0.1-0.2	SE288300.006	%	60 - 130%	82
	BH5 0.1-0.2	SE288300.007	%	60 - 130%	75
	BH5 0.4-0.5	SE288300.008	%	60 - 130%	71
	BH6 0-0.1	SE288300.009	%	60 - 130%	86
	BH6 0.3-0.4	SE288300.010	%	60 - 130%	74
	BH7 0-0.1	SE288300.011	%	60 - 130%	82
	BH8 0.1-0.2	SE288300.012	%	60 - 130%	78
	BH8 0.5-0.6	SE288300.013	%	60 - 130%	85
	BH9 0.1-0.2	SE288300.014	%	60 - 130%	84
	BH9 0.3-0.4	SE288300.015	%	60 - 130%	85
	D1	SE288300.016	%	60 - 130%	84
	TB	SE288300.018	%	60 - 130%	95

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.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB358881.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0.15

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

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

Sample Number	Parameter	Units	LOR	Result
LB358912.001	Exchangeable Sodium, Na	mg/kg	2	-0.4044
	Exchangeable Potassium, K	mg/kg	2	-0.0524
	Exchangeable Calcium, Ca	mg/kg	2	-0.559
	Exchangeable Magnesium, Mg	mg/kg	2	-0.2133

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB358757.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB358754.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.1	<0.1
		Endrin	mg/kg	0.1	<0.1
		Beta Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB358754.001	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

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
LB358754.001	Surrogates	d5-nitrobenzene (Surrogate)	%	-	92
		2-fluorobiphenyl (Surrogate)	%	-	88
		d14-p-terphenyl (Surrogate)	%	-	83

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB358754.001		Arochlor 1016	mg/kg	0.1	<0.1
		Arochlor 1221	mg/kg	0.1	<0.1
		Arochlor 1232	mg/kg	0.1	<0.1
		Arochlor 1242	mg/kg	0.1	<0.1
		Arochlor 1248	mg/kg	0.1	<0.1
		Arochlor 1254	mg/kg	0.1	<0.1
		Arochlor 1260	mg/kg	0.1	<0.1
		Total PCBs	mg/kg	0.1	<0.1
	Surrogates	TCMX (Surrogate)	%	-	94

Soluble Anions (1:5) in Soil/Solids by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number		Parameter	Units	LOR	Result
LB358911.001		Chloride	mg/kg	0.25	<0.25
		Sulfate	mg/kg	5	<5.0

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

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

Sample Number		Parameter	Units	LOR	Result
LB358755.001		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
LB358754.001		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
LB358768.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	98
		Bromofluorobenzene (Surrogate)	%	-	101
	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
LB358768.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	95

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

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.013	LB358881.014	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	25	23	38	5
SE288369.004	LB358881.019	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	32	28	37	14

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358757.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE288300.016	LB358757.021	Mercury	mg/kg	0.05	<0.05	<0.05	150	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358759.011	% Moisture	%w/w	1	25.0	25.4	34	1
SE288300.018	LB358759.019	% Moisture	%w/w	1	<1.0	<1.0	200	0

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358754.014		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	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
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	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
			Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total OC Pesticides	mg/kg	0.1	<0.1	<0.1	200	0
			Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	200	0
			Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.48	0.48	30	1
SE288300.016	LB358754.025		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	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
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	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
			Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	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 %
SE288300.016	LB358754.025		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total OC Pesticides	mg/kg	0.1	<0.1	<0.1	200	0
			Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	200	0
			Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.52	0.51	30	1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358754.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1
SE288300.016	LB358754.025		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0

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

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

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

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

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.016	LB358754.025	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	2

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358754.014		Arochlor 1016	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1221	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1232	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1242	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1248	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1254	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1260	mg/kg	0.1	<0.1	<0.1	200	0
			Total PCBs	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.48	0.48	30	1
SE288300.016	LB358754.025		Arochlor 1016	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1221	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1232	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1242	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1248	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1254	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1260	mg/kg	0.1	<0.1	<0.1	200	0
			Total PCBs	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.52	0.51	30	1

pH in soil (1:5)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.013	LB358881.014	pH	pH Units	0.1	5.2	5.2	32	1
SE288369.004	LB358881.019	pH	pH Units	0.1	5.4	5.4	32	0

Soluble Anions (1:5) in Soil/Solids by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.013	LB358911.012	Chloride	mg/kg	0.25	1.9	6.5	36	108 ②
		Sulfate	mg/kg	5	27	27	49	0

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358755.014	Arsenic, As	mg/kg	1	6	6	47	8
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	14	16	33	10
		Copper, Cu	mg/kg	0.5	12	14	34	16
		Nickel, Ni	mg/kg	0.5	1.3	2.5	57	62 ②
		Lead, Pb	mg/kg	1	20	24	35	18
		Zinc, Zn	mg/kg	2	15	26	40	50 ②
SE288300.016	LB358755.021	Arsenic, As	mg/kg	1	6	7	45	12
		Cadmium, Cd	mg/kg	0.3	0.4	0.4	106	2
		Chromium, Cr	mg/kg	0.5	13	15	34	10
		Copper, Cu	mg/kg	0.5	24	23	32	5
		Nickel, Ni	mg/kg	0.5	3.8	3.8	43	1
		Lead, Pb	mg/kg	1	49	42	32	16
		Zinc, Zn	mg/kg	2	85	80	32	6

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358754.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0

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 %
SE288300.010	LB358754.014	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
SE288300.016	LB358754.025		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358768.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.3	8.6	50	16
			d8-toluene (Surrogate)	mg/kg	-	7.4	8.5	50	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	9.0	50	14
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE288300.016	LB358768.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.5	50	1
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.4	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.6	50	3
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288300.010	LB358768.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.3	8.6	50	16
			d8-toluene (Surrogate)	mg/kg	-	7.4	8.5	50	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.8	9.0	50	14
		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
SE288300.016	LB358768.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.5	50	1
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.4	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.6	50	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358881.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	1015	85 - 115	99

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358912.002	Exchangeable Sodium, Na	meq/100g	0.01	0.17	0.188	80 - 120	91
	Exchangeable Potassium, K	meq/100g	0.01	0.12	0.141	80 - 120	88
	Exchangeable Calcium, Ca	meq/100g	0.01	1.9	2.17	80 - 120	86
	Exchangeable Magnesium, Mg	meq/100g	0.02	1.3	1.53	80 - 120	88

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358757.002	Mercury	mg/kg	0.05	0.22	0.2	80 - 120	110

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358754.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	111
		Heptachlor	mg/kg	0.1	0.3	0.2	60 - 140	126
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	115
		Dieldrin	mg/kg	0.1	0.2	0.2	60 - 140	119
		Endrin	mg/kg	0.1	0.2	0.2	60 - 140	118
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	103
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.51	0.5	40 - 130	101

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358754.002		Naphthalene	mg/kg	0.1	4.3	4	60 - 140	106
		Acenaphthylene	mg/kg	0.1	4.3	4	60 - 140	108
		Acenaphthene	mg/kg	0.1	4.3	4	60 - 140	108
		Phenanthrene	mg/kg	0.1	4.5	4	60 - 140	112
		Anthracene	mg/kg	0.1	4.5	4	60 - 140	113
		Fluoranthene	mg/kg	0.1	4.3	4	60 - 140	107
		Pyrene	mg/kg	0.1	4.3	4	60 - 140	107
		Benzo(a)pyrene	mg/kg	0.1	4.6	4	60 - 140	115
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	102
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	93

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358754.002		Arochlor 1260	mg/kg	0.1	0.4	0.4	60 - 140	112
	Surrogates	TCMX (Surrogate)	mg/kg	-	0.51	0.5	40 - 130	101

pH in soil (1:5)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358881.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

Soluble Anions (1:5) in Soil/Solids by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358911.002	Chloride	mg/kg	0.25	98	100	70 - 130	98
	Sulfate	mg/kg	5	100	100	70 - 130	104

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 %
LB358755.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	104
	Cadmium, Cd	mg/kg	0.3	3.9	4.81	70 - 130	80
	Chromium, Cr	mg/kg	0.5	35	38.31	80 - 120	92
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	106

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 %
LB358755.002		Nickel, Ni	mg/kg	0.5	180	187	80 - 120	95
		Lead, Pb	mg/kg	1	90	89.9	80 - 120	100
		Zinc, Zn	mg/kg	2	260	273	80 - 120	97

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358754.002		TRH C10-C14	mg/kg	20	230	200	60 - 140	115
	TRH F Bands	TRH >C10-C16	mg/kg	25	230	200	60 - 140	115

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358768.002	Monocyclic Aromatic	Benzene	mg/kg	0.1	2.1	2.2	60 - 140	97
		Toluene	mg/kg	0.1	2.0	2.2	60 - 140	92
		Ethylbenzene	mg/kg	0.1	2.0	2.2	60 - 140	90
		m/p-xylene	mg/kg	0.2	3.9	4.4	60 - 140	90
		o-xylene	mg/kg	0.1	2.0	2.2	60 - 140	91

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB358768.002	TRH C6-C10	mg/kg	25	32	35.2	60 - 140	90
	TRH C6-C9	mg/kg	20	28	30.8	60 - 140	91

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%
SE288300.001	LB358757.004	Mercury	mg/kg	0.05	0.23	<0.05	0.2	96

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE288300.001	LB358754.004		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	112
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	120
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	113
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.1	0.2	<0.1	0.2	113
			Endrin	mg/kg	0.1	0.2	<0.1	0.2	117
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	96
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total OC Pesticides	mg/kg	0.1	1.4	<0.1	-	-
			Total OC VIC EPA IWRG621	mg/kg	0.1	1.4	<0.1	-	-
			Total Other OCP VIC EPA IWRG621	mg/kg	0.1	0.7	<0.1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.50	0.51	-	99

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE288300.001	LB358754.004		Naphthalene	mg/kg	0.1	4.1	<0.1	4	102
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.1	<0.1	4	102
			Acenaphthene	mg/kg	0.1	4.1	<0.1	4	103
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.3	<0.1	4	108
			Anthracene	mg/kg	0.1	4.4	<0.1	4	109
			Fluoranthene	mg/kg	0.1	4.1	<0.1	4	101
			Pyrene	mg/kg	0.1	4.0	<0.1	4	100
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.5	<0.1	4	111
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.5	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.5	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.6	<0.3	-	-
			Total PAH (18)	mg/kg	0.8	34	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	98
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	95
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	90

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.

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE288300.001	LB358754.004		Arochlor 1016	mg/kg	0.1	<0.1	<0.1	-	-
			Arochlor 1221	mg/kg	0.1	<0.1	<0.1	-	-
			Arochlor 1232	mg/kg	0.1	<0.1	<0.1	-	-
			Arochlor 1242	mg/kg	0.1	<0.1	<0.1	-	-
			Arochlor 1248	mg/kg	0.1	<0.1	<0.1	-	-
			Arochlor 1254	mg/kg	0.1	<0.1	<0.1	-	-
			Arochlor 1260	mg/kg	0.1	0.4	<0.1	0.4	106
			Total PCBs	mg/kg	0.1	0.4	<0.1	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.50	0.51	-	99

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%
SE288300.001	LB358755.004		Arsenic, As	mg/kg	1	52	6	50	92
			Cadmium, Cd	mg/kg	0.3	46	0.8	50	91
			Chromium, Cr	mg/kg	0.5	59	15	50	88
			Copper, Cu	mg/kg	0.5	70	28	50	85
			Nickel, Ni	mg/kg	0.5	50	3.5	50	92
			Lead, Pb	mg/kg	1	86	50	50	72
			Zinc, Zn	mg/kg	2	140	110	50	53 ④

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE288300.001	LB358754.004		TRH C10-C14	mg/kg	20	250	<20	200	122
			TRH C15-C28	mg/kg	45	<45	<45	-	-
			TRH C29-C36	mg/kg	45	<45	<45	-	-
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	250	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	250	<210	-	-
		TRH F	TRH >C10-C16	mg/kg	25	250	<25	200	122
		Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	250	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	-	-
			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%
SE288300.001	LB358768.004	Monocyclic	Benzene	mg/kg	0.1	2.8	<0.1	2.2	128
		Aromatic	Toluene	mg/kg	0.1	2.7	<0.1	2.2	123
			Ethylbenzene	mg/kg	0.1	2.6	<0.1	2.2	120
			m/p-xylene	mg/kg	0.2	5.3	<0.2	4.4	119
			o-xylene	mg/kg	0.1	2.7	<0.1	2.2	120
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.2	7.0	-	82
			d8-toluene (Surrogate)	mg/kg	-	8.1	6.8	-	81
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	7.6	-	86
		Totals	Total BTEX*	mg/kg	0.6	16	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	7.9	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE288300.001	LB358768.004		TRH C6-C10	mg/kg	25	42	<25	35.2	118
			TRH C6-C9	mg/kg	20	37	<20	30.8	118
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.2	7.0	-	82
			d8-toluene (Surrogate)	mg/kg	-	8.1	6.8	-	81
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	7.6	-	86
		VPH F	Benzene (F0)	mg/kg	0.1	2.8	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	26	<25	-	-

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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ANALYTICAL REPORT

Accreditation No. 2562

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Project	**E3391-2 Castle Hill**
Order Number	**E3391-2**
Samples	14

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SGS Reference	**SE288300 R0**
Date Received	26 Aug 2025
Date Reported	02 Sep 2025

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin.
% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report No: CE183940.

SIGNATORIES

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE288300.001	BH1 0.0-0.1	Soil	28g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.002	BH1 0.3-0.4	Soil	34g Clay, Sand, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.003	BH2 0.0-0.1	Soil	39g Clay, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.005	BH3 0.2-0.3	Soil	33g Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE288300.006	BH4 0.1-0.2	Soil	42g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.007	BH5 0.1-0.2	Soil	421g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE288300.008	BH5 0.4-0.5	Soil	33g Clay, Sand, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.009	BH6 0-0.1	Soil	413g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE288300.010	BH6 0.3-0.4	Soil	22g Clay, Sand, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.011	BH7 0-0.1	Soil	31g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE288300.012	BH8 0.1-0.2	Soil	39g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.013	BH8 0.5-0.6	Soil	60g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg	<0.01
SE288300.014	BH9 0.1-0.2	Soil	539g Clay, Sand, Soil, Rocks	22 Aug 2025	29 Aug 2025	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01

RESULTS

Fibre ID in bulk materials — Method S4964

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE288300.019	F1	Other	20x20x4mm Cement Sheet Fragment	22 Aug 2025	02 Sep 2025	No Asbestos Detected	

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 28/8/2025

PARAMETER	UOM	LOR	BH5 0.1-0.2 SOIL - 22/8/2025 SE288300.007	BH6 0-0.1 SOIL - 22/8/2025 SE288300.009	BH9 0.1-0.2 SOIL - 22/8/2025 SE288300.014
Date Analysed*	No unit	-	29/08/2025 00:00	29/08/2025 00:00	29/08/2025 00:00
Total Sample Weight*	g	1	**421**	**413**	**539**
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD

METHOD	METHODOLOGY SUMMARY
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.
AN605	Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.
AN-605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

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.
			NAD	-	No Asbestos Detected.

(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: https://www.sgs.com/en-au/industry/environmental-health-and-safety.

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FOUNDATION EARTH SCIENCES

Chain of Custody Record

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		Page #:	1 of 1

Project #: E3391-2

Project Name: Castle Hill

Quote #:

Turnaround: Standard

#	Sample ID	Depth	Date Sampled	Matrix	Analytes															Sample Comments
					ph	EC	CEC	%CLAY	Heavy Metals (8)	TRH	BTEXN	PAH	Chloride	Sulphates	Resistivity	Asbestos ID	Asbestos NEPM W%/W%	TRH C6-C10 & BTEXN	OCP PCB	Combo Suites	
1	BH1	0.0-0.1	22/08/25	Soil	X		X	X	X	X	X	X				X			X	CL16	Keep
2	BH1	0.3-0.4	22/08/25	Soil	X		X	X	X	X	X	X				X			X	CL16	Keep
3	BH2	0.0-0.1	22/08/25	Soil	X	X			X	X	X	X	X	X	X	X			X	CL16	Keep
4	BH2	0.3-0.4	22/08/25	Soil	X	X			X	X	X	X	X	X	X				X	CL16	Keep
5	BH3	0.2-0.3	22/08/25	Soil					X	X	X	X				X			X	CL16	Keep
6	BH4	0.1-0.2	22/08/25	Soil					X	X	X	X				X			X	CL16	Keep
7	BH5	0.1-0.2	22/08/25	Soil	X	X			X	X	X	X	X	X	X		X		X	CL16	Keep
8	BH5	0.4-0.5	22/08/25	Soil	X	X			X	X	X	X	X	X	X	X			X	CL16	Keep
9	BH6	0-0.1	22/08/25	Soil	X	X			X	X	X	X	X	X	X		X		X	CL16	Keep
10	BH6	0.3-0.4	22/08/25	Soil	X	X			X	X	X	X	X	X	X	X			X	CL16	Keep
11	BH7	0-0.1	22/08/25	Soil					X	X	X	X				X			X	CL16	Keep
12	BH8	0.1-0.2	22/08/25	Soil	X	X			X	X	X	X	X	X	X	X			X	CL16	Keep
13	BH8	0.5-0.6	22/08/25	Soil	X	X			X	X	X	X	X	X	X	X			X	CL16	Keep
14	BH9	0.1-0.2	22/08/25	Soil					X	X	X	X					X		X	CL16	Keep
15	BH9	0.3-0.4	22/08/25	Soil					X	X	X	X							X	CL16	Keep
16	D1	-	22/08/25	Soil					X	X	X	X							X	CL16	Keep
17/18 19	TS/TB	-	22/08/25	Soil														X		CL4	Keep
~~18~~	F1	-	22/08/25	Soil												X					Keep

Special Directions and Comments:

Relinquished by	Daniel Gibbs	**Received By**	
Signature	DG	**Signature**	
Date	25.08.2025	**Date**	26/8 @ 2:45

SGS EHS Sydney COC

SE288300

source Document_250827_111521.pdf page: 1 SGS Ref: SE288300_COC

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E3391-2 Castle Hill**
Order Number	**E3391-2**
Samples	2

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SGS Reference	**SE289081 R0**
Date Received	8/9/2025
Date Reported	16/9/2025

COMMENTS

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

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

SIGNATORIES

Dong LIANG
Metals/Inorganics Team Leader

Gemma MOON
Organic Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
Benzene	mg/kg	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	**170**	**220**
TRH C29-C36	mg/kg	45	**140**	**150**
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	**280**	**340**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	**300**	**370**
TRH >C10-C40 Total (F bands)	mg/kg	210	**280**	**340**

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
Naphthalene	mg/kg	0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	**0.1**	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	**0.5**	**0.2**
Anthracene	mg/kg	0.1	**0.1**	<0.1
Fluoranthene	mg/kg	0.1	**1.4**	**0.5**
Pyrene	mg/kg	0.1	**1.5**	**0.5**
Benzo(a)anthracene	mg/kg	0.1	**0.9**	**0.2**
Chrysene	mg/kg	0.1	**0.9**	**0.3**
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.8**	**0.3**
Benzo(k)fluoranthene	mg/kg	0.1	**0.8**	**0.3**
Benzo(a)pyrene	mg/kg	0.1	**1.1**	**0.3**
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	**0.8**	**0.3**
Dibenzo(ah)anthracene	mg/kg	0.1	**0.1**	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.6**	**0.2**
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	**1.5**	**0.5**
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	**1.5**	**0.6**
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	**1.5**	**0.5**
Total PAH (18)	mg/kg	0.8	**9.6**	**3.0**
Total PAH (NEPM/WHO 16)	mg/kg	0.8	**9.6**	**3.0**

OC Pesticides in Soil [AN420] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.1	<0.1	<0.1
Endrin	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1
Total OC Pesticides	mg/kg	0.1	<0.1	<0.1
Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1
Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1

PCBs in Soil [AN420] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
Arochlor 1016	mg/kg	0.1	<0.1	<0.1
Arochlor 1221	mg/kg	0.1	<0.1	<0.1
Arochlor 1232	mg/kg	0.1	<0.1	<0.1
Arochlor 1242	mg/kg	0.1	<0.1	<0.1
Arochlor 1248	mg/kg	0.1	<0.1	<0.1
Arochlor 1254	mg/kg	0.1	<0.1	<0.1
Arochlor 1260	mg/kg	0.1	<0.1	<0.1
Total PCBs	mg/kg	0.1	<0.1	<0.1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
Arsenic, As	mg/kg	1	**3**	**5**
Cadmium, Cd	mg/kg	0.3	<0.3	**0.7**
Chromium, Cr	mg/kg	0.5	**8.1**	**11**
Copper, Cu	mg/kg	0.5	**35**	**64**
Lead, Pb	mg/kg	1	**490**	**960**
Nickel, Ni	mg/kg	0.5	**3.3**	**9.3**
Zinc, Zn	mg/kg	2	**140**	**350**

Mercury in Soil [AN312] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
Mercury	mg/kg	0.05	**0.09**	**0.11**

Moisture Content [AN002] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
% Moisture	%w/w	1	**18.3**	**18.5**

Fibre Identification in soil [AS4964/AN602] Tested: 10/9/2025

PARAMETER	UOM	LOR	BH10 0.1-0.2 SOIL - 8/9/2025 SE289081.001	BH11 0.1-0.2 SOIL - 8/9/2025 SE289081.002
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01
Date Analysed*	No unit	-	12/09/2025 00:00	12/09/2025 00:00

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
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). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS /ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		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: https://www.sgs.com/en-au/industry/environmental-health-and-safety .

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STATEMENT OF QA/QC PERFORMANCE

SE289081 R0

CLIENT DETAILS

Contact	Ben Buckley
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Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill**
Order Number	**E3391-2**
Samples	2

LABORATORY DETAILS

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SGS Reference	**SE289081 R0**
Date Received	08 Sep 2025
Date Reported	16 Sep 2025

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

SAMPLE SUMMARY

Sample counts by matrix	2 Soil	Date documentation received	9/9/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	12.2°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

HOLDING TIME SUMMARY

SE289081 R0

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

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

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

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.1-0.2	SE289081.001	LB360422	08 Sep 2025	08 Sep 2025	08 Sep 2026	10 Sep 2025	08 Sep 2026	16 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360422	08 Sep 2025	08 Sep 2025	08 Sep 2026	10 Sep 2025	08 Sep 2026	16 Sep 2025

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.1-0.2	SE289081.001	LB360363	08 Sep 2025	08 Sep 2025	06 Oct 2025	10 Sep 2025	06 Oct 2025	16 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360363	08 Sep 2025	08 Sep 2025	06 Oct 2025	10 Sep 2025	06 Oct 2025	16 Sep 2025

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.1-0.2	SE289081.001	LB360368	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	15 Sep 2025	11 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360368	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	15 Sep 2025	11 Sep 2025

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.1-0.2	SE289081.001	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	15 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	15 Sep 2025

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
BH10 0.1-0.2	SE289081.001	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	15 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	15 Sep 2025

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.1-0.2	SE289081.001	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	15 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	15 Sep 2025

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
BH10 0.1-0.2	SE289081.001	LB360360	08 Sep 2025	08 Sep 2025	07 Mar 2026	10 Sep 2025	07 Mar 2026	16 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360360	08 Sep 2025	08 Sep 2025	07 Mar 2026	10 Sep 2025	07 Mar 2026	16 Sep 2025

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
BH10 0.1-0.2	SE289081.001	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	12 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360317	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	20 Oct 2025	12 Sep 2025

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.1-0.2	SE289081.001	LB360357	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	22 Sep 2025	12 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360357	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	22 Sep 2025	12 Sep 2025

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.1-0.2	SE289081.001	LB360357	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	22 Sep 2025	12 Sep 2025
BH11 0.1-0.2	SE289081.002	LB360357	08 Sep 2025	08 Sep 2025	22 Sep 2025	10 Sep 2025	22 Sep 2025	12 Sep 2025

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)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	101
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	107

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH10 0.1-0.2	SE289081.001	%	70 - 130%	99
	BH11 0.1-0.2	SE289081.002	%	70 - 130%	105
d14-p-terphenyl (Surrogate)	BH10 0.1-0.2	SE289081.001	%	70 - 130%	96
	BH11 0.1-0.2	SE289081.002	%	70 - 130%	104
d5-nitrobenzene (Surrogate)	BH10 0.1-0.2	SE289081.001	%	70 - 130%	93
	BH11 0.1-0.2	SE289081.002	%	70 - 130%	103

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	101
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	107

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	83
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	75
d4-1,2-dichloroethane (Surrogate)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	79
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	79
d8-toluene (Surrogate)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	83
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	83

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	83
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	75
d4-1,2-dichloroethane (Surrogate)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	79
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	79
d8-toluene (Surrogate)	BH10 0.1-0.2	SE289081.001	%	60 - 130%	83
	BH11 0.1-0.2	SE289081.002	%	60 - 130%	83

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
LB360363.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB360317.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.1	<0.1
		Endrin	mg/kg	0.1	<0.1
		Beta Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	119

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB360317.001		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)	%	-	127
		2-fluorobiphenyl (Surrogate)	%	-	119
		d14-p-terphenyl (Surrogate)	%	-	123

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB360317.001	Arochlor 1016	mg/kg	0.1	<0.1
	Arochlor 1221	mg/kg	0.1	<0.1
	Arochlor 1232	mg/kg	0.1	<0.1
	Arochlor 1242	mg/kg	0.1	<0.1
	Arochlor 1248	mg/kg	0.1	<0.1
	Arochlor 1254	mg/kg	0.1	<0.1

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

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

PCBs in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB360317.001		Arochlor 1260	mg/kg	0.1	<0.1
		Total PCBs	mg/kg	0.1	<0.1
	Surrogates	TCMX (Surrogate)	%	-	119

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

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

Sample Number		Parameter	Units	LOR	Result
LB360360.001		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
LB360317.001		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
LB360357.001	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 (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	91
		d8-toluene (Surrogate)	%	-	90
		Bromofluorobenzene (Surrogate)	%	-	117
	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
LB360357.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	91

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | 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 %
SE289106.010	LB360363.014	Mercury	mg/kg	0.05	0.006692069	30.0067447628	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE289081.002	LB360368.022	% Moisture	%w/w	1	18.5	19.1	35	3
SE289106.010	LB360368.011	% Moisture	%w/w	1	4.153094462	54.9747048903	52	18

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE289081.002	LB360317.025		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	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
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	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
			Chlordane (alpha + gamma chlordane)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.1	<0.1	0.1	136	6
			Endrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total OC Pesticides	mg/kg	0.1	<0.1	0.1	200	6
			Total OC VIC EPA IWRG621	mg/kg	0.1	<0.1	0.1	200	6
			Total Other OCP VIC EPA IWRG621	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.54	0.60	30	11

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE289081.002	LB360317.025	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.2	0.1	93	17
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	0.5	0.5	51	8
		Pyrene	mg/kg	0.1	0.5	0.5	51	9
		Benzo(a)anthracene	mg/kg	0.1	0.2	0.3	68	14
		Chrysene	mg/kg	0.1	0.3	0.3	66	14
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	0.4	59	24
		Benzo(k)fluoranthene	mg/kg	0.1	0.3	0.3	65	15
		Benzo(a)pyrene	mg/kg	0.1	0.3	0.4	56	19
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	0.3	61	18
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	0.2	0.3	68	16
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0.5	0.6	50	19

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 %
SE289081.002	LB360317.025		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.5	0.6	46	17
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.6	0.7	59	16
			Total PAH (18)	mg/kg	0.8	3.0	3.5	33	13
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.6	30	17
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.6	30	10
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.6	30	11
SE289106.010	LB360317.014		Naphthalene	mg/kg	0.1	0.023316093	00.0321393649	200	0
			2-methylnaphthalene	mg/kg	0.1	0.066922541	60.0896445595	158	0
			1-methylnaphthalene	mg/kg	0.1	0.060102738	00.0732460559	180	0
			Acenaphthylene	mg/kg	0.1	0.091114997	40.1150488433	127	14
			Acenaphthene	mg/kg	0.1	0.019675774	80.0222841079	200	0
			Fluorene	mg/kg	0.1	0.045475937	40.0540776051	200	0
			Phenanthrene	mg/kg	0.1	0.043186624	00.0563760778	200	0
			Anthracene	mg/kg	0.1	0.062544397	10.0802417449	170	0
			Fluoranthene	mg/kg	0.1	0.092298541	30.1183161041	125	17
			Pyrene	mg/kg	0.1	0.188810817	20.2323811063	77	21
			Benzo(a)anthracene	mg/kg	0.1	0.081972893	10.0973979072	142	0
			Chrysene	mg/kg	0.1	0.108645113	40.1342784054	112	21
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.310036881	20.3703191772	59	18
			Benzo(k)fluoranthene	mg/kg	0.1	0.231443978	50.2821042207	69	20
			Benzo(a)pyrene	mg/kg	0.1	0.322981970	10.3973216880	58	21
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.367702419	00.4905432835	53	29
			Dibenzo(ah)anthracene	mg/kg	0.1	0.053778420	00.0714467607	190	0
			Benzo(ghi)perylene	mg/kg	0.1	0.322583664	30.4342838746	56	30
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0.418212585	70.5173039790	53	21
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.473212585	70.5723039790	48	19
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.528212585	70.6273039790	62	17
			Total PAH (18)	mg/kg	0.8	1.852204844	02.5745967035	35	33
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.583774737	30.5257456946	30	10
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.517679437	20.4688364125	30	10
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.523303062	10.4803386741	30	9

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE289081.002	LB360317.025		Arochlor 1016	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1221	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1232	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1242	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1248	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1254	mg/kg	0.1	<0.1	<0.1	200	0
			Arochlor 1260	mg/kg	0.1	<0.1	<0.1	200	0
			Total PCBs	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.54	0.60	30	11

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 %
SE289106.010	LB360360.014	Arsenic, As	mg/kg	1	1.115928915	32.3077623553	88	70
		Cadmium, Cd	mg/kg	0.3	-0.00260832	620.0077600826	200	0
		Chromium, Cr	mg/kg	0.5	4.022473803	45.1733884297	41	25
		Copper, Cu	mg/kg	0.5	13.91107335	037.9941784710	35	54 ②
		Nickel, Ni	mg/kg	0.5	3.434296233	32.7026643388	46	24
		Lead, Pb	mg/kg	1	3.814242424	24.5017101652	54	17
		Zinc, Zn	mg/kg	2	7.328092608	35.4691338016	61	29

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE289081.002	LB360317.025	TRH C10-C14	mg/kg	20	<20	<20	184	0
		TRH C15-C28	mg/kg	45	220	270	48	19
		TRH C29-C36	mg/kg	45	150	170	58	9
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	370	430	57	15
		TRH >C10-C40 Total (F bands)	mg/kg	210	340	390	87	15

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 %
SE289081.002	LB360317.025	TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	153	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	340	390	54	15
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	189	0
SE289106.010	LB360317.014		TRH C10-C14	mg/kg	20	08.921678448	31.593351535	47	19
			TRH C15-C28	mg/kg	45	65.174095734	91.844864762	46	10
			TRH C29-C36	mg/kg	45	22.975555757	81.7942308485	194	0
			TRH C37-C40	mg/kg	100	8.879451625	13.261439730	200	0
			TRH C10-C36 Total	mg/kg	110	74.095774183	23.438216297	58	12
			TRH >C10-C40 Total (F bands)	mg/kg	210	91.595364222	47.967625442	80	13
		TRH F Bands	TRH >C10-C16	mg/kg	25	75.076935767	05.619170014	43	16
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	75.076935767	05.619170014	43	16
			TRH >C16-C34 (F3)	mg/kg	90	16.518428454	42.348455428	69	11
			TRH >C34-C40 (F4)	mg/kg	120	13.095317204	39.335041367	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE289081.002	LB360357.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	135	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	7.0	50	12
			d8-toluene (Surrogate)	mg/kg	-	8.3	8.4	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	6.4	50	16
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE289106.010	LB360357.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	0.001273403	70.001217275	200	0
			Toluene	mg/kg	0.1	0.002218961	40.002005087	200	0
			Ethylbenzene	mg/kg	0.1	0.002699569	30.001833825	200	0
			m/p-xylene	mg/kg	0.2	0.012715368	20.007735836	200	0
			o-xylene	mg/kg	0.1	0.008366059	20.005648624	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	0.073077444	2 0	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.538157286	97.434915618	50	1
			d8-toluene (Surrogate)	mg/kg	-	8.093213369	17.230936781	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.00700752	68.753105890	50	23
		Totals	Total BTEX*	mg/kg	0.6	0	0	200	0
			Total Xylenes*	mg/kg	0.3	0.021081427	40.013384460	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE289081.002	LB360357.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	7.0	50	12
			d8-toluene (Surrogate)	mg/kg	-	8.3	8.4	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	6.4	50	16
		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
SE289106.010	LB360357.014		TRH C6-C10	mg/kg	25	0.113165767	12.358626465	200	0
			TRH C6-C9	mg/kg	20	0	0.5479583789	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.538157286	97.434915618	50	1
			d8-toluene (Surrogate)	mg/kg	-	8.093213369	17.230936781	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.00700752	68.753105890	50	23
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0.001273403	70.001217275	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0.113165767	12.358626465	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 %
LB360363.002		Mercury	mg/kg	0.05	0.22	0.2	80 - 120	110

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB360317.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	104
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	123
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	103
		Dieldrin	mg/kg	0.1	0.3	0.2	60 - 140	132
		Endrin	mg/kg	0.1	0.3	0.2	60 - 140	136
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	76
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.51	0.5	40 - 130	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB360317.002		Naphthalene	mg/kg	0.1	4.7	4	60 - 140	117
		Acenaphthylene	mg/kg	0.1	4.8	4	60 - 140	119
		Acenaphthene	mg/kg	0.1	4.7	4	60 - 140	117
		Phenanthrene	mg/kg	0.1	5.1	4	60 - 140	127
		Anthracene	mg/kg	0.1	5.1	4	60 - 140	126
		Fluoranthene	mg/kg	0.1	5.5	4	60 - 140	137
		Pyrene	mg/kg	0.1	5.4	4	60 - 140	135
		Benzo(a)pyrene	mg/kg	0.1	5.2	4	60 - 140	131
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	104
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	104
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	70 - 130	111

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB360317.002		Arochlor 1260	mg/kg	0.1	0.5	0.4	60 - 140	116
	Surrogates	TCMX (Surrogate)	mg/kg	-	0.51	0.5	40 - 130	103

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 %
LB360360.002		Arsenic, As	mg/kg	1	320	318.22	80 - 120	100
		Cadmium, Cd	mg/kg	0.3	3.7	4.81	70 - 130	76
		Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	100
		Copper, Cu	mg/kg	0.5	310	290	80 - 120	106
		Nickel, Ni	mg/kg	0.5	190	187	80 - 120	99
		Lead, Pb	mg/kg	1	91	89.9	80 - 120	101
		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 %
LB360317.002		TRH C10-C14	mg/kg	20	210	200	60 - 140	106
	TRH F Bands	TRH >C10-C16	mg/kg	25	210	200	60 - 140	106

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB360357.002	Monocyclic	Benzene	mg/kg	0.1	1.9	2.2	60 - 140	85
	Aromatic	Toluene	mg/kg	0.1	1.8	2.2	60 - 140	82
		Ethylbenzene	mg/kg	0.1	1.8	2.2	60 - 140	83
		m/p-xylene	mg/kg	0.2	3.7	4.4	60 - 140	84
		o-xylene	mg/kg	0.1	1.9	2.2	60 - 140	86

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB360357.002		TRH C6-C10	mg/kg	25	28	35.2	60 - 140	78
		TRH C6-C9	mg/kg	20	25	30.8	60 - 140	81

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE289106.001	LB360363.004	Mercury	mg/kg	0.05	0.20	0.00625372518	0.2	99

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE289106.002	LB360317.027		Alpha BHC	mg/kg	0.1	7.81104501772	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	8.66279756622	-	-
			Beta BHC	mg/kg	0.1	5.12576719983	-	-
			Lindane (gamma BHC)	mg/kg	0.1	3.26930600785	-	-
			Delta BHC	mg/kg	0.1	0.00035678743	0.2	98
			Heptachlor	mg/kg	0.1	1.66975992721	0.2	118
			Aldrin	mg/kg	0.1	0.00745691221	0.2	98
			Heptachlor epoxide	mg/kg	0.1	4.94715607364	-	-
			Gamma Chlordane	mg/kg	0.1	8.31207012179	-	-
			Alpha Chlordane	mg/kg	0.1	3.89240707683	-	-
			Chlordane (alpha + gamma chlordane)	mg/kg	0.1	0.00012204477	-	-
			Alpha Endosulfan	mg/kg	0.1	0.00149883068	-	-
			p,p'-DDE	mg/kg	0.1	0.00121944485	-	-
			Dieldrin	mg/kg	0.1	0.00020963294	0.2	129
			Endrin	mg/kg	0.1	0.00024763915	0.2	131
			Beta Endosulfan	mg/kg	0.1	0.00096994026	-	-
			p,p'-DDD	mg/kg	0.1	0.00040201386	-	-
			Endrin aldehyde	mg/kg	0.1	0.00106954105	-	-
			Endosulfan sulphate	mg/kg	0.1	0.00026760295	-	-
			p,p'-DDT	mg/kg	0.1	0.00037683561	0.2	75
			Endrin ketone	mg/kg	0.1	0.00047585611	-	-
			Methoxychlor	mg/kg	0.1	0.00030494523	-	-
			Mirex	mg/kg	0.1	0.00033873691	-	-
			Total OC Pesticides	mg/kg	0.1	0	-	-
			Total OC VIC EPA IWRG621	mg/kg	0.1	0	-	-
			Total Other OCP VIC EPA IWRG621	mg/kg	0.1	0	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.49727566135	-	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE289106.002	LB360317.027		Naphthalene	mg/kg	0.1	0.00026456873	4	114
			2-methylnaphthalene	mg/kg	0.1	0.00031628080	-	-
			1-methylnaphthalene	mg/kg	0.1	0.00024857759	-	-
			Acenaphthylene	mg/kg	0.1	0.00128444065	4	114
			Acenaphthene	mg/kg	0.1	0.00029134425	4	114
			Fluorene	mg/kg	0.1	0.00044503088	-	-
			Phenanthrene	mg/kg	0.1	0.00229157438	4	124
			Anthracene	mg/kg	0.1	0.00129263030	4	122
			Fluoranthene	mg/kg	0.1	0.00264066078	4	135
			Pyrene	mg/kg	0.1	0.00306123413	4	132
			Benzo(a)anthracene	mg/kg	0.1	0.00522301942	-	-
			Chrysene	mg/kg	0.1	0.00263989663	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.00360330955	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.00315035719	-	-
			Benzo(a)pyrene	mg/kg	0.1	0.00504434565	4	128
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.00524481773	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	0.00083026171	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0.00538665010	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	0	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	0.121	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	0.242	-	-
			Total PAH (18)	mg/kg	0.8	0	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.47589436678	-	99
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.49040603957	-	101
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.46873590122	-	111

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.

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE289106.002	LB360317.027		Arochlor 1016	mg/kg	0.1	0	-	-
			Arochlor 1221	mg/kg	0.1	0	-	-
			Arochlor 1232	mg/kg	0.1	0	-	-
			Arochlor 1242	mg/kg	0.1	0	-	-
			Arochlor 1248	mg/kg	0.1	0	-	-
			Arochlor 1254	mg/kg	0.1	0	-	-
			Arochlor 1260	mg/kg	0.1	0	0.4	116
			Total PCBs	mg/kg	0.1	0	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.49727566135	-	103

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%
SE289106.001	LB360360.004		Arsenic, As	mg/kg	1	43	1.68728111197	50	84
			Cadmium, Cd	mg/kg	0.3	42	0.00664458300	50	84
			Chromium, Cr	mg/kg	0.5	57	10.9945700181	50	92
			Copper, Cu	mg/kg	0.5	49	6.44258768511	50	85
			Nickel, Ni	mg/kg	0.5	47	2.41508443751	50	90
			Lead, Pb	mg/kg	1	49	4.69063263185	50	88
			Zinc, Zn	mg/kg	2	48	3.86759028319	50	89

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE289106.002	LB360317.027		TRH C10-C14	mg/kg	20	210	1.63517262777	200	105
			TRH C15-C28	mg/kg	45	<45	2.73765884543	-	-
			TRH C29-C36	mg/kg	45	<45	0.77064878184	-	-
			TRH C37-C40	mg/kg	100	<100	0.44536076911	-	-
			TRH C10-C36 Total	mg/kg	110	210	0	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	210	0	-	-
		TRH F	TRH >C10-C16	mg/kg	25	210	2.28793179426	200	105
		Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	210	0	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	2.63068493520	-	-
			TRH >C34-C40 (F4)	mg/kg	120	<120	0.62656147419	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE289106.001	LB360357.004	Monocyclic	Benzene	mg/kg	0.1	1.8	0.00359979276	2.2	80
		Aromatic	Toluene	mg/kg	0.1	1.6	0.00754655380	2.2	74
			Ethylbenzene	mg/kg	0.1	1.7	0.01237774879	2.2	75
			m/p-xylene	mg/kg	0.2	3.5	0.02574887109	4.4	79
			o-xylene	mg/kg	0.1	1.8	0.01334023712	2.2	81
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	0	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	8.44548820427	-	76
			d8-toluene (Surrogate)	mg/kg	-	8.9	8.85491346041	-	89
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	10.4921253736	-	79
		Totals	Total BTEX*	mg/kg	0.6	10	0	-	-
			Total Xylenes*	mg/kg	0.3	5.3	0.03908910822	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE289106.001	LB360357.004		TRH C6-C10	mg/kg	25	26	0	35.2	73
			TRH C6-C9	mg/kg	20	23	0	30.8	75
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.6	8.44548820427	-	76
			d8-toluene (Surrogate)	mg/kg	-	8.9	8.85491346041	-	89
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	10.4921253736	-	79
		VPH F	Benzene (F0)	mg/kg	0.1	1.8	0.00359979276	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	0	-	-

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/en-au/industry/environmental-health-and-safety

*	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.
NA	Not Applicable
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

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill**
Order Number	**E3391-2**
Samples	2

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE289081 R0**
Date Received	08 Sep 2025
Date Reported	16 Sep 2025

COMMENTS

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

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

SIGNATORIES

S. Ravensdale

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE289081.001	BH10 0.1-0.2	Soil	22g Sand, Soil, Rocks	08 Sep 2025	12 Sep 2025	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE289081.002	BH11 0.1-0.2	Soil	29g Sand, Soil, Rocks	08 Sep 2025	12 Sep 2025	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD SUMMARY

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

FOOTNOTES

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

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

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

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

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

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

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E-MAILED
9/9 @ 10.08

FOUNDATION EARTH SCIENCES

Chain of Custody Record

Client Details:	Foundation Earth Sciences PO Box 4405, East Gosford NSW 2250 email: ben@foundationes.com.au, d.gibbs@foundationes.com.au michael@foundationes.com.au, khy@foundationes.com.au ph: +61466 385 221	**Project Manager:**	Ben Buckley	**Project #:** E3391-2	
		Sampled By:	DG	**Project Name:** Castle Hill	
Delivery Details:	SGS Laboratories Pty Ltd Unit 16, 33 Maddox Street, Alexandria NSW 2015 email: au.samplereceipt@sgs.com ph: +612 8594 0400	**Purchase Order #:**	N/A	**Quote #:**	
		Page #:	1 of 1	**Turnaround:** Standard	

#	Sample ID	Depth	Date Sampled	Matrix	Analytes																Sample Comments
					ph	EC	CEC	%CLAY	Heavy Metals (8)	TRH	BTEXN	PAH	Chloride	Sulphates	Resistivity	Asbestos ID	Asbestos NEPM W%/W%	TRH C6-C10 & BTEXN	OCP PCB	Combo Suites	
1	BH10	0.1-0.2	08/09/2025.	Soil					X	X	X	X				X			X	CL16	Keep
2	BH11	0.1-0.2	08/09/2025.	Soil					X	X	X	X				X			X	CL16	Keep
3																					
4																					
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Special Directions and Comments:

Relinquished by	Daniel Gibbs	**Received By**		
Signature	DG	**Signature**		
Date	09.09.2025	**Date**	8.9.25 4:30 pm	0.2°C

SGS EHS Sydney COC

SE289081

source:Sydney_routine_coc_250909_113824.pdf page:1 SGS Ref:SE289081_COC

SAMPLE RECEIPT ADVICE

SE289081

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-2 Castle Hill**
Order Number	**E3391-2**
Samples	2

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Mon 8/9/2025
Report Due	Tue 16/9/2025
SGS Reference	**SE289081**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Monday 8/9/2025. Results are expected to be ready by COB Tuesday 16/9/2025. Please quote SGS reference SE289081 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	2 Soil	Date documentation received	9/9/2025
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	12.2°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

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

SE289081

CLIENT DETAILS

Client FOUNDATION EARTH SCIENCES PTY LTD

Project E3391-2 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH10 0.1-0.2	27	26	9	7	10	11	7
002	BH11 0.1-0.2	27	26	9	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

SE289081

CLIENT DETAILS

Client FOUNDATION EARTH SCIENCES PTY LTD

Project E3391-2 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
001	BH10 0.1-0.2	3	1	1
002	BH11 0.1-0.2	3	1	1

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

SAMPLE RECEIPT ADVICE

SE288675A

CLIENT DETAILS

Client FOUNDATION EARTH SCIENCES PTY LTD

Project E3391-2 Castle Hill - Additional

SUMMARY OF ANALYSIS

No.	Sample ID	Metals in Water Speciated
002	GW2	2
003	GW3	2

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

APPENDIX I: FIELD RECORD FORMS

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GROUNDWATER MONITORING RECORD FORM

PROJECT INFORMAION			
Client:		Monitoring Well ID:	EL1
Site Address:	Castle Hill	Logged By:	OE
Project:	E3991-2	Date:	01/09/25

MONITORING WELL DETAILS			
Depth (m) as constructed:	34m	Depth (m) as measured:	N/A
Finish:		Co-ordinates:	
Condition:		Surveyed levels:	

METHODOLOGY AND EQUIPMENT			
Water measurement device:	Dip tape	Reference point:	
Water quality meter:	WQM	Reference point to ground surface (mm):	0
GW Extraction method:	Bailer		

GROUNDWATER GAUGING (PRE-PURGE)		GROUNDWATER GAUGING (POST-PURGE)	
SWL (m bgl):	20m	SWL (m bgl):	20.9m
Depth to Product (m bgl):	—	Depth to product (m bgl):	—
Product thickness (mm):	—	Product thickness (mm):	—
Time:	1:00pm	Time:	1:30pm

PURGING AND PHYSICO-CHEMICAL PARAMETERS

Time (started)	Time (finished)	Volume purged	Pump rate (mL/min)	Temperature (°c)	DO (mg/L)	pH (pH units)	EC (us/cm)	Redox potential (mv)
1:00				19.2	33.8	6.77	5818	23.6
				18.8	28	6.72	7120	7.8
				18.7	15.4	6.75	7195	12.3
	1:30			18.6	15.2	6.75	7160	10.2
		Stabilisation criteria		± 0.2 °c	± 0.2 mg/L	± 0.1 pH Units	± 5%	± 10 mV

OBSERVATIONS			
Odour:	None	Sheen:	None
Colour/ Turbidity:	Clear then High	Recent rain (days):	N/A

SAMPLING						
Samples taken:	Primary		Blind	Split	Rinsate	TS/TB
Containers:	X		X	X		X
Field filtered:	X		X	X		
Preservation:						

GROUNDWATER MONITORING RECORD FORM

PROJECT INFORMAION			
Client:		Monitoring Well ID:	EW2
Site Address:	Castle Hill	Logged By:	DE
Project:	E3391-2	Date:	21/09/25

MONITORING WELL DETAILS			
Depth (m) as constructed:	-	Depth (m) as measured:	-
Finish:		Co-ordinates:	
Condition:		Surveyed levels:	

METHODOLOGY AND EQUIPMENT			
Water measurement device:		Reference point:	
Water quality meter:	WQM	Reference point to ground surface (mm):	0
GW Extraction method:	Bailer		

GROUNDWATER GAUGING (PRE-PURGE)		GROUNDWATER GAUGING (POST-PURGE)	
SWL (m bgl):	22m	SWL (m bgl):	22
Depth to Product (m bgl):		Depth to product (m bgl):	
Product thickness (mm):		Product thickness (mm):	
Time:	2:10	Time:	3:00

PURGING AND PHYSICO-CHEMICAL PARAMETERS

Time (started)	Time (finished)	Volume purged	Pump rate (mL/min)	Temperature (°c)	DO (mg/L)	pH (pH units)	EC (us/cm)	Redox potential (mv)
2:10				19.0	37.9	6.63	10909	38.3
				18.9	44	6.66	10822	30.7
				18.7	39.2	6.67	10845	32.8
				18.1	41.1	6.66	10910	32
	3:00			18.2	42	6.66	10895	32.3
		Stabilisation criteria		± 0.2°c	± 0.2 mg/L	± 0.1 pH Units	± 5%	± 10 mV

OBSERVATIONS			
Odour:	None	Sheen:	None
Colour/ Turbidity:	light brown/tinge	Recent rain (days):	N/A

SAMPLING						
Samples taken:	Primary	Blind		Split	Rinsate	TS/TB
Containers:	X					
Field filtered:	X					
Preservation:						

GROUNDWATER MONITORING RECORD FORM

PROJECT INFORMAION			
Client:		Monitoring Well ID:	GW3
Site Address:	Castle Hill	Logged By:	DG
Project:	E3391-2	Date:	01/09/25

MONITORING WELL DETAILS			
Depth (m) as constructed:	—	Depth (m) as measured:	—
Finish:		Co-ordinates:	
Condition:		Surveyed levels:	

METHODOLOGY AND EQUIPMENT			
Water measurement device:		Reference point:	
Water quality meter:	YSI	Reference point to ground surface (mm):	0
GW Extraction method:	Bailer		

GROUNDWATER GAUGING (PRE-PURGE)		GROUNDWATER GAUGING (POST-PURGE)	
SWL (m bgl):	9.6	SWL (m bgl):	12
Depth to Product (m bgl):		Depth to product (m bgl):	
Product thickness (mm):		Product thickness (mm):	
Time:	~~13~~ 3:45	Time:	4:10

PURGING AND PHYSICO-CHEMICAL PARAMETERS

Time (started)	Time (finished)	Volume purged	Pump rate (mL/min)	Temperature (°c)	DO (mg/L)	pH (pH units)	EC (us/cm)	Redox potential (mv)
3:45				19.0	84	8.46	684	25.3
				18.6	82.5	8.56	658	30.4
				18.5	78.3	8.51	671	32.1
	4:10			18.7	80.0	8.58	667	29.9
		Stabilisation criteria		± 0.2 °c	± 0.2 mg/L	± 0.1 pH Units	± 5%	± 10 mV

OBSERVATIONS			
Odour:	None	Sheen:	None
Colour/ Turbidity:	brown / High	Recent rain (days):	N/A

SAMPLING						
Samples taken:	Primary	Blind		Split	Rinsate	TS/TB
Containers:	✓					
Field filtered:	X					
Preservation:						

APPENDIX J: AERIAL PHOTOGRAPHS

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Historical Aerial Photographs

16-20 Old Castle Hill Road,
Castle Hill NSW

1943:



1970:



1986:



1998:



2005:



2013:





Current (SIX Maps):



APPENDIX K: SUMMARY TABLES

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Table K1

Sample Information				Heavy Metals (mg/kg)								TRH (mg/kg)						BTEX (mg/kg)					PAH (mg/kg)				OCP (mg/kg)										TOTAL PCB (mg/kg)	Asbestos		
Label	Depth (m BGL)	Date	Soil Type	ARSENIC	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	ZINC	F1 (C_6-C_{10}) [2]	F2 (>C_{10}-C_{16}) [3]	F1 (C_6-C_{10})	F2 (>C_{10}-C_{16})	F3 (C_{16}-C_{34})	F4 (C_{34}-C_{40})	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	NAPHTHALENE	BENZO(A)PYRENE	CARINOGENIC PAHs (as Bap TEQ)	TOTAL PAH	NAPHTHALENE	DDT + DDD + DDE	ALDRIN + DIELDRIN	CHLORDANE	ENDOSULFAN	ENDRIN	HEPTACHLOR	HCB	METHOXYCHLOR	DDT	TOTAL PCB (mg/kg)	% w/w (AF /FA)	% w/w (ACM)	Asbestos ID
DSI Sampling																																						
BH1	22.08.2025	0.0-0.1	F- Silty Gravelly Clay	6	0.8	15.0	28	50	<0.05	3.5	110.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH1	22.08.2025	0.3-0.4	N - Silty CLAY	5	<0.3	7.8	12.0	20	<0.05	0.6	7.4	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH2	22.08.2025	0.0-0.1	N - Silty CLAY	4	<0.3	6.4	19.0	15	<0.05	6.5	28.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH2	22.08.2025	0.3-0.4	N - Silty CLAY	3	<0.3	3.2	11	19	<0.05	0.5	5.9	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
BH3	22.08.2025	0.2-0.3	F - Silty Clay	5	<0.3	8.4	17	23	<0.05	3	36.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH4	22.08.2025	0.1-0.2	F- Silty Clay	4	<0.3	6.9	15	18	<0.05	1.5	21.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH5	22.08.2025	0.1-0.2	F- Silty Gravelly Clay	6	0.4	17.0	50	68	<0.05	6.4	190.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.001	<0.01	ND
BH5	22.08.2025	0.4-0.5	N - Silty CLAY	3	<0.3	8.2	10	17	<0.05	1.0	7.9	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH6	22.08.2025	0-0.1	F- Silty Clay	6	0.7	15.0	53	100	0.05	7.0	240.0	<25	<25	<25	<25	160	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.001	<0.01	ND
BH6	22.08.2025	0.3-0.4	N - Silty CLAY	6	<0.3	14.0	12	20	<0.05	1.3	15.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH7	22.08.2025	0-0.1	F- Silty Gravelly Clay	5	0.5	14.0	40	66	0.05	5.5	150.0	<25	<25	<25	<25	140	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH8	22.08.2025	0.1-0.2	F- Silty Clay	5	<0.3	9.3	13	19	<0.05	3.0	23.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH8	22.08.2025	0.5-0.6	N - Silty CLAY	6	<0.3	11.0	20	17	<0.05	2.0	25.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH9	22.08.2025	0.1-0.2	F- Silty Clay	4	<0.3	7.1	15	19	<0.05	4.7	21.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.001	<0.01	ND
BH9	22.08.2025	0.3-0.4	N - Silty CLAY	4	<0.3	12.0	24	20	<0.05	0.9	18.0	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.3	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
DSI Sampling																																						
BH10	08.09.2025	0.1-0.2	F- Silty Clay	3	<0.3	8.1	35	490	0.09	3.3	140.0	<25	<25	<25	<25	280	<120	<0.1	<0.1	<0.1	<0.3	<0.1	**1.1**	1.5	9.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
BH11	08.09.2025	0.1-0.2	F - Silty Clay	5	0.7	11.0	64	**960**	0.11	9.3	350.0	<25	<25	<25	<25	340	<120	<0.1	<0.1	<0.1	<0.3	<0.1	0.3	0.6	3.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	ND
Statistical Analysis																																						
No. of Observations								10															10.0															
Minimum								18															0.1															
Maximum								960															1.1															
Mean								181															0.2															
Standard Deviations								**308.4**															0.316															
95% Chebyshev (Mean, Sd) UCL								**606.4**															0.655															
Limit of Resolution (LOR)				4	0.3	1	1	1	0.1	1	1	25	25	25	50	90	120	0.1	0.1	0.1	0.3	0.1	0.1	0.3	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
NEPM (2013) HIL B				**500**	**150**	**500**	**30,000**	**1,200**	**120**	**1,200**	**60,000**													**4**	**400**		**600**	**10**	**90**	**400**	**20**	**10**	**15**	**500**		**1**			
NEPM (2013) HIL C				**300**	**90**	**300**	**17,000**	**600**	**80**	**1,200**	**30,000**													**3**	**300**		**400**	**10**	**70**	**340**	**20**	**10**	**10**	**400**		**1**			
NEPM (2013) EIL & ESLs [1]				100																					170									180				
BH1 (0.0-0.1) F - Silty Gravelly Clay						420	220	1200		170	510																											
BH1 (0.3-0.4) N - Silty Clay						410	95	1100		30	110																											
NEPM (2013) ESLs - (Fine Grain Soil - Clay / Silt) [1]												180	120			1,300	5,600	65	105	125	45		0.7															
NEPM (2013) HSL A & B (CLAY)																																						
0 to < 1m												50	280					0.7	480	NL	110	5																
Soil Saturation Concentration (Csat)												850	560					430	630	68	330	10																
NEPM (2013) HSL A & B (SILT)																																						
0 to < 1m												40	230					0.6	390	NL	95	4																
Soil Saturation Concentration (Csat)												910	570					440	640	69	330	10																
NEPM (2013) Management Limit (Fine Grain Soil)														800	1,000	3,500	10,000																				
NEPM (2013) HSL - Asbestos																																						
%w/w asbestos for FA and AF																																				**0.001**		
%w/w asbestos for ACM - Resi B / Rec C																																					**0.04 /0.02**	
Asbestos ID																																						**Detected**

Notes

1 Urban residential / public open space is broadly equivalent to the HIL-A, HIL-B and HIL-C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.
2 To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
3 To obtain F2 subtract naphthalene from the >C_{10}-C_{16} fraction.
NL Calculated HSL is Non Limiting per NEPM (2013)
ND Not detected

Table K2

Sample Information		Heavy Metals										TRH		BTEX							PAH							
SAMPLE ID	Date	ARSENIC	ARSENIC 3	ARSENIC 5	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	ZINC	F1 (C_6-C_{10}) [2]	F2 (>C_{10}-C_{16}) [3]	BENZENE	TOLUENE	ETHYL BENZENE	M/P-XYLENE	O-XYLENE	NAPHTHALENE	TOTAL-XYLENE	BENZO(A)PYRENE	2-methylnaphthalene	1-methylnaphthalene	ANTHRACENE	PHENANTHRENE	FLUORANTHENE	NAPHTHALENE
FES DSI 2025																												
GW1	01.09.2025	1	-	-	<0.1	<1	<1	<1	<0.1	3	**10**	<50	<60	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GW2	01.09.2025	**14**	-	-	<0.1	<1	**2**	<1	<0.1	**18**	**16**	<50	<60	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GW2 - Speciation	*01.09.2025*		<0.5	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GW3	01.09.2025	**17**	-	-	<0.1	**5**	**16**	2	<0.1	4	**12**	<50	<60	<0.5	0.8	<0.5	<1	<0.5	<0.5	<1.5	<0.1	0.1	0.1	<0.1	0.20	<0.1	<0.1
GW3 -Speciation	*01.09.2025*		<0.5	1.80		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limit of Resolution (LOR)		1			0.1	1	1	1	0.1	1	1	50	60	1	1	1	2	1	1	-	0.01			0.01	0.01	0.01	0.02
GILs - NEPM (2013) - Groundwater Investigation Levels																											
Fresh Waters [2]		**24/13**	**24.00**	**13.00**	**0.20**	**1.00**	**1.40**	**3.40**	**0.06**	**11.00**	**8.00**			**950**	**-**	**-**	**200**	**350**								**-**	**16**
Fresh Waters - Low Reliability (Trigger Values) [3]															**180**	**80**	**-**	**-**			**0.1** [5]	**-**	**-**	**0.01**	**0.6** [5]	**1**	
Groundwater HSLs - NEPM (2013) HSL B (CLAY)																											
2m to <4m												5,000	NL	NL	NL	NL	-	-	NL	NL							
4m to <8m												5,000	NL	NL	NL	NL	-	-	NL	NL							
Solubility Limit												9,000	3,000	59,000	61,000	3,900	-	-	170	21,000							

Notes

1	All units are in ug/L
2	Investigation Levels apply to typical slightly-moderately disturbed systems
3	QSAR derived, statistical distribution method used, 95% trigger values applied as per ANZECC 2000
4	Investigation levels are taken from the health values of the Australian Drinking Water Guidelines NHMRC 2011
NL	Non Limiting
5	99% Level of species detection - to account for bioaccumulating nature of the toxicant as per ANZECC

Table K2

Sample Information		Heavy Metals										TRH		BTEX							PAH							
SAMPLE ID	Date	ARSENIC	ARSENIC 3	ARSENIC 5	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	ZINC	F1 (C_6-C_{10}) [2]	F2 (>C_{10}-C_{16}) [3]	BENZENE	TOLUENE	ETHYL BENZENE	M/P-XYLENE	O-XYLENE	NAPHTHALENE	TOTAL-XYLENE	BENZO(A)PYRENE	2-methylnaphthalene	1-methylnaphthalene	ANTHRACENE	PHENANTHRENE	FLUORANTHENE	NAPHTHALENE
FES DSI 2025																												
GW1	01.09.2025	1	-	-	<0.1	<1	<1	<1	<0.1	3	**10**	<50	<60	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GW2	01.09.2025	**14**	-	-	<0.1	<1	**2**	<1	<0.1	**18**	**16**	<50	<60	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GW2 - Speciation	*01.09.2025*		<0.5	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GW3	01.09.2025	**17**	-	-	<0.1	**5**	**16**	2	<0.1	4	**12**	<50	<60	<0.5	0.8	<0.5	<1	<0.5	<0.5	<1.5	<0.1	0.1	0.1	<0.1	0.20	<0.1	<0.1
GW3 -Speciation	*01.09.2025*		<0.5	1.80		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limit of Resolution (LOR)		1			0.1	1	1	1	0.1	1	1	50	60	1	1	1	2	1	1	-	0.01			0.01	0.01	0.01	0.02
GILs - NEPM (2013) - Groundwater Investigation Levels																											
Fresh Waters [2]		**24/13**	**24.00**	**13.00**	**0.20**	**1.00**	**1.40**	**3.40**	**0.06**	**11.00**	**8.00**			**950**	**-**	**-**	**200**	**350**								**-**	**16**
Fresh Waters - Low Reliability (Trigger Values) [3]															**180**	**80**	**-**	**-**			**0.1** [5]	**-**	**-**	**0.01**	**0.6** [5]	**1**	
Groundwater HSLs - NEPM (2013) HSL B (CLAY)																											
2m to <4m												5,000	NL	NL	NL	NL	-	-	NL	NL							
4m to <8m												5,000	NL	NL	NL	NL	-	-	NL	NL							
Solubility Limit												9,000	3,000	59,000	61,000	3,900	-	-	170	21,000							

Notes

1	All units are in ug/L
2	Investigation Levels apply to typical slightly-moderately disturbed systems
3	QSAR derived, statistical distribution method used, 95% trigger values applied as per ANZECC 2000
4	Investigation levels are taken from the health values of the Australian Drinking Water Guidelines NHMRC 2011
NL	Non Limiting
5	99% Level of species detection - to account for bioaccumulating nature of the toxicant as per ANZECC

Table K4

	Heavy Metals (mg/kg)								TRH (mg/kg)					BTEX (mg/kg)				PAH (mg/kg)		OCP (mg/kg)		PCB (mg/kg)	Asbestos [12]	
FOUNDATION EARTH SCIENCES	ARSENIC	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	ZINC	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 [a]	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	BENZO(a)PYRENE	TOTAL PAH	Other OCPs	TOTAL ENDOSULFAN [11]	TOTAL PCB	% w/w (AF /FA)	% w/w (ACM)	ASBESTOS ID (Presence / Absence)
NSW EPA Waste Criteria (No Leachates)																									
CT1	100	20	100	-	100	4	40	-	NA	-	-	-	NA	10	288	600	1000	0.8	200	<50	60	<50			
CT2	400	80	400	-	400	16	160	-	NA	-	-	-	NA	40	1152	2400	4000	3.2	800	<50	240	<50			
NSW EPA Waste Criteria (With Leachates)																									
SCC1	500	100	1900	-	1500	50	1050	-	650	-	-	-	10000	18	518	1080	1800	10	200	Total = <50**	108	<50**			
SCC2	2000	400	7600	-	6000	200	4200	-	2600	-	-	-	40000	72	2073	4320	7200	23	800	Total = <50**	432	<50**			
NEPM (2013) HSL																									
%w/w for AF and FA																							0.001		Detected
%w/w for ACM - Resi B & Rec C																								0.01	
Limit of Resolution (LOR)	4	0.4	5	5	5	0.10	5	5	25	50	100	100	NA	0.2	0.5	1	3	0.05	0.05	0.1	0.1	0.1			
Sample ID	**Date Sampled**	**Depth**																							
FES DSI 2025																									
BH1	22.08.2025	0.0-0.1	6	0.8	15.0	28	50	<0.05	3.5	110.0	<20	<20	<45	<45	<110	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	-	-	ND
BH3	22.08.2025	0.2-0.3	5	<0.3	8.4	17	23	<0.05	3	36.0	<20	<20	<45	<45	<110	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	-	-	ND
BH4	22.08.2025	0.1-0.2	4	<0.3	6.9	15	18	<0.05	1.5	21.0	<20	<20	<45	<45	<110	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	-	-	ND
BH5	22.08.2025	0.1-0.2	6	0.4	17.0	50	68	<0.05	6.4	190.0	<20	<20	<45	<45	<110	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	0.1	<0.1	<0.1	<0.001	<0.01	ND
BH6	22.08.2025	0-0.1	6	0.7	15.0	53	100	0.05	7.0	240.0	<20	<20	78	100	180	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.001	<0.01	ND
BH7	22.08.2025	0-0.1	5	0.5	14.0	40	66	0.05	5.5	150.0	<20	<20	71	91	160	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	-	-	ND
BH8	22.08.2025	0.1-0.2	5	<0.3	9.3	13	19	<0.05	3.0	23.0	<20	<20	<45	<45	<110	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	-	-	ND
BH9	22.08.2025	0.1-0.2	4	<0.3	7.1	15	19	<0.05	4.7	21.0	<20	<20	<45	<45	<110	<0.1	<0.1	<0.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.001	<0.01	ND
BH10	08.09.2025	0.1-0.2	3	<0.3	8.1	35	**490**	0.09	3.3	140.0	<20	<20	170	140	300	<0.1	<0.1	<0.1	<0.3	**1.1**	9.6	<0.1	<0.1	<0.1	-	-	ND
BH11	08.09.2025	0.1-0.2	5	0.7	11.0	64	**960**	0.11	9.3	350.0	<20	<20	220	150	370	<0.1	<0.1	<0.1	<0.3	0.3	3	<0.1	<0.1	<0.1	-	-	ND

Notes

1 CT1, CT2
2 SCC1,
3 Concent
4 Concent
5 Concent
6 Concent
7 Concentrations in YELLOW indicate the presence of Asbestos
8 NA = Not Applicable
9 " - " Not Tested
10 *** Indicates Retest Result
11 Total Endosulfan = Endosulfan I, Endosulfan II and Endosulfan Sulphate
12 NEPM Asbestos HSL

APPENDIX L: STATISTICAL CALCULATION

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UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	29/09/2025 4:24:16 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

C0

General Statistics

Total Number of Observations	10	Number of Distinct Observations	3
		Number of Missing Observations	8
Minimum	0.1	Mean	0.22
Maximum	1.1	Median	0.1
SD	0.316	Std. Error of Mean	0.0998
Coefficient of Variation	1.434	Skewness	2.954

Normal GOF Test

Shapiro Wilk Test Statistic	0.457	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.448	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.28	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.403	95% Adjusted-CLT UCL (Chen-1995)	0.484
		95% Modified-t UCL (Johnson-1978)	0.418

Gamma GOF Test

A-D Test Statistic	2.504	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.743	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.483	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.272	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.28	k star (bias corrected MLE)	0.963
Theta hat (MLE)	0.172	Theta star (bias corrected MLE)	0.228
nu hat (MLE)	25.61	nu star (bias corrected)	19.26
MLE Mean (bias corrected)	0.22	MLE Sd (bias corrected)	0.224
		Approximate Chi Square Value (0.05)	10.31
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	9.189

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.411	95% Adjusted Gamma UCL (use when n<50)	0.461

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.527	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.469	**Lilliefors Lognormal GOF Test**

5% Lilliefors Critical Value	0.28	Data Not Lognormal at 5% Significance Level
Data Not Lognormal at 5% Significance Level		
Lognormal Statistics		
Minimum of Logged Data	-2.303	Mean of logged Data -1.953
Maximum of Logged Data	0.0953	SD of logged Data 0.798
Assuming Lognormal Distribution		
95% H-UCL	0.401	90% Chebyshev (MVUE) UCL 0.335
95% Chebyshev (MVUE) UCL	0.402	97.5% Chebyshev (MVUE) UCL 0.494
99% Chebyshev (MVUE) UCL	0.676	
Nonparametric Distribution Free UCL Statistics		
Data do not follow a Discernible Distribution (0.05)		
Nonparametric Distribution Free UCLs		
95% CLT UCL	0.384	95% Jackknife UCL 0.403
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL N/A
95% BCA Bootstrap UCL	N/A	
90% Chebyshev(Mean, Sd) UCL	0.519	95% Chebyshev(Mean, Sd) UCL 0.655
97.5% Chebyshev(Mean, Sd) UCL	0.843	99% Chebyshev(Mean, Sd) UCL 1.213
Suggested UCL to Use		
95% Chebyshev (Mean, Sd) UCL	0.655	

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.

For additional insight the user may want to consult a statistician.

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	6/11/2025 12:29:58 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

C0

General Statistics

Total Number of Observations	10	Number of Distinct Observations	9
		Number of Missing Observations	8
Minimum	18	Mean	181.3
Maximum	960	Median	58
SD	308.4	Std. Error of Mean	97.53
Coefficient of Variation	1.701	Skewness	2.268

Normal GOF Test

Shapiro Wilk Test Statistic	0.604	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.404	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.28	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	360.1	95% Adjusted-CLT UCL (Chen-1995)	416.4
		95% Modified-t UCL (Johnson-1978)	371.7

Gamma GOF Test

A-D Test Statistic	1.031	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.768	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.291	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.279	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.61	k star (bias corrected MLE)	0.494
Theta hat (MLE)	297.1	Theta star (bias corrected MLE)	367.1
nu hat (MLE)	12.21	nu star (bias corrected)	9.877
MLE Mean (bias corrected)	181.3	MLE Sd (bias corrected)	258
		Approximate Chi Square Value (0.05)	3.865
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	3.239

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	463.3	95% Adjusted Gamma UCL (use when n<50)	552.9

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.855	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.192	**Lilliefors Lognormal GOF Test**

55	5% Lilliefors Critical Value				0.28	Data appear Lognormal at 5% Significance Level						
56	**Data appear Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data				2.89	Mean of logged Data						4.19
60	Maximum of Logged Data				6.867	SD of logged Data						1.388
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL				1075	90% Chebyshev (MVUE) UCL						354.6
64	95% Chebyshev (MVUE) UCL				448.1	97.5% Chebyshev (MVUE) UCL						577.9
65	99% Chebyshev (MVUE) UCL				832.8							
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL				341.7	95% Jackknife UCL						360.1
72	95% Standard Bootstrap UCL				335	95% Bootstrap-t UCL						1664
73	95% Hall's Bootstrap UCL				1325	95% Percentile Bootstrap UCL						355.3
74	95% BCA Bootstrap UCL				410.1							
75	90% Chebyshev(Mean, Sd) UCL				473.9	95% Chebyshev(Mean, Sd) UCL						606.4
76	97.5% Chebyshev(Mean, Sd) UCL				790.4	99% Chebyshev(Mean, Sd) UCL						1152
77												
78	**Suggested UCL to Use**											
79	95% Chebyshev (Mean, Sd) UCL				606.4							
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
84	For additional insight the user may want to consult a statistician.											
85												