
Report on Detailed Site (Contamination) Investigation

Proposed Data Centre

6-8 Julius Ave, North Ryde NSW

Prepared for ISPT Pty Ltd

Project 233059.01

21 May 2025

Document History

Details

Project No.	233059.01
Document Title	Report on Detailed Site (Contamination) Investigation
Site Address	6-8 Julius Ave, North Ryde NSW
Report Prepared For	ISPT Pty Ltd
Filename	233059.01.R.001.Rev1 - DSI

Status and Review

Status	Prepared by	Reviewed by	Date issued
Revision 0	Nathan Woodward	Nerilee Edwards	28 March 2025
Revision 1	Nathan Woodward	Nerilee Edwards	21 May 2025

Distribution of Copies

Status	Issued to
Revision 0	ISPT Pty Ltd
Revision 1	ISPT Pty Ltd

The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

Signature

Date

Author	pp 	21 May 2025
Reviewer		21 May 2025

Executive Summary

This report presents the results of a detailed site (contamination) investigation (DSI) undertaken by Douglas Partners Pty Ltd (Douglas) for the proposed data centre at 6-8 Julius Avenue, North Ryde (herein referred to as the 'site'). The site shown on Drawing 1, Appendix A1. The investigation was commissioned by ISPT Pty Ltd.

The objectives of the DSI were to:

- Assess the suitability of the site for the proposed development and whether further investigation and/or management of contamination is required; and
- To assess the potential for contamination migration off-site.

This report has been prepared in response the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs), specifically in response to point 17 under key issues, *Contamination and Remediation* contained within the SEARS, in particular the requirement to assess the site and quantify any contamination in soil or groundwater and to demonstrate the site is suitable (or will be suitable following remediation).

The reviewed site history documents indicate the site was historically undeveloped prior to being acquired for assumed research purpose under the Commonwealth government in the 1940s, and then for research by CSIRO. Various site structures (large commercial / industrial style buildings) were previously present in the northern portion of the site, assumed to be used for research purposes, and have since been demolished. The northern portion of the site has subsequently been excavated to sandstone bedrock (circa 2010), with no identified signs of contamination observed by Douglas in the sandstone exposed at the ground surface. The southern portion of the site appears to have remained as undeveloped bushland throughout the known history of the site.

The investigation comprised fifteen shallow boreholes drilled using hand tools until natural soils were encountered or prior to refusal. The investigation also comprised a groundwater component, sampling from the groundwater wells installed as part of the geotechnical investigation.

The sampling density for this investigation was reduced based on an assessed low risk of soil contamination based on the northern portion of the site had been excavated into sandstone, and that the southern portion of the site has not been developed. The analytical results for soil samples were within the adopted site assessment criteria taking into consideration of the results of additional silica gel clean up testing. No asbestos was detected in the samples collected.

Parts of the southern portion of the site were inaccessible due to the relatively dense bushland, however, the site history and available testing results indicate a generally low risk of contamination in these areas.

Metals and TRH were recorded in groundwater above the adopted site assessment criteria. Whilst some the metals appeared to be consistent with expected ambient concentrations, the lead and TRH may be sourced from historic activities at or upgradient of the site. The contaminant concentrations are not considered to pose a risk to future site users under the

proposed development, however may pose a risk to ecological receptors in the Lane Cove River or from water extracted as part of any future dewatering.

Based on the results of the DSI it is considered that contamination at the site does not pose an unacceptable risk to future site users under the proposed development, subject to:

- Further monitoring of groundwater (refer further detail in the recommendations of this report) to inform assessment of the significance of these results, the potential for off-site impacts on Lane Cove River, and treatment that may be required during any future dewatering.
- Preparation and implementation of an unexpected finds protocol during redevelopment to set out the management requirements in the event that unexpected contamination is identified (e.g. fly tipping of contaminated soils and localised fill).

Table of Contents

	Page No
1. Introduction	1
2. Scope of work	2
3. Site information	3
4. Environmental setting	4
5. Previous reports	6
6. Site history	6
6.1 Historical aerial photography	6
6.2 Title deeds	8
6.3 Public registers and planning records	10
6.4 Other information	11
6.5 Site history integrity assessment	11
6.6 Summary of site history	12
7. Site walkover	12
8. Geotechnical investigation results	13
9. Preliminary conceptual site model	14
10. Sampling and analysis plan	16
10.1 Data quality objectives	16
10.2 Soil sampling and analysis rationale	16
10.3 Groundwater sampling and analysis rationale	17
11. Site assessment criteria	18
12. Results	18
12.1 Field work results	18
12.2 Laboratory analytical results	19
12.3 Data quality assurance and quality control	20
13. Discussion	20
13.1 Soils	20
13.2 Groundwater	20
13.3 Preliminary Waste Classification	21
14. Revised conceptual site model	22
15. Conclusions	22

16.	Recommendations.....	23
17.	References	24
18.	Limitations.....	24

Appendix A: Drawings**Appendix A1:** Douglas Drawings**Appendix A2:** Client Supplied Drawings**Appendix B:** About This Report**Appendix C:** Historical Aerial Imagery**Appendix D:** Site History Documents**Appendix D1:** Historical Title Deeds**Appendix D2:** SafeWork Search**Appendix E:** Site Photographs**Appendix F:** Data Quality Objectives**Appendix G:** Fieldwork Methodology**Appendix H:** Site Assessment Criteria**Appendix I:** Summary of Results**Appendix J:** Borehole Logs and Field Sheets**Appendix J1:** Borehole Logs**Appendix J2:** Field Sheets**Appendix K:** Laboratory Documentation**Appendix L:** Quality Assurance and Quality Control

Report on Detailed Site (Contamination) Investigation

Proposed Data Centre

6-8 Julius Ave, North Ryde NSW

1. Introduction

Douglas Partners Pty Ltd (Douglas) has been engaged by ISPT Pty Ltd to prepare this Detailed Site (Contamination) Investigation (DSI) for a proposed data centre at 6-8 Julius Ave, North Ryde NSW (the site). The site is shown on Drawing 1, Appendix A. The investigation was undertaken in accordance with Douglas' proposal dated 20/11/2024.

The objectives of the DSI were to:

- Assess the suitability of the site, from a contamination perspective, for the proposed development and whether further investigation and/or management is required; and
- To assess the potential for contamination migration from the site.

Based on the site history and current condition (including the previous bulk excavation of part of the site), this DSI is based on a stratified sampling regime, with judgemental sampling conducted in each identified site sub-area. This approach is in accordance with NSW EPA (2022), but does not conform to the recommended minimum sampling density for systematic sampling. This is further discussed in Section 10.

It is understood that the proposed development of the site includes the construction of a five-level data centre with basement structures and a finished floor slab at approximately RL 30 m as indicated on client supplied drawing number ASK001 Issue 13 titled Site Plan & Perspectives' attached in Appendix A2. The site has been excavated to RL 36 m as part of a previous development scheme.

This report has been prepared in response the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) as follows:

Table 1: SEARs (SSD-80018208)

SEARs Item	Description	Section of this Report and Comment
17. Contamination and Remediation	In accordance with Chapter 4 of SEPP (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	All sections. Conclusions and recommendations are provided in Sections 14 to 16.

The following key guidelines were consulted in the preparation of this report:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013); and
- NSW EPA *Guidelines for Consultants Reporting on Contaminated Land* (NSW EPA, 2020).

This report must read on conjunction with all appendices including the notes provided in Appendix B.

A geotechnical investigation¹ was conducted by Douglas in conjunction with this contamination report and has been reported separately.

2. Scope of work

The scope of work for this investigation comprised the following:

- Review of readily available desktop information including:
 - o Information provided by the client;
 - o Historical aerial imagery;
 - o Historical title deeds;
 - o SafeWork NSW search for hazardous goods;
 - o NSW EPA public registers;
- Review of provided internal service drawings, and review of Before You Dig Australia (BYDA) diagrams;
- Drilling of 15 test locations using hand tools extending to a maximum of 0.3 m bgl;
- Screening of soil samples for volatile organic compounds (VOC) using a photoionisation detection instrument (PID);
- Collection of soil samples at regular depths, and changes in strata (where possible);
- Collection of groundwater samples using a low-flow sampling pump from two groundwater wells installed during the geotechnical investigation. Where sufficient groundwater was present in the well, field parameters were readings taken and allowed to stabilise prior to sampling;
- Dispatch and analysis of selected soil and groundwater samples at a National Association of Testing (NATA) accredited laboratory for various combinations of a general suite of potential contaminants and soil properties including:
 - o Metals / metalloids (As, Cd, Cr, Cu, Hg, Ni, Pb and Zn);
 - o Total recoverable hydrocarbons (TRH);
 - o Benzene, toluene, ethylbenzene and xylenes (BTEX);

¹ Douglas, 'Report on Geotechnical Investigation, Proposed Commercial Development, 6-8 Julius Avenue, North Ryde, NSW', Douglas report reference: 233059.00.R.001.Rev1 dated 21 May 2025

- o Polycyclic aromatic hydrocarbons (PAH);
- o Organochlorine pesticides (OCP);
- o Organophosphorus pesticides (OPP);
- o Polychlorinated biphenyls (PCB);
- o Phenols;
- o Per- and poly-fluoroalkyl substances (PFAS);
- o Asbestos fines and fibrous asbestos (AF / FA);
- o Asbestos (identification in soil);
- o Toxicity characteristic leaching procedure (TCLP, metals, PAH and PFAS);
- o pH; and
- o CEC.
- QA / QC testing including field parameter, field replicates, trip spike and trip blank samples; and
- Provision of this contamination investigation report (DSI).

3. Site information

Site address	6-8 Julius Ave, North Ryde NSW
Legal description	Lot 89 Deposited Plan 1082131
Area	Approximately 28,630 m ² (based on provided survey plan, refer to Appendix A)
Zoning	Zone E3 Productivity Support
Local Council Area	City of Ryde Council
Current use	Vacant land (open cut sandstone and bushland)
Surrounding uses	North – Commercial East – Commercial then bushland South – bushland then Lane Cove River then parklands West – Commercial then Epping Road

A detailed survey plan of the site by Beveridge Williams was provided to Douglas (attached in Appendix A2) and recorded four apparent on-site water detention (OSD) basins on site, along with other site features. The date of survey was recorded as 25.11.2024.



Figure 1: Site location

4. Environmental setting

Regional topography	The general topography of the surrounding area is a relatively steep slope south towards Lane Cover River from approximate 48 m Australian Height Datum (AHD) along Julius Avenue to 0 m AHD at Lane Cover River.
Site topography	Ground surface levels within the site typically fall steeply from the street level (approximately 48 m AHD) to the previously excavated opencut sandstone pad which covers the northern portion of the site (at approximately 35 m AHD). The land in the southern portion of the site then falls steeply to the south towards Lane Cove River, with the southern boundary being at approximately 24 m AHD.

Soil landscape	Reference to published mapping shows the site sits along a soil landscape boundary. The northern portion of the site comprises Lucas Heights soils landscape is typically a residual landscape associated with undulating crests and ridges on plateau surfaces of Mittagong formation. Local relief up to 30 m and sloped gradients are typically less than 10%. Soils typically include moderately deep, hard setting yellow podzolic soils and yellow soloths. The southern portion of the site is underlain by Hawkesbury group soils typically being colluvial soils associated with rugged, rolling to very steep hills on Hawkesbury Sandstone with local relief between 40 m and 200 m typically greater than 25 % on slopes and greater than 50% on rock outcrops. Soils typically include discontinuous sands associated with rock outcrop and some yellow podzolic soils.
Geology	Reference to Sydney 1:100,000 Series Geological Sheet indicate that the site is underlain by Hawkesbury Sandstone typically comprising medium to coarse grained quartz sandstone with minor shale and laminate lenses.
Acid sulfate soils	Reference to 1:25,000 Acid Sulphate Soils (ASS) Risk map indicates the site is within an area of no know occurrence of ASS. The site is approximately 70 m upgradient from the nearest area mapped with a high probability of occurrence (the Lane Cove River sediments).
Surface water	An on-site detention (OSD), appearing to have been cut into the sandstone bedrock, was present on the site at the time of fieldwork. The closest off-site water body is approximately 70 m south of the site (Lane Cove River). Surface water runoff from the site is expected to enter the Lae Cove River, either directly via overland flow or via the local stormwater system.
Groundwater	A search of NSW Government publicly available registered groundwater bore database indicated that there are no registered groundwater bores within 500 m of the site. The expected receiving body of groundwater from the site is Lane Cover River. The search of registered bores did not identify any beneficial use of groundwater near the site.

5. Previous reports

It is noted that several previous geotechnical investigations have been completed for the site for ISPT and previous site owners/occupants. These reports did not include contamination investigation, and are not considered to provide significant information relevant to the current investigation, noting that relevant results of the recent Douglas geotechnical investigation are discussed in Section 8.

6. Site history

6.1 Historical aerial photography

Several historical aerial photographs were obtained from public databases. Extracts of selected aerial photographs are included in Appendix C. A summary of key features observed for the site and surrounding land is presented in Table 2.

Table 2: Summary of historical aerial photographs

Year	Site	Surrounding land use
1943	The site was predominantly vacant bushland with apparent tracks.	The area to the east of the site was occupied by one residential property with a cleared grassed area. Epping road was present to the south-west of the site, however, it appeared to be narrower than the current road.
1955	Several large commercial / industrial style buildings had been constructed in/adjacent to the north-western corner of the site (i.e. some of the building appearing to straddle the current site boundary), along with associated internal roads and cleared areas. The remainder of the site remainder undeveloped bushland	Additional land clearing and construction of commercial/ industrial style buildings had occurred to the west, north and north-east of the site.
1965	Additional clearing had occurred in the central portion of the site. A new trail had been constructed through the bushland which remained in the south and east of the site.	Additional commercial / industrial style development had occurred round the site, including the construction of warehouses directly east of the site. Land beyond the surrounding commercial / industrial land use area e had undergone land clearing with the development of homes occurring south of Epping Road and clearing south of Lane Cove River.
1971	No significant changes to the site, only minor landscaping redevelopments.	Epping Road appears to have been widened (2 lanes each way rather than one), no other significant

Year	Site	Surrounding land use
		changes were apparent from photograph.
1986	No significant changes apparent to the site since the 1970 historical aerial photograph.	No significant changes apparent since the 1970 historical aerial photograph.
1991	Minor localised land clearing had occurred along the western boundary of the site. No other significant changes apparent since the 1986 historical aerial photograph.	No significant changes apparent since the 1986 historical aerial photograph.
1996	No significant changes apparent to the site since the 1991 historical aerial photograph	Julius Avenue was under construction. Apparent increase in tree cover in the surrounding area. No other significant changes apparent since the 1991 aerial photograph
2005	The northern portion of the site had been cleared of structures, with the pavement remaining. The southern portion of the site remained relatively unchanged with the exception of an apparent fire trail	The surrounding area had been extensively redeveloped to accommodate high-rise commercial buildings. No other significant changes apparent since the 1996 historical aerial photograph.
2007	The site has had minor redevelopment works (land clearing) towards the centre of the site, the OSD is visible towards the central eastern boundary of the site. No other significant changes have occurred since the 2005 historical aerial photograph	The surrounding area has undergone minor redevelopment with several smaller buildings demolished to make way for new multi-level commercial-style buildings.
2009	The site has undergone extensive redevelopment since the 2005 historical aerial photograph including the bulk excavation of soils down to inferred sandstone bedrock. Additional OSD's appear to have been present towards the centre of the site assumed to be associated with bulk excavation works. A path within the bushland has been created to access the fire trail from the sandstone pad. No other significant changed had occurred since the 2007 historical aerial photograph.	The surrounding area had undergone minor redevelopment with several smaller buildings demolished to make way for new multi-level commercial-style buildings.
2009-2015	The OSD's (except one along the central eastern boundary of the site) had been backfilled. The bushland in the southern half of the site had increased in density. No other significant changes have occurred since the 2009 historical aerial photograph.	The surrounding area has undergone minor redevelopment with several smaller buildings demolished to make way for new multi-level commercial-style buildings.
2015-2025	The site has remained relatively unchanged since the bulk excavation works in 2009. Vegetation had grown between the photographs. No other significant changes apparent since the 2009 historical aerial photograph	The surrounding area has undergone minor redevelopment with several smaller buildings demolished to

Year	Site	Surrounding land use
		make way for new multi-level commercial-style buildings.

6.2 Title deeds

A historical title deeds search was used to obtain ownership and occupancy information including company names and the occupations of individuals. The title information can assist in the identification of previous land uses by the company names or the site owners and can, therefore, assist in establishing whether there were potentially contaminating activities occurring at the site. The results of the title deed search are provided in Appendix D. A summary of the title deeds and possible land uses (with reference to the aerial photographs and other historical searches) is presented in Table 3.

The title deeds for Lot 89 Deposited Plan 1082131 were divided into four sections as follows:

Table 3: Historical title deeds as per the yellow tinted section in Infotrack report

Date of acquisition and term held	Registered proprietor(s) / occupations	Inferred land use
1910 to 1928	John Joseph Carroll (Solicitor)	Vacant
1928 to 1944	Charles Dyer (Retired Master Baker)	Vacant land
1944 to 1992	The Commonwealth of Australia (for the purposes of the commonwealth)	Research?
1992 to 1998	Commonwealth Scientific and Industrial Research Organization	Research
1998 to present	ISPT Pty Ltd	Vacant

Table 4: Historical title deeds as per the Green tinted section in Infotrack Report

Date of acquisition and term held	Registered proprietor(s) / occupations	Inferred land use
1909 to 1942	Ernest Daniel Boyd (Boat Builder)	Vacant
1942 to 1944	William John Dunlop (Company Manager)	Vacant
1944 to 1992	The Commonwealth of Australia (For the purposes of the Commonwealth)	Research?
1992 to 1998	Commonwealth Scientific and Industrial Research Organization	Research

Date of acquisition and term held	Registered proprietor(s) / occupations	Inferred land use
1998 to present	ISPT Pty Ltd	Vacant

Table 5: Historical title deeds as per Blue tinted area in Lotsearch report

Date of acquisition and term held	Registered proprietor(s) / occupations	Inferred land use
1921 to 1943	Douglas Howard MacMullan (Civil Servant)	Vacant
1943	Lydia Blanche MacMullan (Widow) (Transmission Application, not investigated)	Vacant
1943 to 1944	Saidee Agnes Muir (Married Woman)	Vacant
1944 to 1992	The Commonwealth of Australia (For the purposes of the Commonwealth)	Research?
1992 to 1998	Commonwealth Scientific and Industrial Research Organization	Research
1998 to present	ISPT Pty Ltd	Vacant

Table 6: Historical title deeds as per Pink shaded area on Infotrack report

Date of acquisition and term held	Registered proprietor(s) / occupations	Inferred land use
1921 to 1944	William Charles Adams (Civil Servant)	Vacant
1944 to 1992	The Commonwealth of Australia (For the purposes of the Commonwealth)	Research?
1992 to 1998	Commonwealth Scientific and Industrial Research Organization	Research
1998 to present	ISPT Pty Ltd	Vacant

Various listings for easements and leases have been noted on infotrack including easements for electrical services, drainage lines, overhead mains, and water supply and a lease for a substation.

6.3 Public registers and planning records

EPA Notices available under Section 58 of the Contaminated Land Management Act (CLM Act) Database searched 5/3/25	There were no records of notices for the site or adjacent sites.
Sites notified to EPA under Section 60 of the CLM Act Database searched 5/3/25	The site was not listed as contaminated under Section 60 of the CML Act. There was one premise listed within 1km of the site: 68 Blenheim Road, North Ryde – Listed as a landfill site under assessment. The site is approximately 650 m north-west, up-gradient, of the site and is considered to present a low risk to the site.
Licences listed under Section 308 of the Protection of the Environment Operations Act 1997 (POEO Act) Database searched 5/3/25	There was one record issued to a premise within 1km of the site. 1 Rivett Road, North Ryde – Hazardous, Industrial or Group A Waste Generation or Storage – Licence no longer in force. The site is approximately 250 m north west of the site (cross-gradient). Based on the distance and relative location the property is considered to present a low risk to the site.

PFAS Investigation Sites listed on the EPA website Database searched 5/3/25	The site was not listed or adjacent to a site listed under: NSW EPA PFAS Investigation Program; Defence PFAS Investigation Program; Defence PFAS Management Program; and Airservices Australia National PFAS Management Program.
SafeWork NSW (certificate attached in Appendix D2)	SafeWork NSW conducted a search of schedule 11 chemicals for the site. Their response letter, dated 28/02/2025) stated that they did not locate any records pertaining to the site
Planning Certificates	Planning certificates were not available for review at the time of writing this report
Council Records Database searched 27/3/25	A search of development applications listed on the City of Ryde Councils website was conducted. No relevant records were identified.

6.4 Other information

A search of 'The Trove' news articles identified records of the CSIRO research division (specifically the Mineral Research Division) opening in 1972² in North Ryde. Another news article dated 26 December 1987³ summarised the findings of testing from 'washing' coal to create an 'extremely clean' slow sulphur fuel.

Based on Douglas' understanding of the area, CSIRO previously occupied land surrounding the site as well as the site, and the above Trove documents appear to relate to the area in general, and may not be specific to the site.

A search of google maps identified that CSIRO still occupies premises at 3/1111 and 14 Julius Avenue and 2 Newbiggin Close. These properties are over 100 m from the site.

6.5 Site history integrity assessment

The information used to establish the history of the site was sourced from reputable and reliable reference documents, many of which were official records held by Government departments / agencies. The databases maintained by various Government agencies potentially can contain high quality information, but some of these do not contain any data at all.

² <https://trove.nla.gov.au/newspaper/article/110618355?searchTerm=CSIRO%20north%20ryde> database search on 27 March 2025

³ <https://trove.nla.gov.au/newspaper/article/110618355?searchTerm=CSIRO%20north%20ryde> database searched 27 March 2025

In particular, aerial photographs can provide high quality information that is generally independent of memory or documentation. They are only available at intervals of several years, so some gaps exist in the information from this source. The observed site features are open to different interpretations and can be affected by the time of day and / or year at which they were taken, as well as specific events, such as flooding. Care has been taken to consider different possible interpretations of aerial photographs and to consider them in conjunction with other lines of evidence.

6.6 Summary of site history

The site history indicates that:

- The site was undeveloped land owned by various individuals up until circa 1944.
- In 1944 the site was acquired by the commonwealth, and between 1943 and 1955 the northern portion of the site was developed with various commercial / industrial style buildings.
- A search of 'The Trove' records the Commonwealth Scientific and Industrial Research Organization (CSIRO) opening in 1972 in North Ryde with CSIRO activities including 'washing' coal to create an 'extremely clean' slow sulphur fuel.
- In 1992 the site was transferred to the CSIRO.
- Between 1996 and 2004 the previous buildings at the site were demolished.
- In 1998 the site was acquired by the current title holders (ISPT Pty Ltd).
- Excavation and levelling of the site occurred between 2007 and 2009. No significant changes have occurred at the site this time.
- No development other than tracks was apparent in the southern of the site in the reviewed aerial photographs.

7. Site walkover

A site walkover was undertaken by an environmental scientist on 18 February 2025. The general site topography was consistent with that described in Section 4 and shown on the site survey Douglas (attached in Appendix A2). The site layout appears consistent with the 2009 aerial photograph. The following key site features pertinent to the DSI were observed (refer to photographs in Appendix B):

- The north half of the site had been excavated to sandstone bedrock with the north, eastern and western walls showing exposed sandstone bedrock (assumed as part of previous bulk excavation works). Soil was present exposed at the surface in the previously excavated area, and appeared to have been deposited there since the excavation works, or from weathering of the exposed sandstone. Plants and trees were also present across this area;
- A small access ramp was present, providing access from the neighbouring property to the west. The composition of the ramp was not visible;
- An OSD was observed cut into the sandstone bedrock in the excavated area and held water at the time of inspection. The OSD was fenced off. The OSD was consistent with the largest one shown on the survey plan and 2009 aerial photograph. The three other OSD identified on the detailed survey plan (in Appendix A2) were not observed by Douglas at the time of

inspection (noting they were not the specific focus of the inspection, and may have been obscured by site vegetation);

- Trees were present spread across the site, with denser coverage in the southern portion of the site where it was relatively undisturbed bushland;
- A bush trail was present running along the southern boundary of the site; and
- A relatively steep slope with exposed sandstone boulders and sections with small sandstone cliffs running generally north-east to south-west of the southern portion of site. A steeper section with more cliffs was present along the northern edge of the slope.

The following observations were made of the land surrounding the site:

- The premise to the north of the property was occupied by 'The Village' comprising a café, medical company and retail stores. An early age preschool was directly adjacent (west) to the village.

8. Geotechnical investigation results

The Douglas geotechnical investigation included a geotechnical model, which is summarised in Table 7 below. Groundwater levels recorded as part of the investigation are summarise in Table 8 below, noting that groundwater levels vary over time and ongoing logging of groundwater levels was being undertaken at the time of reporting. No overburden fill was recorded in the geotechnical borehole logs.

The geotechnical report should be referenced for further information on the geotechnical investigation and recommendations.

Table 7: Geotechnical Model below Street level and Proposed Basement (extracted from DP,2024a)

Unit	Material Description	Rock Mass Description	Reduced Level at Top of Stratum m AHD
1	Medium and High Strength Sandstone	Slightly to moderately weathered or fresh, zones o slightly fractured rock but mostly unbroken (Massive Sandstone)	More present towards the south of the excavated platform; from Surface ~RL36
2	High Strength Sandstone	Slightly to moderately weathered or fresh, zone of slightly fractured rick but mostly unbroken (Massive Sandstone)	More present towards the North of the excavated platform; from Surface ~RL 36

Table 8: Standing Water Levels in Groundwater Monitoring Wells (extracted from Geotechnical Investigation DP, 2024a)

Borehole No.	Date	Surface RL (m, AHD)	Water Level Measurements in Wells	
			Depth (m, bgl)	Reduced Level (m, AHD)
BH101A	26/02/2025	RL 35.9	0.65	36.55
BH103	26/02/2025	RL 35.9	4.75	31.15
BH106	26/02/2025	RL 36.0	6.55	29.45

9. Preliminary conceptual site model

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM provides the framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or the future i.e. it enables an assessment of the potential source – pathway – receptor linkages (complete pathways).

Based on the current investigation, the following potential sources of contamination and associated contaminants of potential concern (CoPC) have been identified and summarised in Table 2.

Table 9: Summary of potential sources

Potential sources and associated CoPC
On-site sources S1: Fill: Associated with levelling, demolition of former buildings on the site. CoPC: metals, TRH, BTEX, PAH, PCB, OCP, phenols and asbestos. S2: Previous Site Uses: CSIRO, which may have included the use and storage of fuels and chemicals. CoPC: Metals, TRH, BTEX, PAH, VOC, phenols, PCB, OCP, PFAS.
Off-site sources S3: Upgradient previous CSIRO activities, which may have included the use and storage of fuels and chemicals. CoPC: Metals, TRH, BTEX, PAH, VOC, phenols.

The following potential human and environmental receptors, along with relevant potential pathways, have been identified and summarised in Table 3.

Table 10: Summary of potential receptors and pathways

Potential human receptors
HR1: Construction and maintenance workers HR2: End users (commercial / industrial) HR3: Adjacent site users (commercial)
Potential environmental receptors
ER1: Surface water [Lane Cover River] ER2: Groundwater ER3: Terrestrial ecosystems
Potential pathways to human receptors
HP1: Ingestion and dermal contact HP2: Inhalation of dust and/or vapours
Potential pathways to environmental receptors
EP1: Surface water run-off EP2: Leaching of contaminants and vertical migration into groundwater EP3: Lateral migration of groundwater providing base flow to water bodies EP4: Inhalation, ingestion and absorption

Summary of potentially complete exposure pathways

A 'source–pathway–receptor' approach has been used to assess the potential risks of harm being caused to human or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways (potential complete pathways). The possible pathways between the above sources (S1 to S3) and receptors are provided in below Table 11.

Table 11: Summary of potentially complete exposure pathways

Source and CoPC	Exposure pathway	Receptor	Risk management action
S1: Fill: Associated with levelling, demolition of former buildings on the site	HP1: Ingestion and dermal contact HP2: Inhalation of dust and/or vapours	HR1: Construction and maintenance workers HR2: End users (commercial / industrial) HR3: Adjacent site users (commercial)	An intrusive investigation is recommended to assess possible contamination including testing of the soil and groundwater.
	HP2: Inhalation of dust and/or vapours	HR3: Adjacent site users (commercial)	

Source and CoPC	Exposure pathway	Receptor	Risk management action
	EP1: Surface water run-off EP3: Lateral migration of groundwater providing base flow to water bodies	ER1: Surface water	
	EP2: Leaching of contaminants and vertical migration into groundwater	ER2: Groundwater	
	EP4: Inhalation, ingestion and absorption	ER3: Terrestrial ecosystems	
S2: Previous former site uses: CSIRO S3: Former upgradient land uses: CSIRO	HP2: Inhalation of dust and/or vapours	HRI: Construction and maintenance workers HR2: End users (commercial / industrial)	
	EP3: Lateral migration of groundwater providing base flow to water bodies	ER1: Surface water	
	EP2: Leaching of contaminants and vertical migration into groundwater	ER2: Groundwater	
	EP4: Inhalation, ingestion and absorption	ER3: Terrestrial ecosystems	

10. Sampling and analysis plan

10.1 Data quality objectives

The DSI was devised with reference to the seven-step data quality objectives (DQO) process which is provided in Appendix B Schedule B2, NEPC (2013). The data quality objective process is outlined in Appendix F.

10.2 Soil sampling and analysis rationale

Based on the CSM and data quality objectives (DQO) the following sampling rationale was adopted.

Table 2 of the NSW EPA (2022) recommends a minimum of 35 test locations for a site of approximately 2.85 ha. Based on the site history and current conditions, including previous bulk excavation of the northern parts of the site (with minimal remaining soils), and relatively undisturbed areas in the south of the site this DSI is based on a stratified sampling regime, with judgemental sampling conducted in each identified site sub-area as follows:

BH1 to BH12	Spread in accessible areas across the southern portion of the site within the bushland / vegetated areas, as accessible.
BH13 to BH15	Located in the northern portion of the site targeted locations where sediment was present from weathered sandstone bedrock and/or deposited rock from previous excavation works.

Soil samples were collected from each test location from the surface and at depths of approximately 0.2-0.3 m or changes in lithology to the depth of refusal on inferred bedrock (maximum depth of 0.3 m).

The general sampling methods are described in the field work methodology in Appendix G.

Samples were selected for analysis based upon field observations and PID screening results, and to provide lateral and vertical coverage of the site. The selected samples were analysed for the CoPC in the CSM and for cation exchange capacity (CEC) and pH to inform calculation of the environmental investigation levels (EIL).

10.3 Groundwater sampling and analysis rationale

In order to assess the current groundwater contamination status at the site and evaluate whether historical or off-site land uses have impacted on groundwater, sampling from two (101A 106) of the three monitoring wells constructed as part of the geotechnical investigation was undertaken.

The locations were selected based on the following rationale:

- MW101A: positioned hydraulically up-gradient to provide data on the concentration of contaminants in groundwater entering the site; and
- MW106: positioned hydraulically down-gradient of the former buildings and structures in the southern portion of the site to evaluate whether the historical land uses have impacted on groundwater quality, and the potential for contaminated groundwater to be migrating off the site.

The groundwater construction details in BH101A, BH103 and BH106 were generally as follows. BH101A was drilled using a 96 mm rock roller drill bit to install a temporary groundwater observational well. Temporary groundwater observation wells were installed in BH103 and BH106 after the NMLC sized cored hole was reamed out to 96 mm. Refer to Appendix A for well locations and Appendix J for well construction details. Wells were constructed using 60 mm external diameter (50 mm internal diameter) Class 18 un-plasticised poly-vinyl (uPVC) casing. Slotted screen sections comprised 0.4 mm aperture, machine-slotted, Class 18 uPVC pipe, finished with a bottom cap. A durable single sized (poorly graded) quartzose sand filter was placed around the screened section and sealed with a minimum 4 m bentonite seal from the top of the sand filter to ground surface to reduce the chance of any surface water from entering the borehole. The wells were finished with a stick up of approximately 1.0 m above ground surface.

The general sampling methods are described in the field work methodology in Appendix G. All samples were analysed for the CoPC in the CSM.

11. Site assessment criteria

The site assessment criteria (SAC) applied in the current investigation are informed by the CSM (Section 9) which identified human and environmental receptors to potential contamination on the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels of Schedule B1 of NEPC (2013).

The investigation and screening levels applied in the current investigation comprise levels adopted for a generic commercial / industrial land use scenario. The derivation of the SAC is in Appendix H, and the adopted SAC are listed on the summary analytical results tables in Appendix I.

12. Results

12.1 Field work results

The borehole logs for this assessment are provided in Appendix J. The logs recorded the following general sub-surface profile:

Fill:	Generally comprising of silty sand, pale brown, with rootlets, trace igneous gravels in boreholes BH2 to BH11 to depths of approximately 0.1 to 0.2 m.
Clayey sand:	Underlying the fill in test locations BH6-BH10 and BH13-BH15 typically, fine to coarse sand or clayey sand, yellow-brown with sandstone gravels.
Sandstone:	Sandstone bedrock in all test locations underlying fill all test locations.

No visual or olfactory evidence (e.g. staining, odours, free phase product) was observed during the investigations to suggest the presence of contamination within the soils or groundwater at the site.

The PID screening recorded values of less than 5 ppm suggesting the absence, or very low concentrations, of VOC in the samples tested.

No free groundwater was observed during excavation of test pits or drilling of boreholes.

Groundwater levels were gauged on 3 March 2025 using an electronic oil / water interface meter prior to sampling. The measured water levels prior to sampling are shown in Table 12.

Table 12: Summary of groundwater level measurements on 3 March 2025.

Well ID	Location of monitoring well	Ground level * m (AHD)	SWL m (bgl)	SWL m (AHD)
BH101A	up-gradient	35.9	0.76	35.14
BH103**	Up-gradient	35.9	4.75	31.15
BH106	down-gradient	36.0	7.47	28.53

Notes:

*Surveyed by dGPS

**BH103 groundwater levels were extracted from geotechnical investigation

AHD – Australian Height Datum

SWL – standing water level

bgl – below ground level

Based on the groundwater level measurements, groundwater is interpreted to be flowing to the south towards Lane Cove River. This was expected given the topography and the location of the down-gradient discharge point (i.e. the Lane Cove River).

The stabilised groundwater field parameters recorded prior to sampling are shown on the groundwater field sheets provided in Appendix J and summarised below.

Physical parameters were measured whilst sampling (where possible) and are summarised in Table 13.

Table 13: Summary of field parameters (groundwater and surface water)

Well / Sample ID	Temp. (°C)	DO (ppm)	EC (µS/cm)	pH	Redox (mV)	Turbidity (NTU)
BH101A	20.6	6.32	775	4.20	456.3	29.62
BH106	Insufficient groundwater in well to obtain parameters					

The dissolved oxygen levels indicated generally aerobic conditions. The pH was slightly acidic. The electrical conductivity values are typical of marine water as would be expected of a Hawkesbury Sandstone Shale. Redox potential (mV) indicates slightly oxidising conditions. No light non-aqueous phase liquid (LNAPL) was observed whilst sampling.

12.2 Laboratory analytical results

The results of laboratory analysis are summarised in the following tables in Appendix I:

- Table I1: Summary of results of soil analysis.
- Table I2: Summary of results of water analysis.
- Table I3: Summary of results of preliminary waste classification.

The laboratory certificates of analysis together with the chain of custody and sample receipt information are provided in Appendix K.

12.3 Data quality assurance and quality control

The data quality assurance and quality control (QA / QC) results are provided in Appendix X. Based on the results of the field QA and field and laboratory QC, and evaluation against the data quality indicators (DQI) it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

13. Discussion

13.1 Soils

The analytical results for all contaminants tested in samples tested were below the SAC with the exception of:

- TRH (C10-C16) in sample BH5/0-0.1m at 220 mg/kg which exceeded the ESL-D of 170 mg/kg. A silica gel clean-up was completed on the exceedance with the results showing that the petroleum component of that results (total petroleum hydrocarbons – TPH) for TPH C10-C16 was below the SAC.

It should also be noted that the above-mentioned TRH was observed towards the down-gradient (south) site boundary and could be attributed to natural organic matter within topsoil in the bushland.

Heavy metals and PFAS were detected by the laboratory but were however, below the adopted SAC. BTEX, phenols, OCP, OPP, PAH and PCB were below the laboratory detection limit. No asbestos was detected in any of the test locations.

13.2 Groundwater

All results were below the SAC, with the exception of:

- Copper in sample 101A and its replicate sample at replicate at 0.004 mg/L and 0.003 mg/L respectively, exceeding 95% DGV of 0.0014 mg/L.
- Lead in sample 101A and its replicate at 0.012 mg/L and 0.011 mg/L respectively, exceeding the 95% DGV of 0.0034 mg/L.
- Zinc in all samples ranging between 0.027mg/L - 0.057 mg/L exceeding the 95% DGV of 0.008 mg/L.
- Nickel in sample 106 at 0.009 mg/L exceeding the 99% DGV of 0.008mg/L.

It should be noted that the above-mentioned concentrations, although measured in both groundwater wells, show a decrease in concentration from north to south (i.e. decreasing from up to down-gradient) and metal concentrations in soils at the site were not found to be significant. It is noted that the groundwater wells are screened in bedrock (below fill) and that the concentrations of copper, nickel and zinc are likely associated with ambient regional conditions. The source of the recorded lead is unknown, but it could be ambient, from upgradient sites, or from previous site activities, noting the concentration recorded in sample from the upgradient well was marginally higher than in the sample from the down-gradient well.

TRH was detected in both test locations and the replicate sample. The concentrations were below the HSL for vapour intrusion into building for groundwater at depths of 2 m or more, although it is noted that groundwater was recorded shallower than 2 m in BH101A (recorded at 0.76 m bgl), but more than 4 m bgl in BH103 and BH106. However, given the expected construction requirements for the data centre (including high strength concrete slabs) it is considered that the likelihood of impact on future site users is low. No SAC are available for TRH for ecological impacts, and the recorded results are above expected background concentrations, and could potentially pose an unacceptable risk to the ecology of Lane Cove River.

BTEX, phenols, OCP, OPP, PAH and PCB were below the laboratory detection limit. and not considered to be of concern.

13.3 Preliminary Waste Classification

The following Table 4 presents the results of the six-step procedure outlined in NSW EPA (2014) for determining the type of waste and the waste classification. This process applies to the fill (including surface soils) at the site.

Table 14: Six step classification procedure

No.	Item	Comment	Rationale
1.	Is the waste special waste?	No	No asbestos-containing materials (ACM), clinical or related waste, or waste tyres were observed in the test pits. Asbestos was not detected by the analytical laboratory.
2.	Is the waste liquid waste?	No	The fill comprised a soil matrix.
3.	Is the waste "pre-classified"?	No	The fill is not pre-classified with reference to NSW EPA (2014). The natural soil, if classified as VENM, is pre-classified as general solid waste (non-putrescible).
4.	Does the waste possess hazardous waste characteristics?	No	The fill was not observed to contain or considered at risk to contain explosives, gases, flammable solids, oxidising agents, organic peroxides, toxic substances, corrosive substances, coal tar, batteries, lead paint or dangerous goods containers.
5.	Determining a wastes classification using chemical assessment.	Conducted	Refer to attached Table H3.
6.	Is the waste putrescible or non-putrescible? ¹	Non-putrescible	The test locations do not contain material considered to be putrescible.

Notes:

1. Wastes that are generally not classified as putrescible include soils, timber, garden trimmings, agricultural, forestry and crop materials, and natural fibrous organic and vegetative materials (NSW EPA, 2014).

The field and laboratory data quality assurance and quality control results for the samples have been reviewed and are considered to be acceptable. The laboratory certificates are attached.

As shown in the attached Table A1, all contaminant concentrations for the analysed fill samples were below the contaminant thresholds (CTI) for general solid waste, non-putrescible. Although there were no CTI criteria for PFAS, the concentration of PFAS in soils is only marginally above the laboratory detection limit and orders of magnitude lower than the SCCI criteria.

14. Revised conceptual site model

The data collected for this DSI has generally confirmed that certain potential contaminant sources outlined in the CSM outlined in Section 9 pose a potentially complete pathway to the identified receptor(s) whilst others do not. No other sources of contamination have been identified as a result of the testing results. This is summarised in Table 15.

Table 15: Updated summary of potentially complete exposure pathways (proposed data centre)

Source and CoPC	Exposure pathway	Receptor	Risk management action
S3: Possible upgradient UST/AST	HP2: Inhalation of dust and/or vapours	HR1: Construction and maintenance workers HR2: End users (commercial / industrial)	The source of the recorded petroleum and lead is not known, but could be on- or off-site former CSIRO activities. Further groundwater monitoring is recommended to inform assessment of the significance of these results, and the potential for off-site impacts on Lane Cove River. The detections of TRH and metals in groundwater could be managed through a DMP if required during excavation works.

15. Conclusions

The objectives of the DSI were to:

- Assess the suitability of the site, from a contamination perspective, for the proposed development and whether further investigation and/or management is required; and
- To assess the potential for contamination migration from the site.

The reviewed site history documents indicate the site was historically undeveloped prior to being acquired for assumed research purpose under the Commonwealth government in the 1940s, and then for research by CSIRO. Various site structures (large commercial / industrial style buildings) were previously present in the northern portion of the site, assumed to be used for research purposes, and have since been demolished. The northern portion of the site has subsequently been excavated to sandstone bedrock (circa 2010), with no identified signs of contamination

observed by Douglas in the sandstone exposed at the ground surface. The southern portion of the site appears to have remained as undeveloped bushland throughout the known history of the site.

The sampling density for this investigation was reduced based on an assessed low risk of soil contamination based on the northern portion of the site had been excavated into sandstone, and that the southern portion of the site has not been developed. The analytical results for soil samples were within the adopted site assessment criteria taking into consideration of the results of the silica gel clean up testing. No asbestos was detected in the samples collected.

Parts of the southern portion of the site were inaccessible due to the relatively dense bushland, however, the site history and available testing results indicate a generally low risk of contamination in these areas.

Metals and TRH were recorded in groundwater above the adopted site assessment criteria. Whilst some the metals appeared to be consistent with expected ambient concentrations, the lead and TRH may be sourced from historic activities at or upgradient of the site. The contaminant concentrations are not considered to pose a risk to future site users under the proposed development, however, may pose a risk to ecological receptors in the Lane Cove River or from water extracted as part of any future dewatering.

16. Recommendations

Based on the results of the DSI it is considered that contamination at the site does not pose an unacceptable risk to future site users under the proposed development, subject to:

- Further monitoring of groundwater to inform assessment of the significance of these results, the potential for off-site impacts on Lane Cove River, and treatment that may be required during any future dewatering (refer recommended scope in Section 16.1 below); and
- Preparation and implementation of an unexpected finds protocol during redevelopment to set out the management requirements in the event that unexpected contamination is identified (e.g. fly tipping of contaminated soils and localised fill).

Additional groundwater testing

To address potential risk associated with groundwater to ecological receptors and to inform potential dewatering requirements the following scope is recommended:

- Testing of groundwater samples from all three on-site monitoring wells (BH101, 102 and 105) for the CoPC (metals, TRH [and total petroleum hydrocarbons if required] and BTEX) to determine if the results obtained are repeatable or if they represent transient conditions;
- Review of information relating to potential upgradient source sites (i.e. CSIRO) under a freedom of information request;
- Analysis of additional groundwater parameters as required to inform potential dewatering requirements, e.g. suspended solids content, nutrient loading and biological contaminants (NSW DPIE, 2021); and
- Assessment of the results by an appropriately qualified environmental consultant with respect to the site suitability and/or need for additional monitoring.

17. References

CRC CARE. (2017). *Risk-based Management and Remediation Guidance for Benzo(a)pyrene*. Technical Report no. 39: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW DPIE. (2021). *Minimum requirements for building site groundwater investigations and reporting*.

NSW EPA. (2020). *Guidelines for Consultants Reporting on Contaminated Land*. Contaminated Land Guidelines: NSW Environment Protection Authority.

NSW EPA. (2022). *Contaminated Sites, Sampling Design Guidelines*. NSW Environment Protection Authority.

18. Limitations

Douglas Partners Pty Ltd (Douglas) has prepared this report for this project at 6-8 Julius Ave, North Ryde NSW in line with Douglas' proposal dated 20/11/2024 and acceptance received from Dan D'Ambrosio of ISPT Pty Ltd. The work was carried out under Douglas' Engagement Terms. This report is provided for the exclusive use of ISPT Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of Douglas, does so entirely at its own risk and without recourse to Douglas for any loss or damage. In preparing this report Douglas has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after Douglas' field testing has been completed.

Douglas' advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by Douglas in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental and groundwater components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. Douglas cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by Douglas. This is because this report has been written as advice and opinion rather than instructions for construction.

Asbestos has not been detected by observation or by laboratory analysis, either on the surface of the site, or in fill materials at the test locations sampled and analysed. Although the sampling plan adopted for this investigation is considered appropriate to achieve the stated project objectives, there are necessarily parts of the site that have not been sampled and analysed. This is either due to undetected variations in ground conditions or to budget constraints (as discussed above), or to parts of the site being inaccessible and not available for inspection / sampling, or to vegetation preventing visual inspection and reasonable access. It is therefore considered possible that HBM, including asbestos, may be present in unobserved or untested parts of the site, between and beyond sampling locations, and hence no warranty can be given that asbestos is not present.

Appendix A

Drawings

Appendix A1

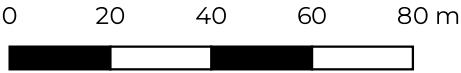
Douglas Drawings



SITE LOCATION

LEGEND

 Site Boundary

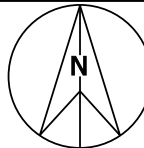


NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from metromap.com
2. Boundaries are approximate only.
3. Test locations are approximate only and have been located using landmarks.

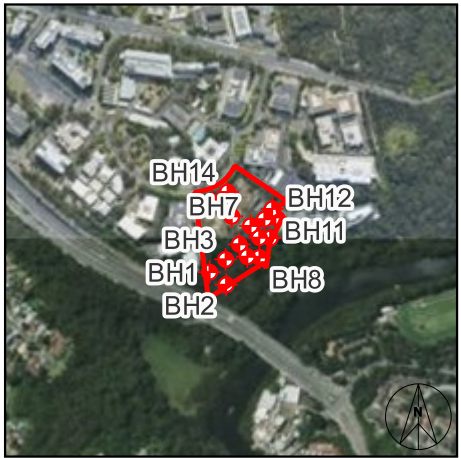


CLIENT: ISPT Pty Ltd	
OFFICE: Sydney	DRAWN BY: NW
SCALE: 1:1500 @A3	DATE: 27.March.2025

TITLE: **Site Location**
Proposed Data Centre
6-8 Julius Avenuen North Ryde, NSW



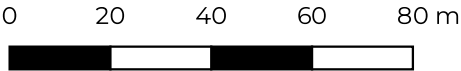
PROJECT:	233059.01
DRAWING No:	1
REVISION:	0



SITE LOCATION

LEGEND

- Site Boundary
- Approximate Environmental Borehole Locations

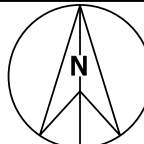


NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from metromap.com
2. Boundaries are approximate only.
3. Test locations are approximate only and have been located using landmarks.



CLIENT: ISPT Pty Ltd
OFFICE: Sydney
DRAWN BY: NW
SCALE: 1:1500 @A3
DATE: 28.March.2025

TITLE: **Environmental Borehole Locations**
Proposed Data Centre
6-8 Julius Avenuen North Ryde, NSW



PROJECT: 233059.01
DRAWING No: 2
REVISION: 0



Location Plan

LEGEND:-	
	Borehole Location and Number
	Groundwater Monitoring Wells
	Approximate Site Boundary

REV	DESCRIPTION/COMMENT	DATE	DRAWN BY
0	INITIAL ISSUE	27/02/2025	JST
SCALE:			

Douglas
PARTNERS
OFFICE: SYDNEY
96-98 Hermitage Rd, West Ryde NSW 2114
(02) 9809 0666

CLIENT:
ISPT Pty Ltd

NOTE:
• Base image from MetroMap (Dated 27.01.2025)
• Proposed basement layout adapted from Drawing ASK010 Issue 4 dated 03.02.2025

COORDINATE REFERENCE SYSTEM:GDA2020 / MGA ZONE 56

PROJECT NAME:
Proposed Data Centre Development

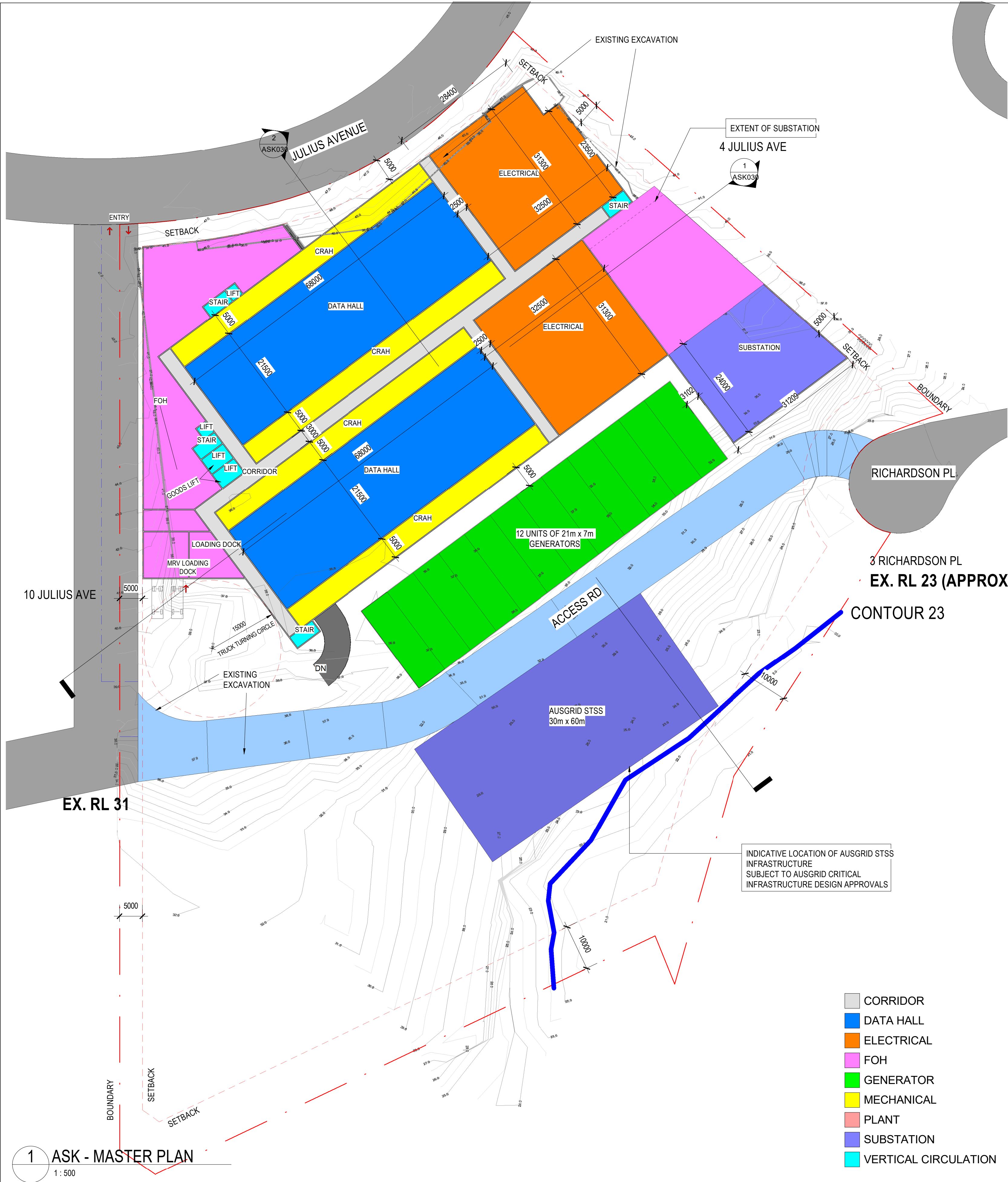
PROJECT ADDRESS:
6-8 Julius Avenue, North Ryde

DRAWING TITLE:
TEST LOCATION PLAN

PROJECT No:	233059.00
DRAWING No:	1
REVISION:	0

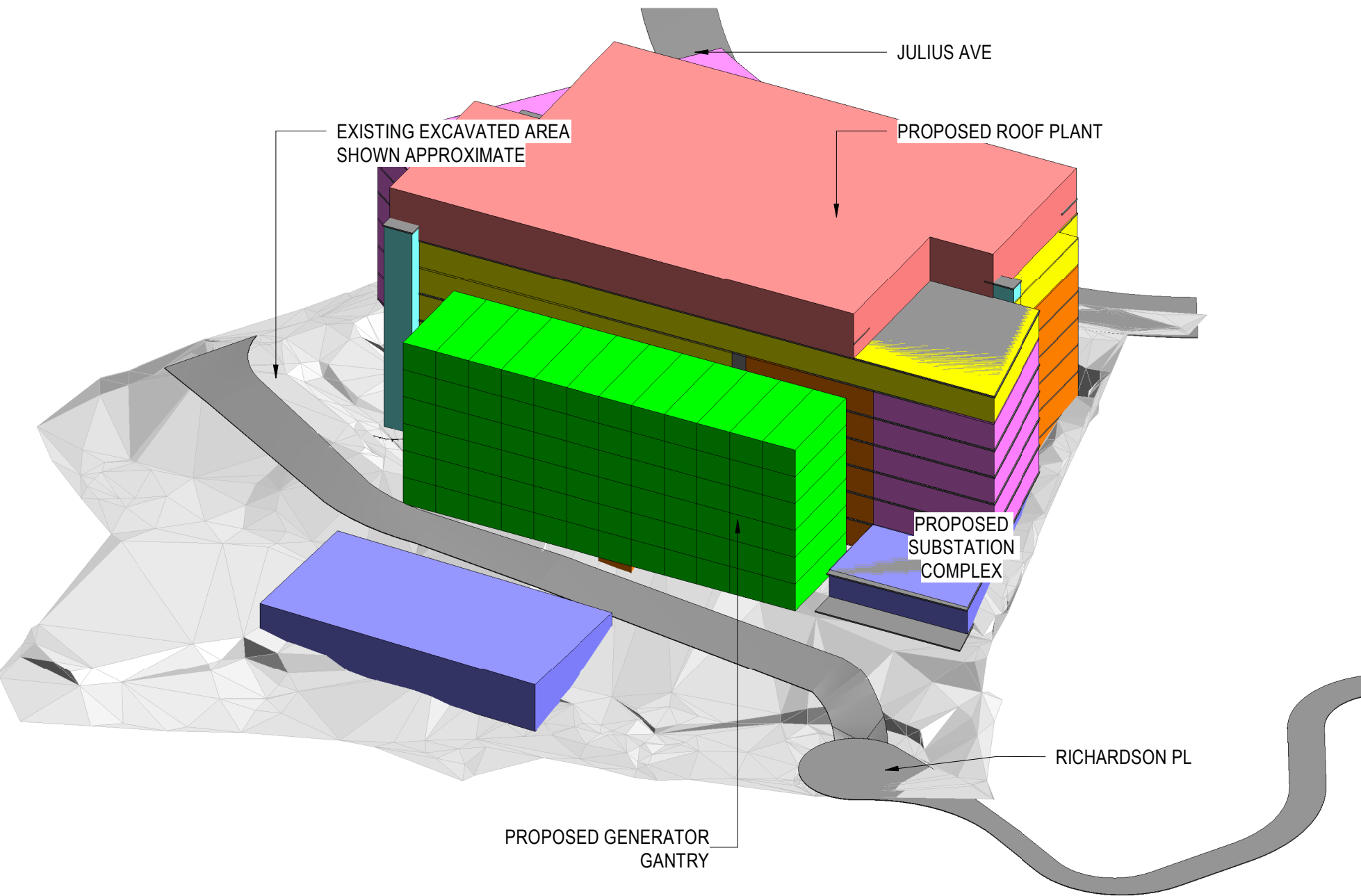
Appendix A2

Client Supplied Drawings



1 ASK - MASTER PLAN
1 : 500

2 3D Perspective Looking S/E

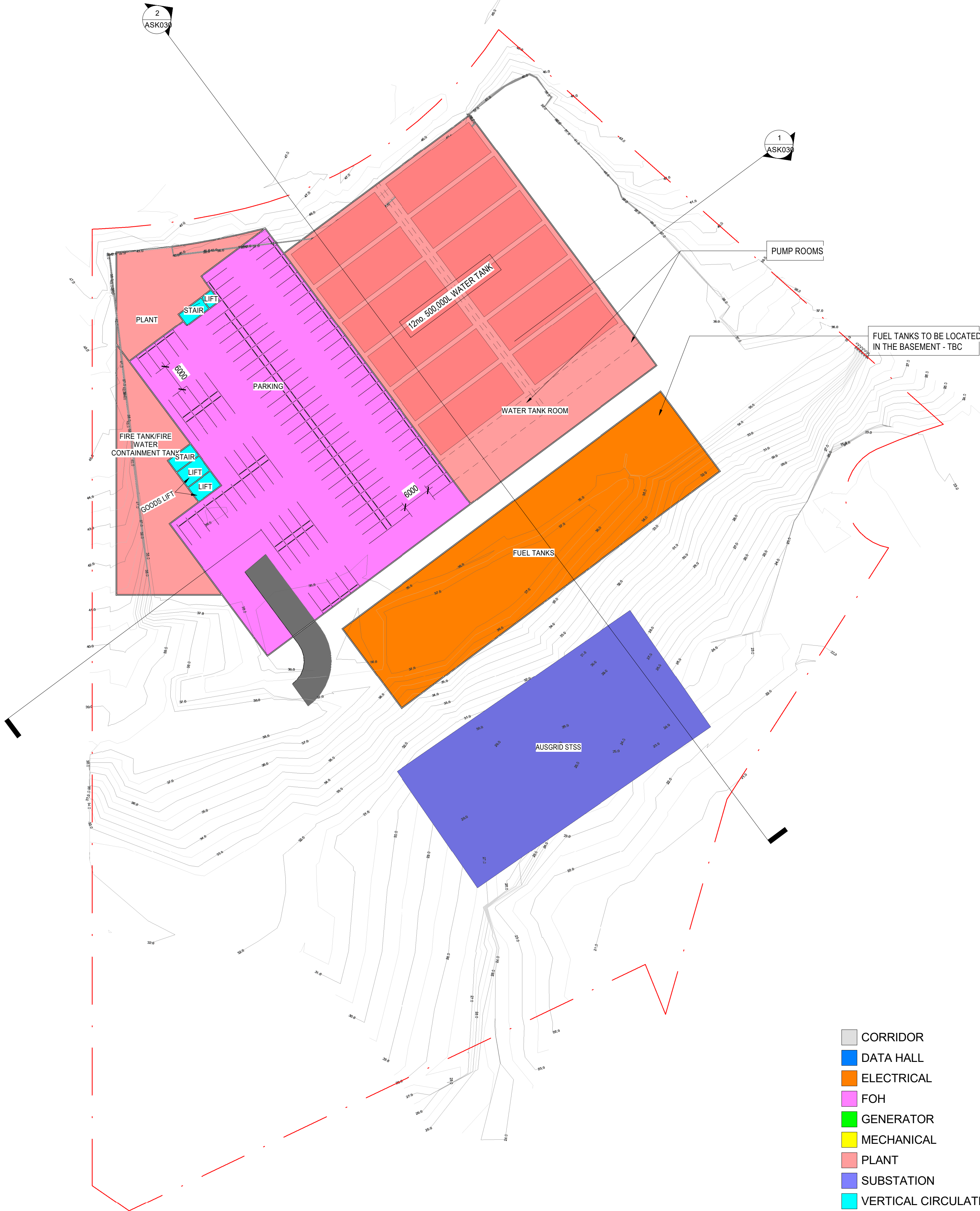


3 3D Perspective Looking S/W

SITE INFORMATION		REQUIRED	PROPOSED
SITE AREA		28,630m²	-
LAND ZONING		E3	
FSR		1.5:1 = 42,945 m²	36,328m²
BUILDING HEIGHT LIMIT		45m	46m FROM EXISTING EXCAVATION
GBA		-	64,778 m²
NO. OF CAR PARKS			115

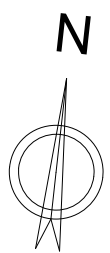
DATA HALL INFORMATION

AREA / DATA HALL MODULE	1,432 m²
TOTAL DATA HALL AREA	17,544 m²
TOTAL RACKS / DATA HALL	672
RACK IT CAPACITY	14kW
NO. OF RACKS / POD	56
NO. OF PODS / DATA HALL	12
TOTAL IT LOAD / HALL	9.6 MW
TOTAL IT LOAD / FLOOR	19.2 MW
TOTAL IT LOAD	115 MW
ASSUMED PUE	TBC
TOTAL SITE LOAD	TBC
SLAB TO SLAB HEIGHT	6M



1 ASK - BASEMENT
1 : 500

- CORRIDOR
- DATA HALL
- ELECTRICAL
- FOH
- GENERATOR
- MECHANICAL
- PLANT
- SUBSTATION
- VERTICAL CIRCULATION



Issue	Date	Description
1	2024.12.20	FOR INFORMATION
2	2025.01.15	FOR INFORMATION
3	2025.01.29	FOR INFORMATION
4	2025.02.03	FOR INFORMATION

Key Plan

Project Manager

Client

Construction Manager

Greenbox

+61 2 8069 8930
LEVEL 22
68 PITT STREET
SYDNEY NSW 2000 AUSTRALIA

GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098
ISO 9001 CERTIFIED QUALITY SYSTEM

- Notes
- Use written dimensions only
 - Do not scale from drawing
 - Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings
 - All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
 - Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
 - Nominated Architect - Gerard Page; NSW reg No.7247, Vic reg No.17664, QLD reg No.4538

Client
ISPT

Project
ISPT DATA CENTRE
6-8 JULIUS AVE
NORTH RYDE NSW

Scale
1 : 500

Drawn By
AD

Checked By
MF

Approved By
AO

Job Number

240089

Sheet

A1

Scale Bar

1:500

0

5

10

15

25m

Drawing Title

BASEMENT

Drawing Number

ASK010

Issue

4

- NOTES:
- THESE NOTES AND LEGEND (IF SHOWN) FORM PART OF THE PLAN AND SURVEY AND MUST REMAIN WITH THE PLAN IN ANY REPRODUCTION IN WHOLE OR PART.
 - THE CAD FILE USES METRES AS ITS BASE UNIT AND IS IN A "GROUND" COORDINATE SYSTEM. IF THE SURVEY IS STATED AS MGA, ANY POINT IN THE FILE WILL BE AN APPROXIMATE MGA COORDINATE.
 - SOME SYMBOLS REPRESENTING PHYSICAL STRUCTURES SUCH AS POWER POLES AND PITS ARE DIAGRAMMATIC ONLY AND DO NOT NECESSARILY REPRESENT THE ACTUAL SIZE AND EXTENT OF THESE FEATURES.
 - THE SURVEY INFORMATION SHOWN HERE WAS PREPARED FOR A SPECIFIC PURPOSE FOR THE CLIENT SHOWN. THIS INFORMATION IS NOT INTENDED TO BE USED FOR ANY OTHER PURPOSE OR BY ANYONE NOT AUTHORISED BY THIS CLIENT.
 - BOUNDARY DIMENSIONS AND AREAS HAVE BEEN DETERMINED BY CURRENT CADASTRAL SURVEY AND THE BOUNDARY AND EASEMENT LINES IN THE ELECTRONIC FILE HAVE BEEN INCLUDED USING THOSE SURVEYED DIMENSIONS. THE TITLE DIMENSIONS SHOWN ON THE HARD COPY PLAN TAKE PRECEDENCE OVER THE LINES IN THE ELECTRONIC FILE.
 - THE TITLE/S TO THE SUBJECT LAND HAS BEEN REVIEWED AND THE POSITION OF ALL EASEMENTS AFFECTING THE LAND ARE SHOWN. THE TERMS OF ANY EASEMENT, RESTRICTION ON THE USE OF LAND OR COVENANT AFFECTING THE LAND HAVE NOT BEEN INVESTIGATED. LEASES AND OTHER NOTATIONS MAY ALSO EXIST WHICH AFFECT THE LAND.
 - UNDERGROUND SERVICES OTHER THAN THOSE SHOWN HAVE NOT BEEN INVESTIGATED.
PRIOR TO DEMOLITION, EXCAVATION OR CONSTRUCTION WORK ON THE SITE, THE RELEVANT SERVICE AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.
 - THIS SURVEY IS LIMITED TO IMPROVEMENTS AND OTHER DETAIL WHICH WERE VISIBLE AND ACCESSIBLE AT THE TIME OF SURVEY. THE LOCATION OF DETAIL SUCH AS PRIVATE UNDERGROUND SERVICE LINES AND BUILDING FOUNDATIONS WITHIN THE SITE IS UNKNOWN.
 - THE COORDINATES WITHIN THIS DRAWING RELATE TO THE DATUM SHOWN IN THE TITLE BLOCK. REFER TO A REGISTERED LAND SURVEYOR FOR FURTHER CLARIFICATION. CAUTION SHOULD BE TAKEN WHEN IMPORTING INFORMATION OBTAINED FROM OTHER SUB-CONSULTANTS OR SOURCES TO ENSURE THAT THE DATA IS ON A MATCHING COORDINATE SYSTEM.
 - CONTOURS SHOWN HEREON DEPICT THE GENERAL TOPOGRAPHY ONLY. EXCEPT AT SPOT LEVELS SHOWN, THEY DO NOT NECESSARILY REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT.
 - CONTOUR INTERVAL 0.5m
 - ANY GUTTER, RIDGE, ROOF AND WINDOW DETAILS AND LEVELS SHOWN HAVE BEEN OBTAINED VIA INDIRECT SURVEY METHODS WHERE VISIBLE FROM GROUND LEVEL AND ARE SHOWN ON THIS PLAN IN THEIR APPROXIMATE LOCATION FOR THE PURPOSE OF GENERAL SITE ANALYSIS ONLY.
 - ANY TREE CANOPIES, TRUNK DIAMETERS AND HEIGHTS SHOWN ARE APPROXIMATE ONLY AND SHOULD BE VERIFIED BY FURTHER SURVEY WORKS IF CRITICAL TO DESIGN OR SITE ANALYSIS.
 - SMALL TREES, SHRUBS, GARDEN FEATURES, PATHWAYS AND OTHER MINOR DETAIL MAY NOT BE SHOWN ON THIS PLAN, FOR THE PURPOSES OF THIS SURVEY.
 - PRIOR TO ANY CONSTRUCTION WORKS BEING UNDERTAKEN, BOUNDARIES SHOULD BE MARKED

ORIGIN OF LEVELS: SSM 102264
E 3328077.251
N 6258713.319
R.L. 47.000 (AHD)

LEGEND:

PAR PARAPET
PP POWER POLE
RF ROOF
RDG RIDGE
SIC SEWER INSPECTION COVER
TG TOP OF GUTTER
TK TOP OF KERB
TOG TOP OF GRATE
TW TOP OF WALL
TF TOP OF FENCE
VER VERANDAH
US UNDERSIDE OF BUILDING
SL DRAINAGE PIT SURFACE LEVEL
INV DRAINAGE PIT INVERT LEVEL
WH WINDOW HEAD
WS WINDOW SILL

Comms Pit/Manhole
Drainage Manhole
Drainage Grated Pit
Drainage Kerb Inlet Pit
Electrical Power Pole
Gas Meter
Miscellaneous Manhole
Sewer Vent
Sign Post
Tree (Canopy spread, trunk diameter, Height)
Trees (April 2005)

Water Meter
Water Tap
Water Hydrant
Water Stop Valve

Brick Walls
Stone Walls
Bottom of Bank
Top of Bank



SITE CONSISTS OF AREAS THAT ARE HEAVILY VEGETATED WITH THICK FOLIAGE WHERE R.L.'S HAVE NOT BEEN SHOWN. AREA IS INACCESSIBLE DUE TO DENSE VEGETATION. TREES SHOWN GREY COMPILED FROM SURVEY INFORMATION OBTAINED FROM DUNLOP THORPE SURVEY PLAN 12389 (DATED 12.4.2005). THE POSITION AND FEATURES OF THESE TREES HAVE NOT BEEN INVESTIGATED AND ARE FOR DIAGRAMMATIC PURPOSES ONLY. ONLY TREES WITH TRUNK DIAMETER >100MM AND HIGHER THAN 5 METRES HAVE BEEN MEASURED.

NOTATIONS SHOWN ON CERTIFICATE OF TITLE
LOT 8 D.P.1082131

AFFECTING THE LAND:

- EASEMENT FOR RECREATIONAL PURPOSES (JOGGING TRACK) DESIGNATED (A6) (DP1003588)
- EASEMENT FOR DRAINAGE 2.5 METRES WIDE DESIGNATED (G6) (DP1003588)
- RIGHT OF CARRIAGEWAY VARIABLE WIDTH DESIGNATED (ER6) (DP1003588)
- RIGHT OF CARRIAGEWAY 4 METRES WIDE DESIGNATED (Z6E) AND (Y) (DP1003588)
- RIGHT OF CARRIAGEWAY 4 METRES WIDE DESIGNATED (X7) (DP1003588)
- EASEMENT FOR OVERHEAD MAINS DESIGNATED (E06) (DP1003588)

APPURTENANT TO LAND
(NOT ALL APPURTENANT EASEMENTS SHOWN)

- RIGHT OF CARRIAGEWAY 7 METRES WIDE DESIGNATED (Y6E) (DP1003588)
- EASEMENT FOR DRAINAGE 2.5 METRES WIDE DESIGNATED (G6) (DP1003588)
- EASEMENT FOR RECREATIONAL PURPOSES (JOGGING TRACK) DESIGNATED (A6) (DP1003588)
- EASEMENT FOR DRAINAGE VARIABLE WIDTH DESIGNATED (S6) (DP1003588)
- RIGHT OF CARRIAGEWAY AND EASEMENT FOR SERVICES 7 METRES WIDE DESIGNATED (K6) (DP1003588)
- RIGHT OF CARRIAGEWAY 7.85 METRES WIDE AND VARIABLE DESIGNATED (X6E) (DP1003588)
- EASEMENT FOR DRAINAGE 7.85 METRES WIDE AND VARIABLE DESIGNATED (J6) AND (X) (DP1003588)
- EASEMENT FOR SERVICES 3 METRES WIDE AND VARIABLE DESIGNATED (YY6) AND (X)(DP1003588)
- EASEMENT FOR SERVICES 3 METRES WIDE AND VARIABLE (YY6) (DP1003588)

THE TERMS AND LOCATIONS OF COVENANTS & RESTRICTIONS HAVE NOT BEEN INVESTIGATED.

- THE POSITION OF SERVICES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY AND HAVE BEEN PLOTTED FROM PLANS AND DRAWINGS SUPPLIED BY RELEVANT AUTHORITIES.
- SERVICE AUTHORITY PITS, MANHOLES, POLES, MARKER POSTS, ETC., WHERE SIGHTED AT TIME OF SURVEY, HAVE BEEN LOCATED. THE SURVEY DOES NOT INCLUDE INVESTIGATION OR LOCATION OF UNDERGROUND INFRASTRUCTURE.
 - SERVICES INFORMATION SHOWN ON THIS DRAWING HAS BEEN OBTAINED THROUGH A BEFORE YOU DIG AUSTRALIA SEARCH AND IS VALID FOR THE PERIOD OF TIME FROM THE DATE OF ISSUE NOMINATED BY THE AUTHORITY.
 - PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON OR ADJACENT TO THE SITE IT IS THE RESPONSIBILITY OF THE DEVELOPER AND CONTRACTORS TO APPLY FOR AND OBTAIN UP TO DATE PLANS THROUGH A NEW BEFORE YOU DIG AUSTRALIA SEARCH AND TO CONTACT ALL THE RELEVANT AUTHORITIES TO ESTABLISH AND CONFIRM THE DETAILED LOCATION AND DEPTH OF ALL UNDERGROUND SERVICES.



CLIENT:
Logic Projects Co.
c/o Dan D'Ambrosio



Beveridge Williams
Land Development Consultants
Registered Surveyors

Sydney (02) 9283 6677

www.beveridgewilliams.com.au

DETAILS:
DETAIL SURVEY PLAN FOR
DEVELOPMENT APPLICATION PURPOSES
LOT 89 DP 1082131
6-8 JULIUS AVENUE, NORTH RYDE

ORIGINAL SHEET SIZE
SCALE 1:600
A1
CAD REFERENCE: 2402997-DET-001-A
0 12 24 36
SCALE ON ORIGINAL DRAWING AT 1:600

SURVEYOR: A.G.
DRAWN: J.T.
CHECKED: J.G.
SURVEY DATE: 25.11.2024
VERTICAL DATUM: AHD
HORIZONTAL DATUM: MGA

PROJECT No.
2402997
DRAWING REF.
DET-001
VERSION A
SHEET 1 OF 6

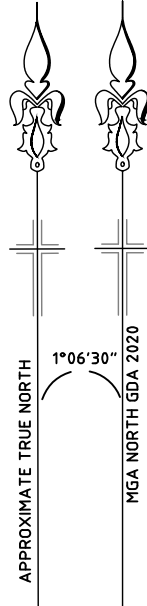
SEE SHEET 2

SEE SHEET 3

SEE SHEET 4

SEE SHEET 5

SEE SHEET 6



Appendix B

About This Report

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at

the time of construction as are indicated in the report; and

- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

continued next page

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

intentionally blank

intentionally blank

Appendix C

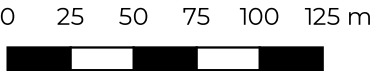
Historical Aerial Imagery



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

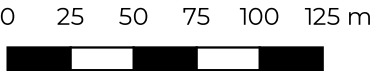
	CLIENT: ISPT Pty Ltd		TITLE: 1943 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

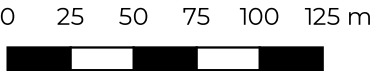
	CLIENT: ISPT Pty Ltd		TITLE: 1955 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

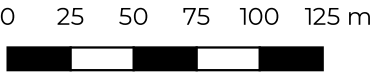
	CLIENT: ISPT Pty Ltd		TITLE: 1965 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

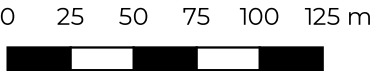
	CLIENT: ISPT Pty Ltd		TITLE: 1971 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

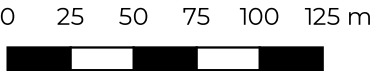
	CLIENT: ISPT Pty Ltd		TITLE: 2000 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



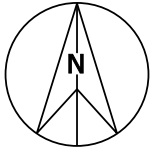
SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

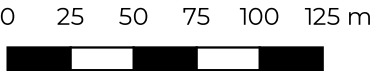
	CLIENT: ISPT Pty Ltd		TITLE: 2005 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary

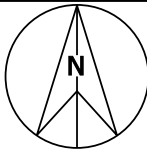


NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025



CLIENT: ISPT Pty Ltd	
OFFICE: Sydney	DRAWN BY: NW
SCALE: 1:3000 @A3	DATE: 28.March.2025

TITLE: **2007 Historical Aerial Photograph**
Proposed Data Centre
6-8 Julius Avenue, North Ryde, NSW



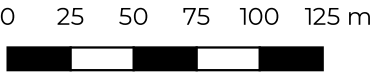
PROJECT:	233059.01
DRAWING No:	1
REVISION:	0



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

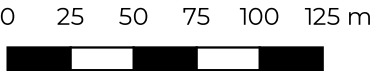
	CLIENT: ISPT Pty Ltd		TITLE: 2009 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

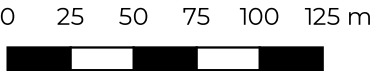
	CLIENT: ISPT Pty Ltd		TITLE: 2015 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary



NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025

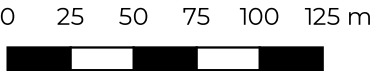
	CLIENT: ISPT Pty Ltd		TITLE: 2020 Historical Aerial Photograph Proposed Data Centre 6-8 Julius Avenue, North Ryde, NSW		PROJECT: 233059.01
	OFFICE: Sydney	DRAWN BY: NW			DRAWING No: 1
	SCALE: 1:3000 @A3	DATE: 28.March.2025			REVISION: 0



SITE LOCATION

LEGEND

 Approximate Site Boundary

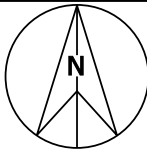


NOTE:
1. Drawing projection in GDA94 / MGA zone 56, adapted from aerial imagery from NSW Spatial Services database accessed on 21/03/2025



CLIENT: ISPT Pty Ltd	
OFFICE: Sydney	DRAWN BY: NW
SCALE: 1:3000 @A3	DATE: 28.March.2025

TITLE: **2024 Historical Aerial Photograph**
Proposed Data Centre
6-8 Julius Avenue, North Ryde, NSW



PROJECT:	233059.01
DRAWING No:	1
REVISION:	0

Appendix D

Site History Documents

Appendix D1

Historical Title Deeds



ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0413 400 020)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Summary of Owners Report

Address: - 4-6 Julius Avenue, North Ryde

Description: - Lot 89 D.P. 1082131

As regards to the part tinted yellow on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
07.06.1910 (1910 to 1928)	John Joseph Carroll (Solicitor)	Volume 2015 Folio 122
06.03.1928 (1928 to 1944)	Charles Dyer (Retired Master Baker)	Volume 2015 Folio 122 Now Volume 4121 Folio 40
23.11.1944 (1944 to 1992)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Volume 4121 Folio 40 Then Volume 5995 Folio 78 Volume 9531 Folio 35 3/218902 1/785587 Now 1/805215
16.01.1992 (1992 to 1998)	Commonwealth Scientific and Industrial Research Organization	1/805215 Then 2/838963 Intervening titles now 8 & 9/876736

As regards to the part tinted green on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
19.11.1909 (1909 to 1942)	Ernest Daniel Boyd (Boat Builder)	Volume 2015 Folio 122
28.09.1942 (1942 to 1944)	William John Dunlop (Company Manager)	Volume 2015 Folio 122
23.11.1944 (1944 to 1992)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Volume 2015 Folio 122 Then Volume 5995 Folio 78 Volume 9531 Folio 35 3/218902 1/785587 Now 1/805215
16.01.1992 (1992 to 1998)	Commonwealth Scientific and Industrial Research Organization	1/805215 Then 2/838963 Intervening titles now 8 & 9/876736

Continued over.



ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0413 400 020)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part tinted blue on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
16.08.1921 (1921 to 1943)	Douglas Howard MacMullan (Civil Servant)	Volume 3217 Folio 123
23.03.1943 (1943 to 1943)	Lydia Blanche MacMullan (Widow) (Transmission Application, not investigated)	Volume 3217 Folio 123
21.10.1943 (1943 to 1944)	Saidee Agnes Muir (Married Woman)	Volume 3217 Folio 123
23.11.1944 (1944 to 1992)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Volume 3217 Folio 123 Then Volume 5995 Folio 78 Volume 9531 Folio 35 3/218902 1/785587 Now 1/805215
16.01.1992 (1992 to 1998)	Commonwealth Scientific and Industrial Research Organization	1/805215 Then 2/838963 Intervening titles now 8 & 9/876736

As regards to the part tinted pink on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
16.08.1921 (1921 to 1944)	William Charles Adams (Civil Servant)	Volume 3217 Folio 124
23.11.1944 (1944 to 1992)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Volume 3217 Folio 124 Then Volume 5995 Folio 78 Volume 9531 Folio 35 3/218902 1/785587 Now 1/805215
16.01.1992 (1992 to 1998)	Commonwealth Scientific and Industrial Research Organization	1/805215 Then 2/838963 Intervening titles now 8 & 9/876736

Continued over.



ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0413 400 020)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part tinted purple on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
16.08.1921 (1921 to 1944)	William Charles Adams (Civil Servant)	Volume 3217 Folio 124
23.11.1944 (1944 to 1963)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Volume 3217 Folio 124 Then Volume 5995 Folio 78 Now Volume 9531 Folio 33
10.10.1963 (1963 to 1998)	Commonwealth Scientific and Industrial Research Organization	Volume 9531 Folio 33 Then 1/218902 2/838963 Intervening titles now 8 & 9/876736

As regards to the part tinted orange on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
06.09.1905 (1905 to 1944)	Mary Elizabeth Glynn (Married Woman)	Volume 1637 Folio 26
23.11.1944 (1944 to 1992)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Volume 1637 Folio 26 Then Volume 5995 Folio 78 Volume 9531 Folio 35 3/218902 1/785587 Now 1/805215
16.01.1992 (1992 to 1998)	Commonwealth Scientific and Industrial Research Organization	1/805215 Then 2/838963 Intervening titles now 8 & 9/876736

Continued over.



ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0413 400 020)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part tinted brown on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
06.09.1905 (1905 to 1944)	Mary Elizabeth Glynn (Married Woman)	Volume 1637 Folio 26
23.11.1944 (1944 to 1963)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Volume 1637 Folio 26 Then Volume 5995 Folio 78 Now Volume 9531 Folio 33
10.10.1963 (1963 to 1998)	Commonwealth Scientific and Industrial Research Organization	Volume 9531 Folio 33 Then 1/218902 2/838963 Intervening titles now 8 & 9/876736

As regards to the part tinted red on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
	This part was formerly a Crown designed road.	
23.11.1944 (1944 to 1992)	The Commonwealth of Australia (For the purposes of the Commonwealth)	Commonwealth Gazette Then Volume 5995 Folio 78 Volume 9531 Folio 35 3/218902 1/785587 Now 1/805215
16.01.1992 (1992 to 1998)	Commonwealth Scientific and Industrial Research Organization	1/805215 Then 2/838963 Intervening titles now 8 & 9/876736

Continued over.



ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0413 400 020)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Continued as regards the whole of the subject land.

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
13.11.1998 (1998 to date)	# ISPT Pty Ltd	

Denotes current registered proprietor

Leases: -

- Various leases were found during the course of the investigation that have since expired or have been surrendered – not investigated.

Easements: -

- Various easements were during the course of the investigation, some of which have been cancelled.
- Refer to current title for current easements.

Yours Sincerely
Mark Groll
4 March 2025

Signatures, Seals and Statements

of intention to dedicate public roads, to create public reserves, drainage/reserves, easements, restrictions on the use of land or positive covenants.

Signed, sealed and delivered by
DARYL BROWNING and PAMELA MITCHELL as attorneys for ISPT Pty Ltd
ACN 064 041 283 under power of
attorney dated 17 February 2005
Book 4450 No. 880

X Signature of Attorney

X Signature of Attorney

in the presence of

Leim Hunsford
Legal Practitioner

Department of Lands Approval

I, in approving this plan certify
(Authorised Officer)
that all necessary approvals in regard to the allocation of the land
shown hereon has been given.

Signature:

Date:

File Number:

Office:

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning
and Assessment Act 1979 have been satisfied in relation to the
proposed

..... set out herein
* (insert 'subdivision' or 'new road')

* Authorised Person/General Manager/Accredited Certifier

Consent Authority:

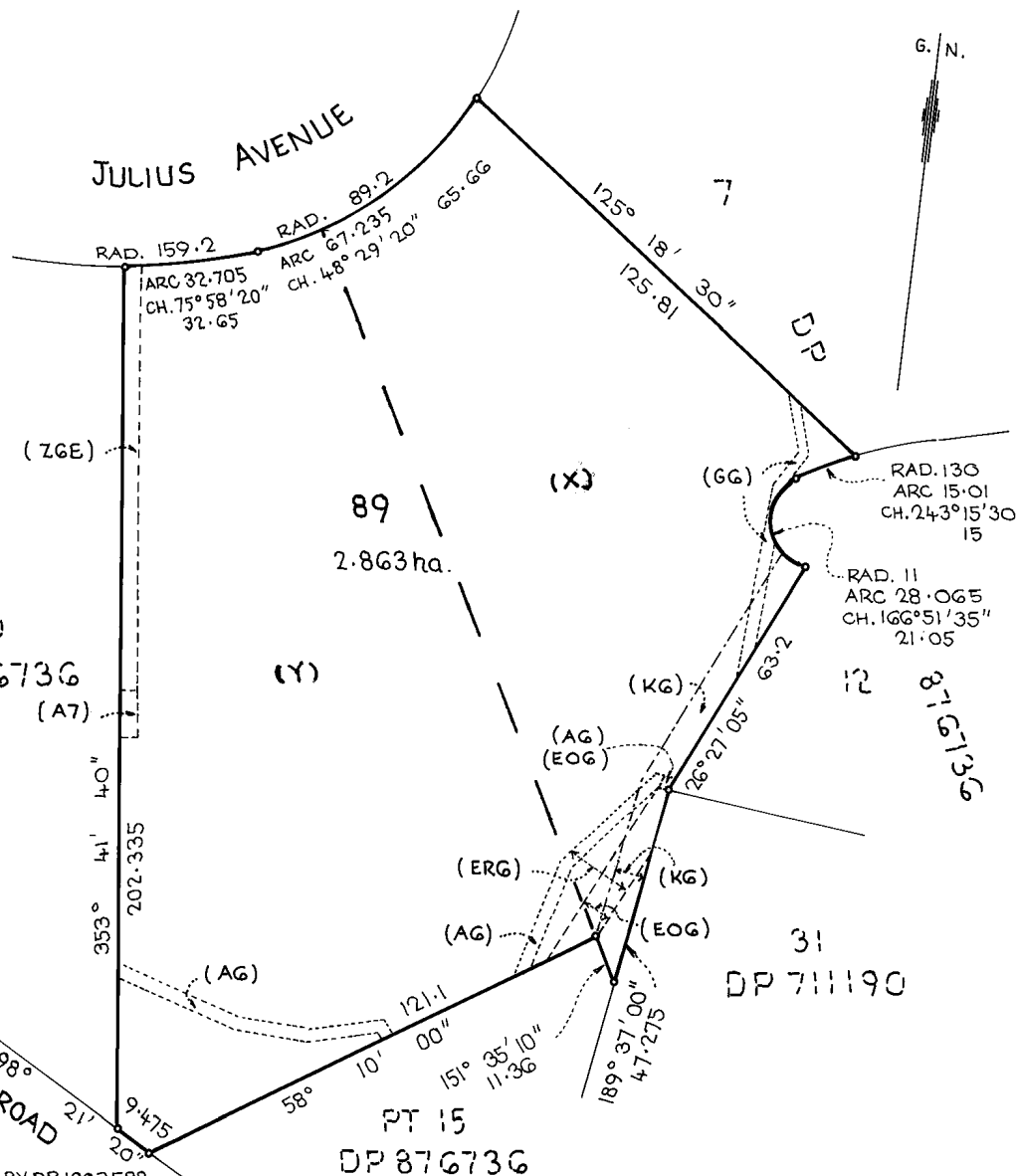
Date of Endorsement:

Accreditation no:

Subdivision Certificate no:

File no:

* Delete whichever is inapplicable



CREATED BY DP 1003588:

(AG) EASEMENT FOR RECREATIONAL PURPOSES
(JOGGING TRACK)

(GG) EASEMENT FOR DRAINAGE 2.5 WIDE

(KG) RIGHT OF CARRIAGEWAY & EASEMENT
FOR SERVICES 7 WIDE

(ERG) RIGHT OF CARRIAGEWAY VAR. WIDTH

(EOG) EASEMENT FOR OVERHEAD MAINS

(Z6E) RIGHT OF CARRIAGEWAY 4 WIDE
(DP 1003588)

(A7) RIGHT OF CARRIAGEWAY 4 WIDE
(DP 1067548)

(X) BENEFITED BY EASEMENT FOR DRAINAGE 2.5 WIDE (G6)
BENEFITED BY EASEMENT FOR DRAINAGE 7.85 WIDE & VAR. (J6)
BENEFITED BY EASEMENT FOR SERVICES 3 WIDE & VAR. (Y6)
DP 1003588

(Y) BENEFITED BY RIGHT OF CARRIAGEWAY 4 WIDE (Z6E) -
DP 1003588

DP1082131

Registered: 18.05.2005

Title System: TORRENS

Purpose: CONSOLIDATION

Ref. Map: U0952-21
U0952-23

Last Plan: DP 876736

PLAN OF CONSOLIDATION OF
LOTS 8 AND 9 IN DP 876736

Lengths are in metres. Reduction Ratio 1:1250

LGA: RYDE

Locality: NORTH RYDE

Parish: HUNTERS HILL

County: CUMBERLAND

Plans used in preparation of Survey/Compilation
DP's 876736
1003588
1067548

Surveying Regulation, 2001

I, JAMES P THORPE
of DUNLOP THORPE & CO, 447 KENT ST, SYDNEY
a surveyor registered under the Surveying Act, 2002, hereby certify
that the survey represented in this plan is accurate, has been made in
accordance with the Surveying Regulation, 2001 and was completed on
18 MARCH 2005

The survey relates to:

(here specify the land actually surveyed or specify any land shown in
the plan that is not the subject of the survey)

(Signature) Dated 4.4.2005
Surveyor registered under the Surveying Act, 2002

Return Line:
Type: Urban/Rural

PLAN FORM 2

SIGNATURE AND SEALS ONLY.

G.J. Harley
G.J. HARLEY
GENERAL MANAGER
CSIRO PROPERTY

Plan Drawing only to appear in this space

OFFICE USE ONLY

DP 838963

Registered: *17.6.1994*
CA No 4893 of 24.3.1994
Title System: TORRENS
Purpose: SUBDIVISION
Ref. Map: J0952-21, 23
Last Plan:

PLAN OF CONSOLIDATION OF LOTS
1&2 IN D.P.777021, LOT 1 IN D.P.
218902, LOT 1 IN D.P. 805215, LOT
1 IN D.P.495379, ~~LOT 1~~ PT. LOTS 1,
2, 3, 4 & 6 IN D.P.304006, LOTS 1&2
IN D.P.218259, LOT 2 IN D.P. 108306,
LOT 2 IN D.P.356919, PT. LOT B&C IN
D.P.351088 & LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250
Lengths are in metres. Reduction Ratio 1:

Mun./Shire City: RYDE
Locality: NORTH RYDE
Parish: HUNTERS HILL
County: CUMBERLAND

This is sheet 1 of my plan in 4 sheets.
(Delete if inapplicable).

BRIAN JOHN FRANKLIN
of WALLIS & MOORE PTY LIMITED
363 PITT ST. SYDNEY 2000 DX321
a surveyor registered under the Surveyors Act, 1929, as
amended, hereby certify that the survey represented in this
plan
is accurate and has been made in accordance with the Survey
Practice Regulations, 1933 and any special requirements of the
Department of Lands, and was completed on
10.2.2019
Signature *B. Franklin*
Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth.
Insert date of survey. 'X'-'Y'

Plans used in preparation of survey/compilation.
D.P.372762, D.P.351088
D.P.805215, D.P.785587, D.P.777021
D.P.717259, D.P.711190, D.P.603812
D.P.448044, D.P.435379, D.P.363275
D.P.356919, ~~D.P.304006~~, D.P.304006
D.P.218902, D.P.218259, D.P.108306

PANEL FOR USE ONLY for statements of
intention to dedicate public roads or to create
public reserves, drainage reserves, easements or
restrictions as to user.

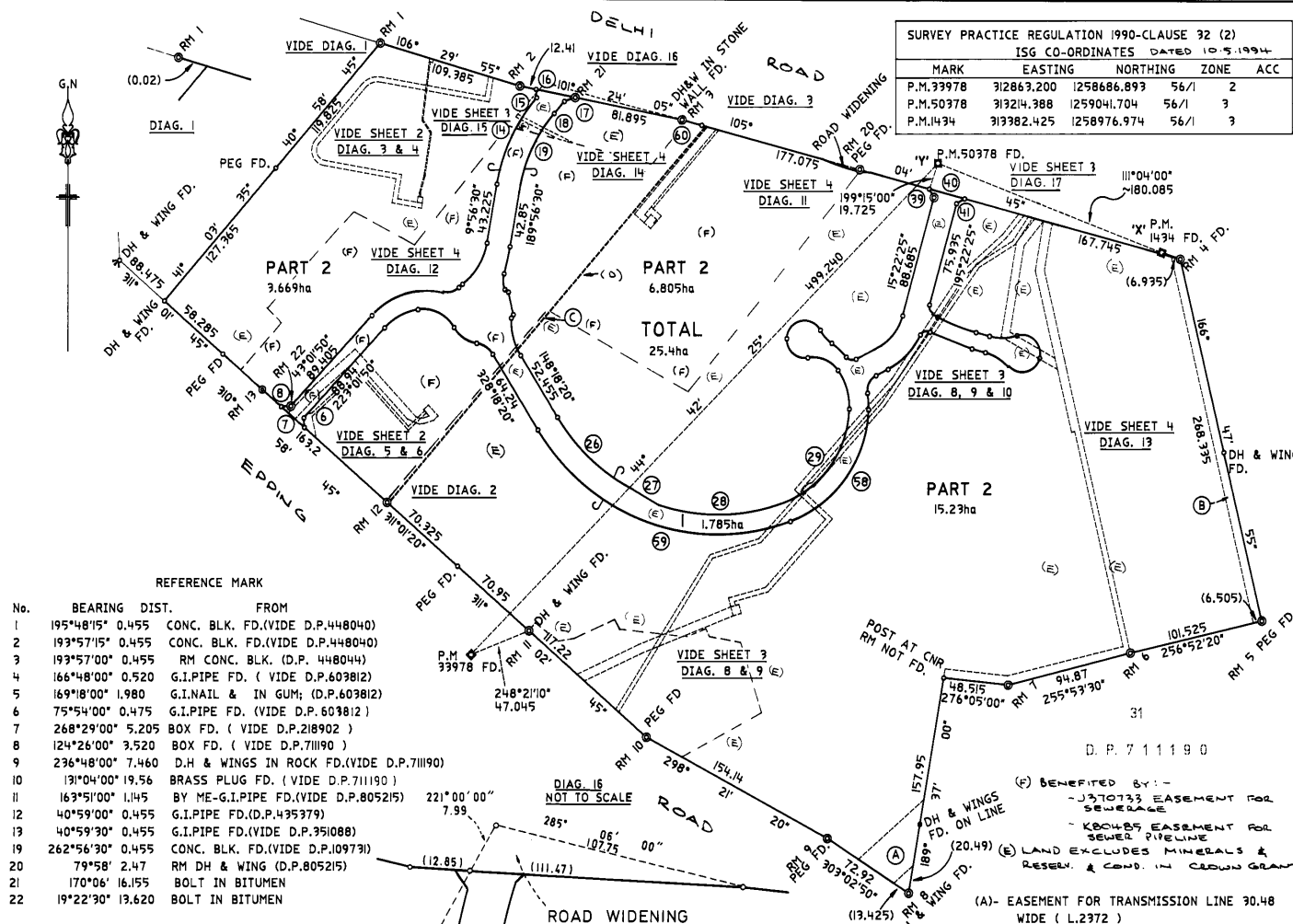
IT IS INTENDED TO DEDICATE
ROAD WIDENING AS
PUBLIC ROAD

DEDICATION ACCEPTED

In General Manager

ADDITIONAL DEDICATION ACCEPTED
Platt
GENERAL MANAGER

SURVEY PRACTICE REGULATION 1990-CLAUSE 32 (2)				
ISG CO-ORDINATES DATED 10.5.1994				
MARK	EASTING	NORTHING	ZONE	ACC
P.M.33978	312863.200	1258686.893	56/1	2
P.M.50378	31324.388	1259041.704	56/1	3
P.M.1434	313382.425	1258976.974	56/1	3



DP 838963

Registered: 17-6-1999

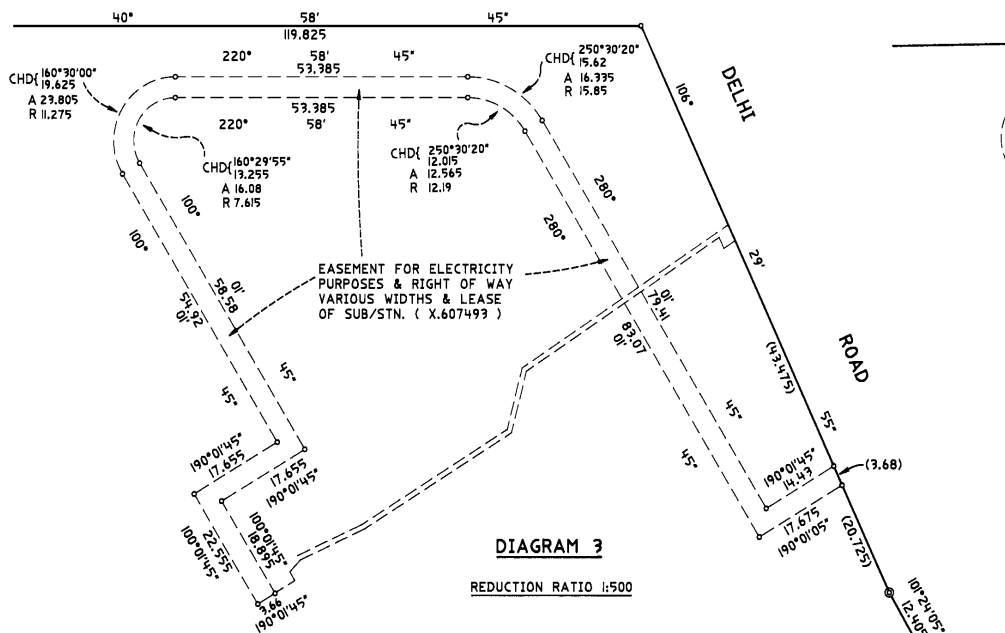
This is sheet 2 of my plan in 4 sheets dated

B Franks
Surveyor registered under Surveyors Act 1929

This is sheet 2 of the plan of 4 sheets covered by my Certificate No. 4995 of 24/3/94

Council Clerk

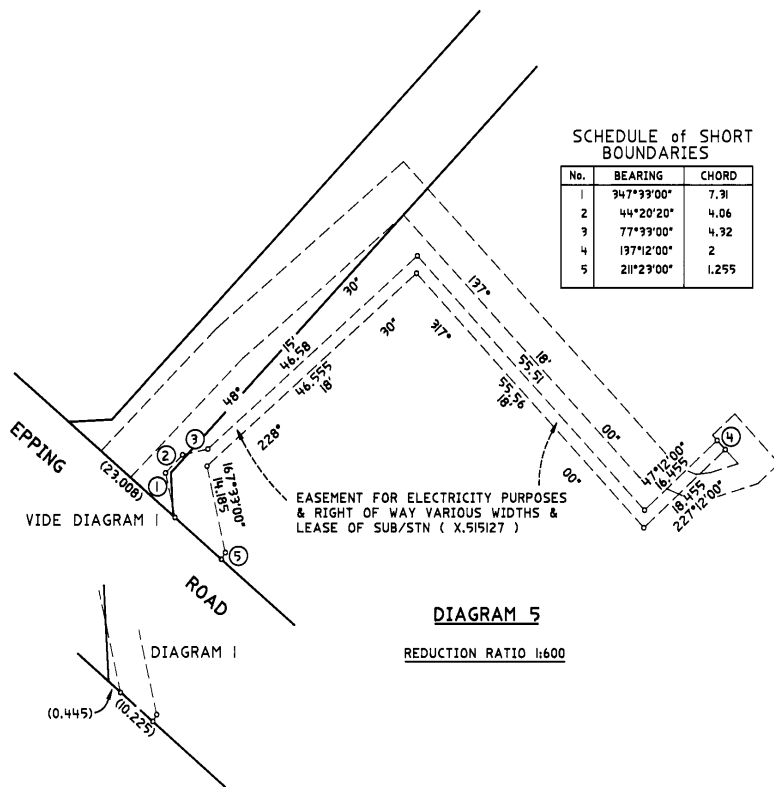
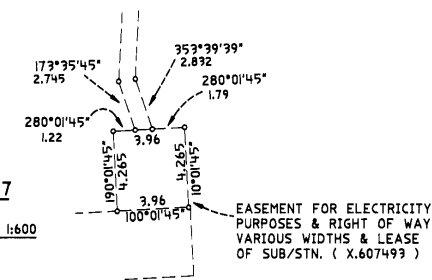
For use where space is insufficient in any panel on Plan Form 2.



SCHEDULE of SHORT BOUNDARIES

No.	BEARING	CHORD
1	347°33'00"	7.31
2	44°20'20"	4.06
3	77°33'00"	4.32
4	137°12'00"	2
5	211°23'00"	1.255

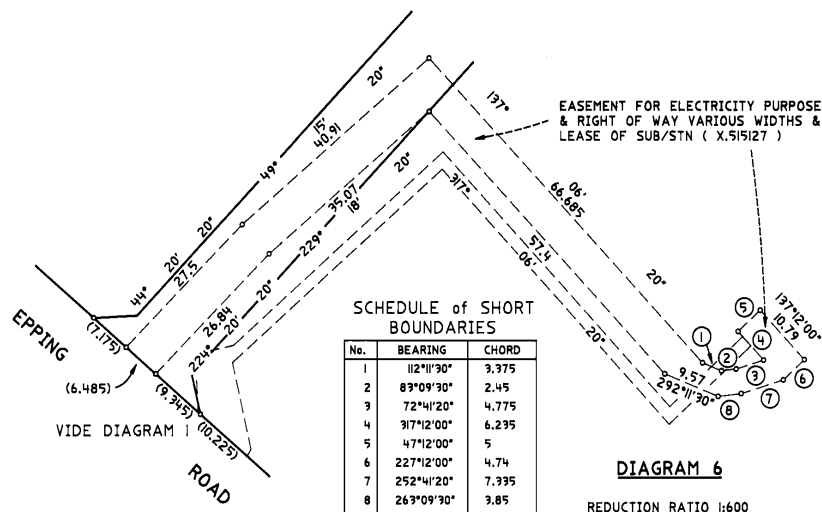
DIAGRAM 7
REDUCTION RATIO 1:600



SCHEDULE of SHORT BOUNDARIES

No.	BEARING	CHORD
1	112°11'30"	3.375
2	83°09'30"	2.45
3	72°41'20"	4.775
4	317°12'00"	6.235
5	47°12'00"	5
6	227°12'00"	4.74
7	252°41'20"	7.335
8	263°09'30"	3.85

DIAGRAM 6
REDUCTION RATIO 1:600



Reduction Ratio 1:

SURVEYOR'S REFERENCE: 21665/52

SCHEDULE of SHORT
BOUNDARIES

No.	BEARING	CHORD
1	74°47'55"	3.27
2	34°05'05"	21.19
3	74°47'55"	3.29
4	34°05'05"	22.905

DIAGRAM 17
NOT TO SCALEDIAGRAM 9
REDUCTION RATIO 1:500SCHEDULE of SHORT
BOUNDARIES

No.	BEARING	CHORD
1	344°41'45"	6.64
2	74°41'45"	28.9
3	39°37'45"	19.2
4	344°41'45"	2.98
5	74°41'45"	26.295
6	39°37'45"	21.155
7	74°41'45"	6.4
8	164°41'45"	6.705
9	254°41'45"	6.4
10	344°41'45"	6.705

SCHEDULE of SHORT & CURVED BOUNDARIES

No.	BEARING	CHORD	ARC	RADIUS
5	71°56'40"	8.515	9.47	6
30	343°04'05"	29.26	29.805	44.8
31	291°54'20"	24.445	25.775	23
32	310°54'05"	21.01	24.08	13.5
33	76°37'35"	26.035	35.165	13.5
34	137°54'20"	12.72	12.835	27.55
35	132°12'30"	14.8	14.845	55.6
36	101°31'05"	7.445	8.03	6
37	63°11'05"	18.15		
38	39°16'50"	29.825	30.71	36.8
42	156°21'10"	6.295	6.81	5
43	207°19'35"	1		
44	117°19'35"	4.445		
45	111°11'05"	30.9	30.96	144.4
46	105°02'35"	10.43		
47	88°44'05"	20.55	20.83	36.59
48	133°44'00"	23.685	28.89	13.5
49	256°21'10"	23.685	28.89	13.5
50	227°39'40"	1		
51	301°21'10"	19.99	20.26	35.59
52	285°02'35"	10.43		
53	111°05'55"	33.04	33.1	156.6
54	44°57'35"	33.9	34.48	54.2
55	243°11'05"	10.12		
56	206°50'50"	14.22	15.22	12
57	176°19'00"	11.985	12.005	59.2

DIAGRAM 15

REDUCTION RATIO 1:500

- (w) EASEMENT FOR SEWERAGE CREATED BY J370733
(K) EASEMENT FOR SEWER PIPELINE CREATED BY K60485

EPPING
ROAD
(7.345)
(61.965)VIDE
DIAGRAM ADIAGRAM A
NOT TO SCALE

DIAGRAM 10

REDUCTION RATIO 1:1000

DP 838963

Registered: 17.6.1994

This is sheet 3 of my plan in 4 sheets dated

B Franklin

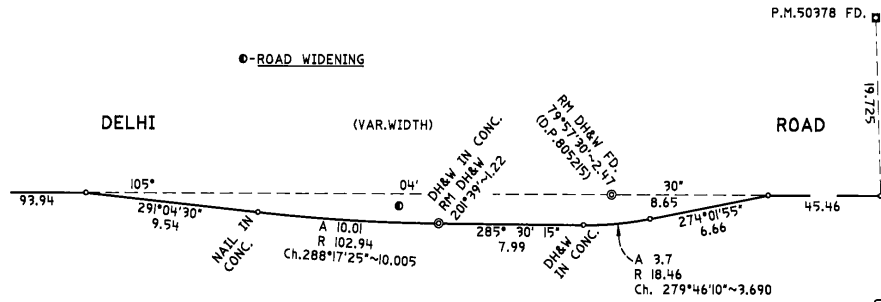
Surveyor registered under Surveyors Act 1929

This is sheet 3 of the plan of 4 sheets covered by my Certificate No. 4895 of 24/3/94

Council Clerk

For use where space is insufficient in any panel on Plan Form 2.

Reduction Ratio 1:



PART 2

DIAGRAM II

REDUCTION RATIO 1:200

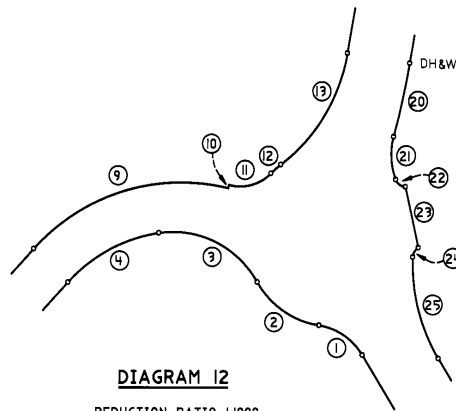


DIAGRAM 12

REDUCTION RATIO 1:1000

SCHEDULE of SHORT & CURVED BOUNDARIES

No.	BEARING	CHORD	ARC	RADIUS
1	303°16'55"	14.38	14.85	17
2	303°51'10"	20.565	21.265	23.8
3	295°28'30"	30.175	32.02	27
4	242°16'00"	28.335	28.875	43
9	73°07'10"	56.15	58.815	56
10	34°57'00"	.925		
11	74°06'30"	11.675	12.195	12
12	49°18'15"	3.575	3.575	23.8
13	31°46'30"	34.96	35.82	47
20	192°42'05"	20.05	20.055	208.2
21	176°56'40"	11.495	11.635	18
22	125°24'50"	3.27	3.455	3
23	167°17'50"	16.605		
24	211°29'00"	2.94	3.075	3
25	165°12'40"	27.92	28.325	48

SCHEDULE of SHORT BOUNDARIES

No.	BEARING	CHORD
1	166°51'05"	6.4
2	9°37'00"	6.72
3	256°51'00"	2.44
4	219°06'45"	23.09
5	39°06'45"	21.975
6	9°38'45"	69.175
7	189°38'45"	63.25
8	166°51'05"	64.85
9	119°11'50"	38.88
10	299°11'50"	48.555
11	166°51'05"	45.7
12	166°51'05"	8.125
13	9°35'45"	36.645

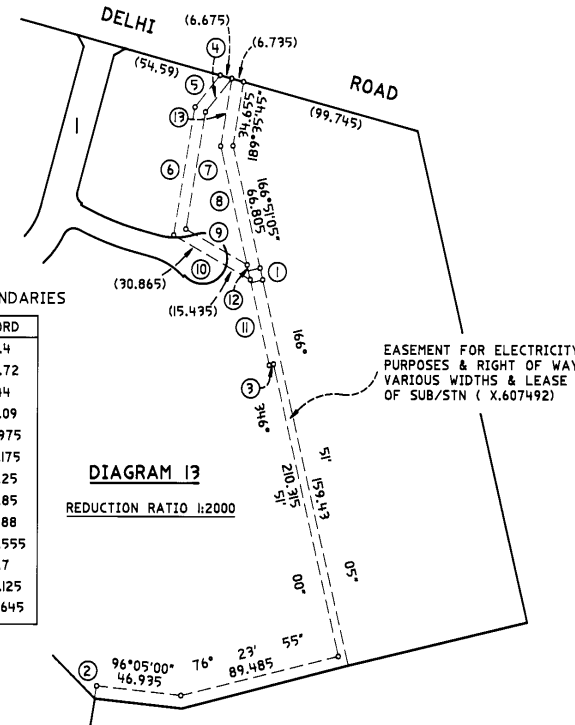


DIAGRAM 13

REDUCTION RATIO 1:2000

EASEMENT FOR ELECTRICITY PURPOSES & RIGHT OF WAY VARIOUS WIDTHS & LEASE OF SUB/STN (K.578664)

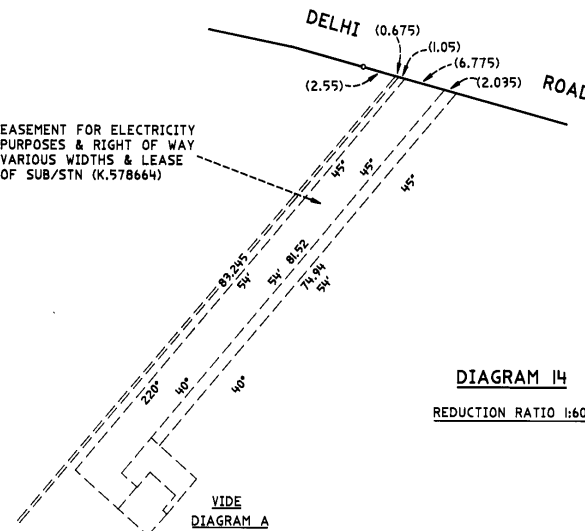


DIAGRAM 14

REDUCTION RATIO 1:600

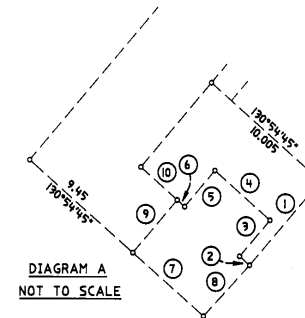


DIAGRAM A
NOT TO SCALE

SCHEDULE of SHORT BOUNDARIES

No.	BEARING	CHORD
1	220°54'45"	7.465
2	310°54'45"	.915
3	40°54'45"	3.2
4	310°54'45"	5.64
5	220°54'45"	3.2
6	310°54'30"	.1
7	130°54'45"	6.48
8	43°03'15"	4.685
9	40°54'45"	4.68
10	310°54'45"	3.35

DP 838963

Registered: 17-6-1994

This is sheet 4 of my plan in 4 sheets dated

B Franklin

Surveyor registered under Surveyors Act 1929

This is sheet 4 of the plan of 4 sheets covered by my Certificate No. 4845 of 23/3/94

Council Clerk

For use where space is insufficient in any panel on Plan Form 2.

Reduction Ratio 1:

SIGNATURE AND SEALS ONLY.

DIAGRAM 'A'
NOT TO SCALE

LINE	BEARING	DIST
1	43° 37'	6-795
2	121° 25' 45"	26-92
3	119° 57' 50"	25-84
4	34° 08' 35"	7-31
5	119° 57' 50"	20-22
6	73° 51' 20"	13-34
7	61° 27' 55"	34-61
8	151° 22' 30"	7-705
9	86° 11' 55"	51-98
10	62° 03' 40"	13-39
11	95° 24' 30"	5-75
12	191° 20' 35"	24-95
13	103° 59' 45"	25-27
14	34° 08'	17-99
15	16° 09' 10"	10-00

SIGNED for and on behalf of THE COMMONWEALTH OF AUSTRALIA by a person holding, occupying or performing the duties of the office of Principal Legal Officer (Posn No. 1000), New South Wales, In the presence of:—

An Officer of the Attorney-General's Department.

Crown Lands Office Approval

PLAN APPROVED
 Authorised Officer
 Land District
 Paper No.
 Field Book PAGES

Council Clerk's Certificate

I hereby certify that —

(a) the requirements of the Local Government Act, 1916 (other than the requirements for the registration of plans), and

(b) the requirements of section 34B of the † Metropolitan Water, Sewerage and Drainage Act, 1924, as amended, † Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the proposed (insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No.

Date

(Signature)

Council File No.

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.

† Delete if inapplicable.

SURVEYOR'S REFERENCE: M H H

REFERENCE MARKS		
COR	BEARING	DIST FROM
A	185° 30'	0-455 RMGI PIPE FD (DP 218902)
B	180° 00'	1-455 RMGI PIPE FD (DP 218902)
C	268° 55'	1-558 RMGI & WING IN CONC KERB
D	286° 04' 30"	1-015 RM RH & WING IN CONC DRAIN
E	314° 38'	4-265 RMHD & WING IN ROCK
F	176° 49'	3-52 REF TREE BOX (DP 711190)
G	227° 11'	7-46 RMHD & WING IN ROCK FD (DP 711190)
H	234° 19'	0-155 RMHD & WINGS IN ROCK
J	321° 39'	6-095 REF TREE SPOTTED GUM
K	349° 18'	1-995 RMHD & WING IN ROCK
L	329° 17'	2-555 RMHD & WING IN STONE KB
M	121° 27'	19-56 BR BRASS TACK IN LEAF PLUG & 4 FD IN TOP OF RETAINING WALL (DP 711190)
N	153° 37'	1-16 RMGI PIPE
P		PM 33978 FD
Q	31° 22' 30"	0-455 RMGI PIPE FD (DP 435379)
S	110° 42'	3-115 RMHD & WING IN CONC
T	70° 22' 30"	2-47 RMHD & WING IN CONC KERB
U	183° 38' 55"	0-565 PM CONC BLK FD (DP 448004)
V	5° 28' 15"	0-455 PM CONC BLK FD (DP 448004)
W	339° 52'	0-52 RM GI PIPE FD (DP 448004)
X		PM 1634 FD
Y		PM 10378 FD

AA RIGHT OF WAY VIDE N 19531 (3-66 WIDE)
BB EASEMENT FOR WATER SUPPLY VIDE K993836 (3.05 WIDE)
CC RIGHT OF WAY VIDE N 19531 (3-355 WIDE)
DD LEASE OF SUBSTATION PREMISES N° 708 VIDE N 19531
EE EASEMENT FOR ELECTRICITY PURPOSES VIDE N 19531 (6-705 WIDE)
FF PROPOSED EASEMENT FOR ACCESS VAR. WID TH 183-6 m²
GG EASEMENT FOR GAS MAIN 0-61 WIDE VIDE H936300
HH EASEMENT FOR TRANSMISSION LINE 30-48 WIDE VIDE L2372

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day.

	10	20	30	40	50	60	70	Table of mm	110	120	130	140
--	----	----	----	----	----	----	----	-------------	-----	-----	-----	-----

DP 805215

Registered:  19-9-1990

C.A: _____

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U0952.21^{*}, U0952.23^{*}

Last Plan: DP 785 587

PLAN OF SUBDIVISION OF LOT 1
IN DP 785587

Lengths are in metres. Reduction Ratio 1: 2000

Mun./shire: RYDE 857803

Mun./Shire- RYDE
City-

Locality: NORTH BYO

Parish: HUNTERS HI

County: CUMBERLAND

This is sheet 1 of my plan in _____ sheets.
(Delete if inapplicable).

DAVID CRAIG RADFORD
of DEPT. OF ADMINISTRATIVE SERVICES, NSW
a surveyor registered under the Surveyors Act, 1929,
as amended, hereby certify that the survey represented in this
plan
is accurate and has been made in accordance with the Survey
Practice Regulations, 1933 and any special requirements of the
Department of Lands, and was completed on
9 SEPTEMBER 1988

Signature David Radford
Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth. A-B
Insert date of survey.
F.B. 3600 3773

Plans used in preparation of survey/compilation
DP 218902 DP 435379 DP 448040
DP 711190

PANEL FOR USE ONLY for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

NEG. N° 24737^{N.S.W.}

COMMONWEALTH OF AUSTRALIA.

The Lands Acquisition Act 1906-1936.

**NOTIFICATION OF THE ACQUISITION OF LAND BY
THE COMMONWEALTH.**

IT is hereby notified and declared by His Excellency the Administrator of the Government of the Commonwealth acting with the advice of the Federal Executive Council, that the land hereunder described has been acquired by the Commonwealth under the *Lands Acquisition Act 1906-1936*, for the following public purpose, namely: Purposes of the Commonwealth at North Ryde, New South Wales.— (C.L.11821.)

Dated this fifteenth day of November, One thousand nine hundred and forty-four.

W. DUGAN
Administrator.

By His Excellency's Command,

J. S. COLLINGS
Minister of State for the Interior.

DESCRIPTION OF LAND REFERRED TO.

All that piece of land containing an area of 42 acres 2 roods 37 perches more or less being Portions 373, 374, 379, 381 and 382 part of Portion 380 and Woronzoff Road Parish of Hunters Hill County of Cumberland State of New South Wales as shown hachured on plan hereunder: Commencing at the intersection of a northeastern side of a widening of Lucknow Road with High Water Mark of Lane Cove River and bounded thence by that side other northeastern sides of that widening and part of a northeastern side of Lucknow Road bearing 298 degrees 25 minutes 25 seconds 209.09 links 296 degrees 52 minutes 20 seconds 153.14 links 293 degrees 46 minutes 5 seconds 153.14 links 290 degrees 39 minutes 50 seconds 153.14 links 287 degrees 33 minutes 35 seconds 153.14 links 286 degrees 30 seconds 279.2 links and 301 degrees 24 minutes 1479.42 links thence by the southeastern boundary of Portion 372 Parish of Hunters Hill bearing 31 degrees 24 minutes 917.2 links thence by the southwestern and southeastern boundaries of Portion 378 Parish of Hunters Hill bearing respectively 106 degrees 54 minutes 30 seconds 568.1

bearing respectively 106 degrees 54 minutes 30 seconds 568.1 links and 31 degrees 24 minutes 1000.3 links thence by part of a southwestern side of Delhi Road bearing 95 degrees 29 minutes 667.1 links thence by the southwestern boundary of Portion 383 Parish of Hunters Hill bearing 157 degrees 15 minutes 1896.2 links to High Water Mark of Lane Cove River aforesaid thence by that High Water Mark generally southwesterly to the point of commencement.





09531035

M

NEW SOUTH WALES

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

CERTIFICATE OF TITLE

DEEDS ACT, 1900, as amended.



EH

Vol. **9531** Fol. **35**
1st Edition issued 2-10-1963.

CANCELLED

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.

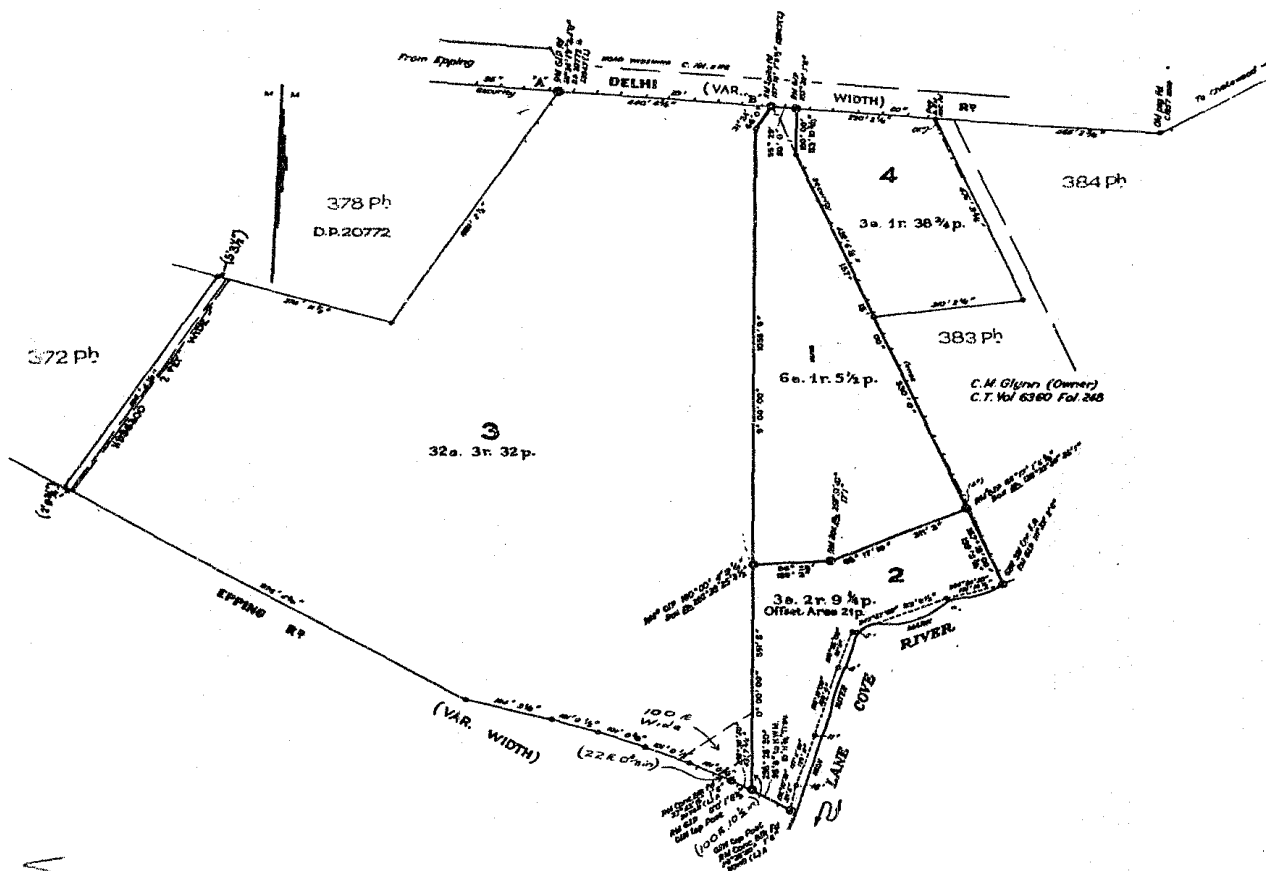
Witness

B. Bailey

Janatson
SEE AUTO FOL.
Registrar-General.



PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 3 Deposited Plan 218902 at North Ryde in the Municipality of Ryde, Parish of Hunters Hill and County of Cumberland. Excepting thereout the minerals reserved by the Crown Grants as regards part.

FIRST SCHEDULE (Continued overleaf)

THE COMMONWEALTH OF AUSTRALIA.

Janatson
Registrar General.

SECOND SCHEDULE (Continued overleaf)

GRN

- EA 1. Easement for gas main created by Transfer No.H936300 affecting the piece of land 2 feet wide shown within lot 3 in plan hereon. DP218902.

Janatson
Registrar General.

SECOND SCHEDULE (continued)

SECOND SCHEDULE (continued)							
NATURE	INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION	
	NUMBER	DATE					
Lease	K251423	11-1-1966	to The Sydney County Council of "Substation" premises together with right of Way and Easement for Electricity Purposes over other parts of the land within described to The Sydney County Council.	16-5-1966	Jarvis	Surrendered	N/19530
Transfer	K993836P	26-3-1968	Easement for water supply, as more fully set out in the said instrument, affecting that part of the land within described shown as easement 10 feet wide in plan lodged with K993836.	22-8-1968	Jarvis		
Transfer	L2372.P	14-3-1968	Easement for Transmission line, as more fully set out in the said instrument, affecting that part of the land within described shown as 100 ft wide in the plan hereon in PP 520993	22-8-1968	Jarvis		
Lease	N/19531P	9-2-1972	of "Substation premises 708" together with right of Way and Easement for Electricity Purposes to The Sydney County Council	5-2-1973	Jarvis		
CANCELLED							



LAND
REGISTRY
SERVICES

Historical Title

Information Provided Through
Infotrack
Ph. 1800 738 524 Fax. 1800 738 533

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

11/5/2022 3:48PM

FOLIO: 3/218902

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

Prior Title(s): VOL 9531 FOL 35

Recorded	Number	Type of Instrument	C.T. Issue
-----	-----	-----	-----
4/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
25/5/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
24/11/1988	Y17867	DEPARTMENTAL DEALING	
29/11/1988	DP785587	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

LS031919_EP North Ryde

PRINTED ON 11/5/2022

InfoTrack 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.

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

11/5/2022 3:47PM

FOLIO: 1/785587

First Title(s):	OLD SYSTEM	VOL 1315	FOL 86	
	VOL 1317	FOL 38	VOL 1392	FOL 210
	VOL 1637	FOL 26	VOL 1727	FOL 95
	VOL 3000	FOL 177		

Prior Title(s): 3/218902

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
1/12/1988	DP785587	DEPOSITED PLAN	FOLIO CREATED EDITION 1
20/9/1990	DP805215	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***



SEARCH DATE

11/5/2022 3:47PM

FOLIO: 1/805215

First Title(s): VOL 1727 FOL 195 VOL 1315 FOL 86
VOL 1317 FOL 131 VOL 1392 FOL 210
VOL 3000 FOL 177 VOL 1637 FOL 26
OLD SYSTEM

Prior Title(s): 1/785587

Recorded	Number	Type of Instrument	C.T. Issue
20/9/1990	DP805215	DEPOSITED PLAN	FOLIO CREATED EDITION 1
9/9/1991	DP812396	DEPOSITED PLAN	
16/1/1992	E196107	TRANSFER	EDITION 2
25/2/1993	Z944756	REQUEST	
1/4/1993	I208591	LEASE	
17/6/1994	DP838963	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

RP13

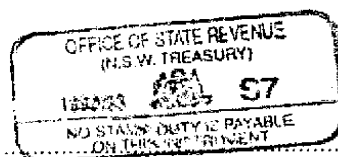


Real Property Act, 1900



E

Office of State Revenue use only



(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

[Redacted]

(B) **LODGED BY**

L.T.O. Box
245R

Name, Address or DX and Telephone
AUSTRALIAN GOVERNMENT SOLICITOR
111 Elizabeth Street
SYDNEY. N.S.W. 2000
DX. 444 SYDNEY 581.7591
REFERENCE (max. 15 characters): 90617962/1002

(C) **TRANSFEROR**

[Redacted]

(D) acknowledges receipt of the consideration of \$1,170,000.00
and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. 4 19531 2. 3.

(F) **TRANSFEE**



C [Redacted] I
as joint tenants/tenants in common

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. **15 JANUARY 1992**
Signed in my presence by the transferor who is personally known to me.

Signature of Witness
Name of Witness (BLOCK LETTERS)
Address of Witness

Signed for and on behalf of **THE COMMONWEALTH OF AUSTRALIA** by a delegate of the Attorney-General:- **JAMES SUTER**
Principal Legal Officer (Position No. 7495)
in the presence of:-
Thomas L. Heath
An Officer of the Attorney-General's Department
Signature of Transferor

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

Margo Wright
Signature of Witness
MARGO WRIGHT
Name of Witness (BLOCK LETTERS)
CSIRO CORPORATE PROPERTY UNIT
Address of Witness
LIMESTONE AVENUE
CAMBELL ACT 2602

G.J. HARLEY
Signature of Transferee
CORPORATE MANAGER
CHECKED BY (office use only)
CSIRO



M

NEW SOUTH WALES

CERTIFICATE OF TITLE
REAL PROPERTY ACT, 1900, as amended.

CT09531-033

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



EH

Vol. **9531** Fol. **33**
1st Edition ~~CANCELLED~~ 1963.
See new edition

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.

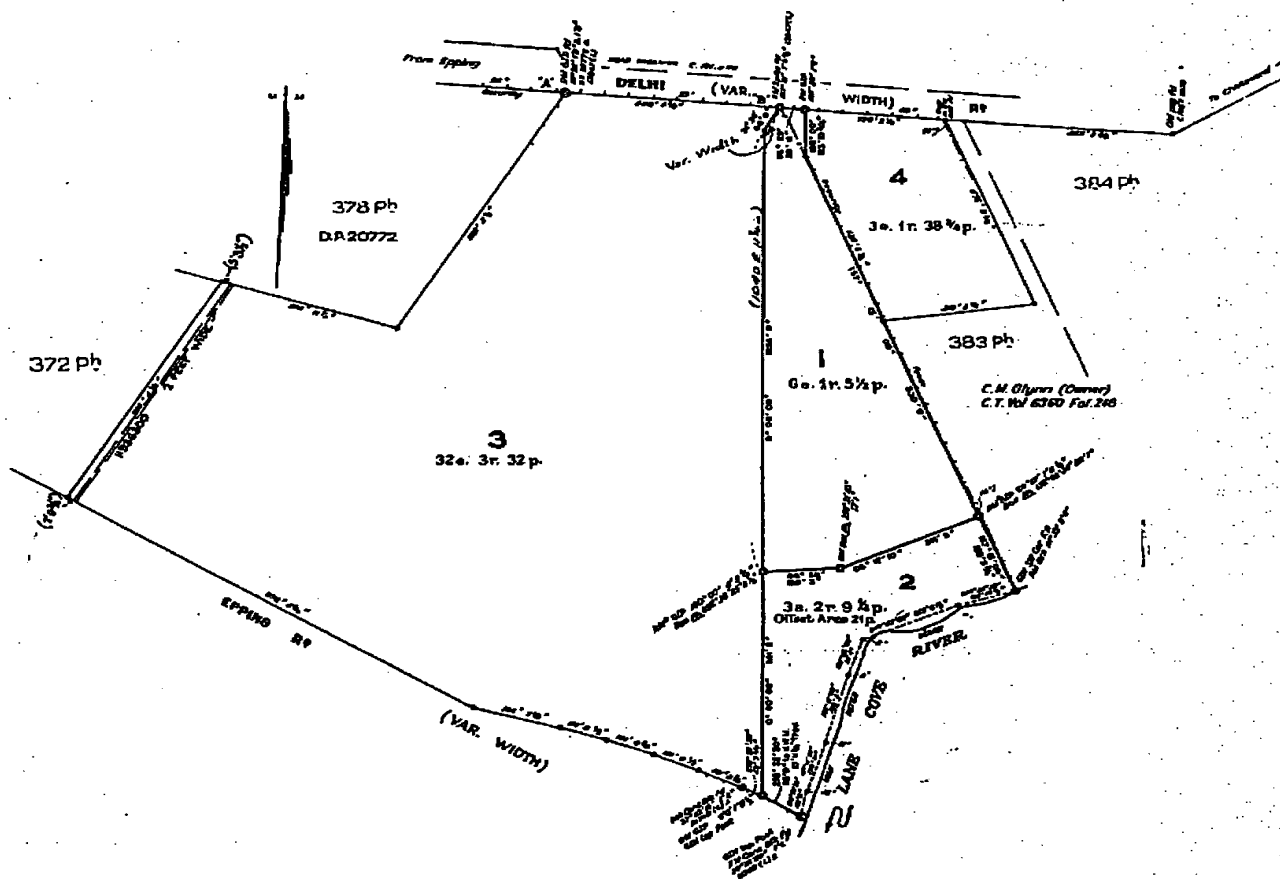
Witness

B. Bailey

Janatson
Registrar-General.



PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 Deposited Plan 218902 at North Ryde, in the Municipality of Ryde, Parish of Hunters Hill and County of Cumberland. Excepting thereout the minerals reserved by the Crown Grants. of Portion 383 p

FIRST SCHEDULE (Continued overleaf)

~~THE COMMONWEALTH OF AUSTRALIA.~~

Janatson
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 as regards part.

Janatson
Registrar General.

Vol.	9531	Fol.	33
------	------	------	----

5760307
 pers. tag
 with return
 500

DR. 21053
K993837
T/S
84M300(SA)
V471507PV

84M300(SA)
V471507PV

NEW SOUTH WALES

CERTIFICATE OF TITLE

PROPERTY ACT, 1900

First Title Vol. 1637 Fol. 26

Prior Title Vol. 6360 Fol. 249



Vol. 9531 Fol. 33

EDITION
ISSUED 7 3 1985

I certify that the person named in the First Schedule is the registered proprietor of an estate in fee simple (or such other estate or interest as is set out below) in the land described subject to the recordings appearing in the Second Schedule and to the provisions of the Real Property Act, 1900.

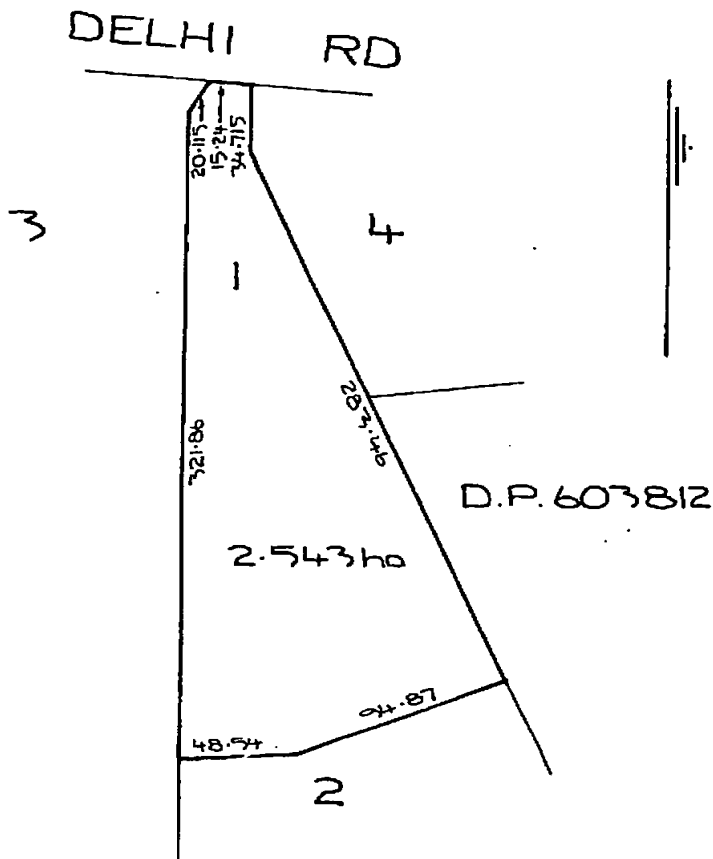
CANCELLED

Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



LAND REFERRED TO

Lot 1 in Deposited Plan 218902 at North Ryde in the Municipality of Ryde Parish of Hunters Hill County of Cumberland.

FIRST SCHEDULE

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION.

SECOND SCHEDULE

- GRM 1. Land excludes minerals and is subject to reservations and conditions in favour of the Crown
EF 2. K993837 Easement for water supply purposes affecting the part of the land above described shown in plan with K993836.
BF 3. This edition has been issued because of the reported loss of the edition issued 2-10-1963. 7-3-1985

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

9531 Fol. 33
(Page 1) Vol.

ADDED IN LPI VIDE 2013 - 320 14.5.2013

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

40828-4036

FIRST SCHEDULE (continued)	
REGISTERED PROPRIETOR	Registrar General
CANCELLED SEE AUTO FORM	

SECOND SCHEDULE (continued)		
PARTICULARS	Registrar General	CANCELLATION

NOTATIONS AND UNREGISTERED DEALINGS		



SEARCH DATE

4/3/2025 2:35PM

FOLIO: 1/218902

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

Prior Title(s): VOL 9531 FOL 33

Recorded	Number	Type of Instrument	C.T. Issue
4/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
16/5/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
24/6/1988	X607492	LEASE	EDITION 1
17/6/1994	DP838963	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***



SEARCH DATE

4/3/2025 10:50AM

FOLIO: 2/838963

First Title(s): OLD SYSTEM VOL 1308 FOL 72
VOL 1315 FOL 86 VOL 1317 FOL 38
VOL 1324 FOL 72 VOL 1392 FOL 210
VOL 1510 FOL 178 VOL 1570 FOL 151
VOL 1637 FOL 26 VOL 1676 FOL 153
VOL 1699 FOL 18 VOL 1727 FOL 95
VOL 3000 FOL 177

Prior Title(s): ~~2/108306~~ ~~5/172808~~
~~1-2/218259~~ ~~1/218902~~
~~3/304006~~ ~~D/356919~~
~~1/435379~~ ~~1-2/777021~~
~~1-2/805215~~ ~~VOL 3103 FOL 234~~
~~VOL 3138 FOL 25~~ ~~VOL 3744 FOL 92~~
~~VOL 6356 FOL 169~~ ~~VOL 6503 FOL 34~~
~~VOL 6599 FOL 95~~

Recorded	Number	Type of Instrument	C.T. Issue
21/6/1994	DP838963	DEPOSITED PLAN	FOLIO CREATED EDITION 1

FIRST TITLES(S) AS AMENDED:

VOL 1308 FOL 72, VOL 1315 FOL 86,
VOL 1317 FOL 38, VOL 1324 FOL 72,
VOL 1392 FOL 210, VOL 1510 FOL 179,
VOL 1570 FOL 151, VOL 1637 FOL 26,
VOL 1676 FOL 153, VOL 1699 FOL 18,
VOL 1727 FOL 95, VOL 3000 FOL 177,
OLD SYSTEM.

8/2/1995	U997201	DEPARTMENTAL DEALING	
14/3/1995	085258	DEPARTMENTAL DEALING	
20/3/1995	099031	DEPARTMENTAL DEALING	
22/3/1995	DP847618	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

4/3/2025 10:50AM

FOLIO: 17/847618

First Title(s): OLD SYSTEM

Prior Title(s): 2/838963

Recorded	Number	Type of Instrument	C.T. Issue
22/3/1995	DP847618	DEPOSITED PLAN	FOLIO CREATED EDITION 1
30/8/1995	0496576	DEPARTMENTAL DEALING	
6/9/1995	0458685	LEASE	
6/9/1995	0468228	TRANSFER GRANTING EASEMENT	
6/9/1995	0470254	TRANSFER RELEASING EASEMENT	
6/9/1995	0476794	REQUEST	
20/9/1995	DP852153	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

97-11R



REQUEST

Real Property Act 1900



0
476794 W

(A) **STAMP DUTY**

If applicable.

Office of State Revenue

(B) **TITLE**

Show no more than 20.

Dominant Tenement

Easement in Gross Pursuant
to Section 88A(1) of the
Conveyancing Act 1919, as
amended

Servient Tenement

Folio Identifier 16/847618
17/847618
1/838963

(C) **REGISTERED DEALING**

If applicable.

(D) **LODGED BY**

L.T.O. Box

354 L

Name, Address or DX and Telephone

STATE SEARCH
Box A303 Sydney South 2000.

Dealing Code

REFERENCE (max 15 characters): 227345F8

R over

(E) **APPLICANT**

SYDNEY WATER CORPORATION LIMITED ACN 063 279 649 a public
authority constituted by Act of Parliament, the Water Board
(Corporatisation) Act 1994 within the meaning of Section 88A
of the Conveyancing Act 1919.

(F) **REQUEST**

Application to
CANCEL RECORDING OF EASEMENT
Section 47 (6a) Real Property Act 1900

EASEMENT TO BE CANCELLED:

K993836 and K993837 Easement for
Water Supply

PERSON HAVING A REGISTERED
INTEREST IN THE LAND BENE-
FITTED BY THE EASEMENT:

Not applicable

THE APPLICANT:

Applies to have the recording of
the Easement cancelled on the
folios of the Register referred
to above.

CHECKED BY (office use only)

clsr

[Signature]
2012

(G)

STANDARD EXECUTION

0

476794

Certified correct for the purposes of the Real Property Act 1900.

DATE 18th AUGUST 1975

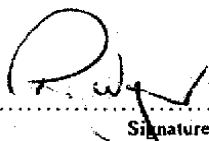
Signed in my presence by the Applicant who is personally known to me.

Signed for SYDNEY WATER CORPORATION LIMITED
A.C.N. 063 279 649 by its Attorneys

MURRAY JOHN PERCIVAL

CHRISTOPHER CHARLES COLLAN

who hereby state at the time of executing this instrument have
no notice of the revocation of the Power of Attorney Registered
No. 478 Book 4091 under the Authority of which this instrument
has been executed.



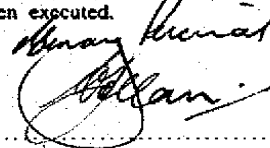
Signature of Witness

R. WYNN

Name of Witness (BLOCK LETTERS)

SYDNEY WATER CORPORATION

Address of Witness



Signature of Applicant

EXECUTION INCLUDING STATUTORY DECLARATION

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act 1900, and I certify this
Application correct for the purposes of the Real Property Act 1900. Made and subscribed at
in the State of on 19 in the presence of

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and Qualification of Witness

Signature of Applicant

0476794.

DO NOT USE BOTH SIDES OF THE FORM

[illegible][illegible]



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

4/3/2025 10:50AM

FOLIO: 3/852153

First Title(s): OLD SYSTEM

Prior Title(s): 17/847618

Recorded	Number	Type of Instrument	C.T. Issue
20/9/1995	DP852153	DEPOSITED PLAN	FOLIO CREATED EDITION 1
29/10/1996	2571180	LEASE	EDITION 2
11/2/1997	2827583	LEASE	EDITION 3
22/5/1997	3080785	LEASE	EDITION 4
3/7/1997	3201034	LEASE	EDITION 5
20/8/1997	3339718	DEPARTMENTAL DEALING	
FIRST TITLES(S) AS AMENDED: VOL 1308 FOL 72, VOL 1315 FOL 86, VOL 1317 FOL 38, VOL 1324 FOL 72, VOL 1392 FOL 210, VOL 1510 FOL 179, VOL 1570 FOL 151, VOL 1637 FOL 26, VOL 1676 FOL 153, VOL 1699 FOL 18, VOL 1727 FOL 95, VOL 3000 FOL 177, OLD SYSTEM.			
5/9/1997	3389379	DEPARTMENTAL DEALING	
9/12/1997	3639874	REQUEST	
7/1/1998	3694737	CAVEAT	
18/2/1998	3806235	DEPARTMENTAL DEALING	FOLIO CANCELLED

*** END OF SEARCH ***

4-6 Julius Avenue

PRINTED ON 4/3/2025

InfoTrack 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.

Copyright © Office of the Registrar-General 2025

Received: 04/03/2025 10:46:13

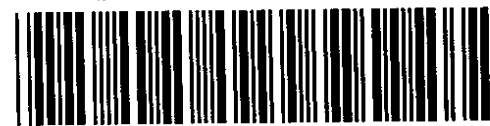
97-11R



REQUEST

Real Property Act 1900

3639874 T



(A) **STAMP DUTY**

If applicable.

Office of State Revenue use only

(B) **TITLE**

Show no more than 20.

3/852153

(C) **REGISTERED DEALING**

If applicable.

(D) **LODGED BY**

L.T.O. Box

Name, Address or DX and Telephone

Dealing Code

40

AUSTRALIA PACIFIC PROJECTS
P.O. BOX 121
NORTH RYDE NSW 2113
9490 5604

REFERENCE (max 15 characters): HILLIER

(E) **APPLICANT**

SYDNEY WATER CORPORATION LIMITED ACN 063 279 649

(F) **REQUEST**

RELEASE OF POSITIVE COVENANT

Section 88E(7) Conveyancing Act, 1919

POSITIVE COVENANT TO BE RELEASED:

D.P. 852153 Positive Covenant nineteenthly referred to

THE APPLICANT, being the prescribed authority entitled to enforce the Positive Covenant referred to above, releases the Covenant and applies to have a recording made in the Register to give effect to the release.

CHECKED BY (office use only)

16

(G)

STANDARD EXECUTION

Certified correct for the purposes of the Real Property Act 1900.

DATE 21. 11. 97

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

Signed for SYDNEY WATER CORPORATION LIMITED
A.C.N. 063 279 649 by its Attorneys

STEPHEN RAYMOND COX

JEFFEREY FRANCIS COLENZO

who hereby state at the time of executing this instrument have
no notice of the revocation of the Power of Attorney Registered
No. 296 Book 4167 under the Authority of which this instrument
has been executed.



Signature of Witness

RONALD REX

Name of Witness (BLOCK LETTERS)

AUSTRALIAN WATER TECHNOLOGIES 341 PITT ST. SYDNEY.

Address of Witness



Signature of Applicant



EXECUTION INCLUDING STATUTORY DECLARATION

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act 1900, and I certify this
Application correct for the purposes of the Real Property Act 1900. Made and subscribed at
in the State of on 19 in the presence of

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and Qualification of Witness

Signature of Applicant

REGISTRATION DIRECTION ANNEXURE

DO NOT USE BOTH SIDES OF THE FORM

SECOND SCHEDULE AND OTHER DIRECTIONS

[illegible]



SEARCH DATE

4/3/2025 10:50AM

FOLIO: 7/873559

First Title(s): OLD SYSTEM VOL 1637 FOL 26
VOL 3000 FOL 177 VOL 1392 FOL 210
VOL 1315 FOL 86

Prior Title(s): 3/852153

Recorded	Number	Type of Instrument	C.T. Issue
19/2/1998	DP873559	DEPOSITED PLAN	FOLIO CREATED EDITION 1
13/5/1998	3926316	REQUEST	
25/5/1998	DP876736	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***



SEARCH DATE

4/3/2025 10:47AM

FOLIO: 8/876736

First Title(s): VOL 3000 FOL 177

Prior Title(s): 7/873559

Recorded	Number	Type of Instrument	C.T. Issue
28/5/1998	DP876736	DEPOSITED PLAN	FOLIO CREATED CT NOT ISSUED
29/5/1998	DP268804	DEPOSITED PLAN	EDITION 1
13/11/1998	5395115	TRANSFER	EDITION 2
27/5/1999	5856767	DEPARTMENTAL DEALING	
5/8/1999	5973424	SURRENDER OF LEASE	
17/8/1999	5947398	REQUEST	
17/8/1999	5947399	REQUEST	
24/8/1999	DP1003588	DEPOSITED PLAN	EDITION 3
31/8/1999	6146830	DEPARTMENTAL DEALING	
30/9/1999	6236627	DEPARTMENTAL DEALING	
24/7/2000	6967361	DEPARTMENTAL DEALING	
18/5/2005	DP1082131	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***



SEARCH DATE

4/3/2025 10:47AM

FOLIO: 9/876736

First Title(s): OLD SYSTEM VOL 1392 FOL 210
VOL 3000 FOL 177

Prior Title(s): 7/873559

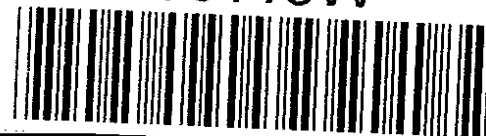
Recorded	Number	Type of Instrument	C.T. Issue
28/5/1998	DP876736	DEPOSITED PLAN	FOLIO CREATED CT NOT ISSUED
29/5/1998	DP268804	DEPOSITED PLAN	EDITION 1
13/11/1998	5395122	TRANSFER	EDITION 2
27/5/1999	5856767	DEPARTMENTAL DEALING	
17/8/1999	5947398	REQUEST	
17/8/1999	5947399	REQUEST	
24/8/1999	DP1003588	DEPOSITED PLAN	EDITION 3
31/8/1999	6146830	DEPARTMENTAL DEALING	
24/7/2000	6967361	DEPARTMENTAL DEALING	
10/5/2004	DP1067548	DEPOSITED PLAN	EDITION 4
27/8/2004	AA911624	DEPARTMENTAL DEALING	
18/5/2005	DP1082131	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Form: 97-01TP
Licence: 27C/0042/95

TRANSFER

New South Wales
Real Property Act 1900



5395115W

Office of State Revenue use only

00.2\$ #2- 10/14/2025 10:49 86400E
N.S.W. STAMP DUTY

(A) **LAND TRANSFERRED**

If appropriate, specify the share transferred.

8/876736

(B) **LODGED BY**

LTO Box

27C

Name, Address or DX and Telephone

FREEHILL HOLLINGDALE & PAGE

Level 38, MLC Centre

19-29 Martin Place

SYDNEY NSW 2000

Phone (02) 9225 5000

DX 361 Sydney

REFERENCE (15 character maximum): BLB:AA:1851400

(C) **TRANSFEROR** .COMMONWEALTH SCIENTIFIC & INDUSTRIAL RESEARCH ORGANISATION

(D) acknowledges receipt of the consideration of . \$5,250,000.
and as regards the land specified above transfers to the transferee an estate in fee simple.

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

(F) **TRANSFEE**

T
TS
(s713 LGA)
TW
(Sheriff)

ISPT PTY LTD ACN 064 041 283

(G)

TENANCY:

(H) We certify this dealing correct for the purposes of the Real Property Act 1900 **DATE**

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

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

for execution by transferor, please see p.2.

.....
Signature of Transferor

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

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Transferee's Solicitor
ALICIA FRANCES ABURY
If signed on the transferee's behalf by a solicitor
or licensed conveyancer, show the signatory's full
name in block letters

legals

~~THE COMMON SEAL of COMMONWEALTH
SCIENTIFIC & INDUSTRIAL RESEARCH
ORGANISATION was affixed to this document
in the presence of~~

.....
Secretary/Director

.....
Director

.....
Name (PLEASE PRINT)

.....
Name (PLEASE PRINT)

THE COMMON SEAL of)
COMMONWEALTH SCIENTIFIC &)
INDUSTRIAL RESEARCH)
ORGANISATION)
was hereto affixed by authority of the)
Chief Executive of the said Organisation)
in the presence of:)



Witness
.....
Signature of Authorised Person

Witness

.....
Signature of Authorised Person



SEARCH DATE

4/3/2025 10:46AM

FOLIO: 89/1082131

First Title(s): VOL 1392 FOL 210 VOL 3000 FOL 177
VOL 1637 FOL 26

Prior Title(s): 8-9/876736

Recorded	Number	Type of Instrument	C.T. Issue
18/5/2005	DP1082131	DEPOSITED PLAN	FOLIO CREATED EDITION 1

*** END OF SEARCH ***



FOLIO: 89/1082131

SEARCH DATE	TIME	EDITION NO	DATE
4/3/2025	10:45 AM	1	18/5/2005

LAND

LOT 89 IN DEPOSITED PLAN 1082131
AT NORTH RYDE
LOCAL GOVERNMENT AREA RYDE
PARISH OF HUNTERS HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1082131

FIRST SCHEDULE

ISPT PTY LTD

SECOND SCHEDULE (22 NOTIFICATIONS)

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
- 2 DP1003588 RESTRICTION(S) ON THE USE OF LAND AS REFERRED TO AND NUMBERED (1) IN THE SECTION 88B INSTRUMENT
- 3 DP1003588 RESTRICTION(S) ON THE USE OF LAND AS REFERRED TO AND NUMBERED (3) IN THE SECTION 88B INSTRUMENT
- 4 DP1003588 EASEMENT FOR RECREATIONAL PURPOSES (JOGGING TRACK) DESIGNATED (A6) AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 5 DP1003588 EASEMENT FOR RECREATIONAL PURPOSES (JOGGING TRACK) DESIGNATED (A6) APPURTENANT TO THE LAND ABOVE DESCRIBED
- 6 DP1003588 EASEMENT FOR DRAINAGE 2.5 METRES WIDE DESIGNATED (G6) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 7 DP1003588 EASEMENT FOR DRAINAGE 2.5 METRES WIDE DESIGNATED (G6) APPURTENANT TO THE PART SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 8 DP1003588 EASEMENT FOR DRAINAGE 7.85 METRES WIDE AND VARIABLE DESIGNATED (J6) APPURTENANT TO THE PART SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 9 DP1003588 EASEMENT FOR DRAINAGE VARIABLE WIDTH DESIGNATED (S6) APPURTENANT TO THE LAND ABOVE DESCRIBED
- 10 DP1003588 RIGHT OF CARRIAGEWAY AND EASEMENT FOR SERVICES 7 METRES WIDE DESIGNATED (K6) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 11 DP1003588 RIGHT OF FOOTWAY 3 METRES WIDE DESIGNATED (D6) APPURTENANT TO THE LAND ABOVE DESCRIBED
- 12 DP1003588 EASEMENT FOR SERVICES 3 METRES WIDE AND VARIABLE DESIGNATED (YY6) APPURTENANT TO THE PART SHOWN SO

END OF PAGE 1 - CONTINUED OVER

FOLIO: 89/1082131

PAGE 2

SECOND SCHEDULE (22 NOTIFICATIONS) (CONTINUED)

-
- BENEFITED IN THE TITLE DIAGRAM
- 13 DP1003588 RIGHT OF FOOTWAY VARIABLE WIDTH DESIGNATED (DD6)
APPURTENANT TO THE LAND ABOVE DESCRIBED
- 14 DP1003588 RIGHT OF CARRIAGEWAY VARIABLE WIDTH DESIGNATED (ER6)
AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE
DIAGRAM
- 15 DP1003588 RIGHT OF CARRIAGEWAY 7.85 METRES WIDE AND VARIABLE
DESIGNATED (X6E) APPURTENANT TO THE LAND ABOVE
DESCRIBED
- 16 DP1003588 RIGHT OF CARRIAGEWAY 7 METRES WIDE DESIGNATED (Y6E)
APPURTENANT TO THE LAND ABOVE DESCRIBED
- 17 DP1003588 RIGHT OF CARRIAGEWAY 4 METRES WIDE DESIGNATED (Z6E)
AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE
DIAGRAM
- 18 DP1003588 RIGHT OF CARRIAGEWAY 13 METRES WIDE AND VARIABLE
DESIGNATED (BB6) APPURTENANT TO THE LAND ABOVE
DESCRIBED
- 19 DP1003588 EASEMENT FOR SERVICES 13 METRES WIDE AND VARIABLE
DESIGNATED (R6) APPURTENANT TO THE LAND ABOVE DESCRIBED
- 20 DP1003588 EASEMENT FOR OVERHEAD MAINS DESIGNATED (E06)
AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE
DIAGRAM
- 21 DP1003588 RIGHT OF CARRIAGEWAY 4 METRES WIDE DESIGNATED (Z6E)
APPURTENANT TO THE PART SHOWN SO BENEFITED IN THE
TITLE DIAGRAM
- 22 DP1067548 RIGHT OF CARRIAGEWAY 4 METRES WIDE DESIGNATED (A7)
AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE
DIAGRAM

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

4-6 Julius Avenue...

PRINTED ON 4/3/2025

* 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. InfoTrack 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.

Appendix D2

SafeWork Search

Nathan Woodward

From: Licensing <licensing@safework.nsw.gov.au>
Sent: Friday, 28 February 2025 9:01 AM
To: Nathan Woodward
Subject: SafeWork NSW: 01062221 –Site Search application – Result not found [thread::J0ZO7xrOexeaiH1pd9Fn-Hw::]



This message needs your attention

- No employee in your company has ever replied to this person.
- The subject has non-English characters.

Security Classification: Sensitive Personal
Please do not amend the subject line of this email

Dear Nathan

Re: Site Search for Schedule 11 Hazardous Chemicals on premises Application – Result not found

I refer to your application for a Site Search for Schedule 11 Hazardous Chemicals on premises, received by SafeWork NSW on 21 February 2025 for the following site: 4-6 Julius Ave, North Ryde NSW 2113.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

If you have any questions, please contact SafeWork NSW using one of the following options, quoting the SafeWork NSW enquiry reference number 01062221:

- Email: licensing@safework.nsw.gov.au
- Phone: 13 10 50

Kind regards

Kim Brearley
Licensing Representative
SafeWork NSW | SafeWork Licensing
p- 13 10 50
e- licensing@safework.nsw.gov.au | safework.nsw.gov.au
Level 3, 32 Mann Street, Gosford, NSW 2250



SafeWork

thread::J0ZO7xrOexeaiH1pd9Fn-Hw::

Appendix E

Site Photographs



Photo 1: Open Cut Sandstone Facing North



Photo 2: Sandstone cutting Facing West



Site Photographs

PROJECT: 233059.01

Proposed Data Centre

PLATE No: 1

6-8 Julius Avenue, North Ryde

REV: 0

CLIENT

ISPT Pty Ltd



Photo 3: Shallow Residual Fill



Photo 4: Dam Within Sandstone Cut

	Site Photographs		PROJECT:	233059.01
	Proposed Data Centre		PLATE No:	2
	6-8 Julius Avenue, North Ryde		REV:	0
	CLIENT	ISPT Pty Ltd		



Photo 5: Fire Trail on South Boundary of Site



Photo 6: Bush Trail and Stairs Along South Boundary of Site

	Site Photographs		PROJECT:	233059.01
	Proposed Data Centre		PLATE No:	3
	6-8 Julius Avenue, North Ryde		REV:	0
	CLIENT	ISPT Pty Ltd		



Photo 7: Exposed Sandstone in South of Site



Photo 8: Dense Bushland South West Corner of Site

	Site Photographs		PROJECT:	233059.01
	Proposed Data Centre		PLATE No:	4
	6-8 Julius Avenue, North Ryde		REV:	0
	CLIENT	ISPT Pty Ltd		



Photo 9: Dense Bushland South East Corner of Site

	Site Photographs		PROJECT:	233059.01
	Proposed Data Centre		PLATE No:	5
	6-8 Julius Avenue, North Ryde		REV:	0
	CLIENT	ISPT Pty Ltd		

Appendix F

Data Quality Objectives

1. Data quality objectives

The DSI has been devised broadly in accordance with the seven-step data quality objectives (DQO) process which is provided in Appendix B, Schedule B2 of NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)* [NEPM] (NEPC, 2013).

Table 1: Data quality objectives

Step	Summary
1: State the problem	The objective of the investigation is to assess the suitability of the site, from a contamination perspective, for the proposed development and whether further investigation and /or management is required and to assess the potential for contamination migration from the site. The report is being undertaken as the site is to be redeveloped. The requirements of the regulator will also be considered by consulting their Secretary's Environmental Assessment Requirements (SEARs) in particular in relation to Point 17: Contamination and Remediation. A preliminary conceptual site model (CSM) has been prepared (Section 9) for the proposed development. The project team consisted of experienced environmental engineers and scientists working in the roles of Project Principal, Project Reviewer, Project Manager and field staff.
2: Identify the decisions / goal of the study	The site history has identified possible contaminating previous uses which are identified in the CSM (Section 9). The CSM identifies the associated contaminants of potential concern (CoPC) and the likely impacted media. The site assessment criteria (SAC) for each of the CoPC are detailed in Appendix H. The decision is to establish whether or not the results fall below the SAC or whether or not the 95% upper confidence limit of the sample population falls below the SAC. On this basis, an assessment of the site's suitability from a contamination perspective will be derived and a decision made on whether (or not) further assessment and / or remediation will be required.
3: Identify the information inputs	Inputs will be the analytical results for the CoPC and media (identified in the CSM, Section 9) from NATA accredited laboratories and methods, where possible. The SAC for each of the CoPC are detailed in Appendix H. Field results and observations such as photoionisation detector (PID) and observations was used to inform sample selection for laboratory analysis.
4: Define the study boundaries	The lateral boundaries of the investigation area are shown on Drawing 1, Appendix A. The vertical boundaries are to the extent of contamination impact as determined from the site history assessment and site observations. The assessment is limited to the timeframe over which the field works were undertaken. Constraints to the assessment are identified and discussed in the conclusions of the report, Section 15.
5: Develop the analytical approach (or decision rule)	The decision rule is to compare all analytical results with the SAC (Appendix H, based on NEPC (2013)). Where guideline values are absent, other sources of

Step	Summary
	guideline values accepted by NEPC (2013) shall be adopted where available and warranted. Where a sample result exceeds the adopted criterion, a further site-specific assessment will be made as to the risk posed by the presence of that contaminant(s). Initial comparisons will be with individual results then, where required and appropriate, summary statistics (including mean, standard deviation and 95% upper confidence limit (UCL) of the arithmetic mean (95% UCL)) to assess potential risks posed by the site contamination. Quality control results are to be assessed according to their relative percent difference (RPD) values. For field duplicates, triplicates and laboratory results, RPD values should generally be below 30%; for field blanks, results should be at or less than the limits of reporting (NEPC, 2013). The field and laboratory quality assurance assessment is included in Appendix K.
6: Specify the performance or acceptance criteria	Baseline condition: Contaminants at the site and/or statistical analysis of data (in line with NEPC (2013)) exceed the human health and environmental SAC and pose a potentially unacceptable risk to receptors (null hypothesis). Alternative condition: Contaminants at the site and statistical analysis of data (in line with NEPC (2013)) comply with the human health and environmental SAC and therefore, do not pose a potentially unacceptable risk to receptors (alternative hypothesis). Unless conclusive information from the collected data is sufficient to reject the null hypothesis, it is assumed that the baseline condition is true. Uncertainty that may exist due to the above potential decision errors shall be mitigated as follows: - As well as a primary screening exercise, the use of the 95% UCL as per NEPC (2013) may be applied, i.e. 95% is the defined confidence level associated with the UCL on the geometric mean for contaminant data. The resultant 95% UCL shall subsequently be screened against the corresponding SAC. - The statistical assessment will only be able to be applied to certain data-sets, such as those obtained via systematic sampling. Identification of areas for targeted sampling will be via professional judgement and errors will not be able to have a probability assigned to them. - Laboratory results will be assessed with consideration of field results.
7: Optimise the design for obtaining data	As the purpose of the investigation is to assess the contamination status of the site, the sampling program is reliant on professional judgement to identify and sample the potentially affected areas. Further details regarding the proposed sampling plan are presented in Section 10.

2. References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix G

Fieldwork Methodology

1. Guidelines

The following key guidelines were consulted for the field work methodology:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).
- HEPA PFAS National Environmental Management Plan (NEMP) (HEPA, 2025).

2. Soil sampling

Soil sampling is carried out in accordance with Douglas' standard operating procedures. The general sampling and sample management procedures comprise:

- Collect near surface samples using hand tools;
- Place samples into laboratory-prepared glass jars with Teflon lined lids, capping immediately and minimising headspace within the sample jar;
- Place samples into laboratory-prepared containers (specific for PFAS), capping immediately and minimising headspace within the sample jar;
- Collect replicate samples in zip-lock bags for photoionisation detector (PID) screening;
- Collect ~500 ml samples in zip-lock bags for fibrous asbestos and asbestos fines (FA and AF) analysis;
- Collect ~40 g to 50 g samples in zip-lock bags for asbestos (presence / absence) analysis;
- Wear a new disposable nitrile glove for each sample point thereby minimising potential for cross-contamination;
- Collect 10% replicate samples for quality control (QC) purposes;
- Label sample containers with individual and unique identification details, including project number, sample location and sample depth (where applicable);
- Place samples into a cooled, insulated and sealed container for transport to the laboratory; and
- Use chain of custody documentation.

2.1 Field testing

Field testing is carried out in accordance with Douglas' standard operating procedures. The general sampling and sample management procedures comprise:

PID field test

- Calibrate the PID with isobutylene gas at 100 ppm and with fresh air prior to commencement of each successive day's field work;
- Allow the headspace in the PID zip-lock bag samples to equilibrate; and
- Screen using the PID.

3. Groundwater sampling

3.1 Monitoring well installation

Monitoring wells were constructed as part of the Douglas geotechnical investigation using class 18 uPVC machine slotted screen and blank sections with screw threaded joints. The screened section of each well was backfilled with a washed sand filter pack to approximately 0.5 m above the screened interval. Each well was completed with a hydrated bentonite plug of at least 0.5 m thick and then bentonite / cement grout to the surface, finished as a stick-up (no monument).

3.2 Monitoring well development

Groundwater monitoring wells were developed as soon as practicable following well installation. The purpose of well development was to remove sediments and/or drilling fluid introduced to the well during drilling and to facilitate connection of the monitoring well to the aquifer. The wells were developed by pumping / bailing to remove a minimum of five well volumes, or until dry.

3.3 Groundwater sampling

Groundwater sampling was carried out in accordance with Douglas' standard operating procedures. Groundwater samples were collected using a low flow peristaltic pump via the micro-purge (minimal drawdown) method. The sampling method is described as follows:

- Measure the static water level using an electronic interface probe and record the thickness of Light Non-Aqueous Phase Liquids (LNAPL) (if encountered);
- Decontaminate the interface probe and cable between monitoring wells by rinsing in a diluted Liquinox solution and then rinsing in demineralised water;
- Lower the well-dedicated tubing into the well then clamped at a level estimated to be 1 m below the top of the water column (provided the depth of the pump is within the screened section) or to the approximate mid-point of the well screen;
- Set the pump at the lowest rate possible to minimise drawdown of the water column;
- Measure physical parameters by continuously passing the purged water through a flow cell; and
- Following stabilisation of the field parameters, collect samples in laboratory-prepared bottles minimising headspace within the sample bottle and cap immediately.

Sample handling, all methods

The general groundwater sample handling and management procedures comprised:

- Collect 10% replicate samples for QC purposes;
- Label sample containers with individual and unique identification details, including project number and sample location;
- Place the sample jars into a cooled, insulated and sealed container for transport to the laboratory; and
- Use chain of custody documentation.

4. References

HEPA. (2025). *PFAS National Environmental Management Plan (NEMP)*. Version 3.0: Heads of EPAs Australia and New Zealand.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix H

Site Assessment Criteria

1. Introduction

1.1 Guidelines

The following key guidelines were consulted for deriving the site assessment criteria (SAC):

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).
- CRC CARE *Health screening levels for petroleum hydrocarbons in soil and groundwater* (CRC CARE, 2011).
- HEPA *PFAS National Environmental Management Plan (NEMP)* (HEPA, 2025).
- ANZG *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018).
- NHMRC *Guidelines for Managing Risks In Recreational Water* (NHMRC, 2008).
- NHMRC, NRMCC *Australian Drinking Water Guidelines 6 2011, Version 3.2* (NHMRC, NRMCC, 2022).
- ANZECC *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC, 2000).

1.2 General

The SAC applied in the current investigation are informed by the CSM which identified human and environmental receptors to potential contamination at the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels of Schedule B1 of NEPC (2013).

The following inputs are relevant to the selection and/or derivation of the SAC:

- Land use: commercial / industrial:
 - Corresponding to land use category 'D', commercial / industrial such as shops, offices, factories and industrial sites.
- Soil type: sand.

2. Soils

2.1 Health investigation and screening levels

The generic health investigation levels (HIL) and health screening levels (HSL) are considered to be appropriate for the assessment of human health risk via all relevant pathways of exposure associated with contamination at the site. The adopted soil HIL and HSL for the contaminants of concern are in Table 1 and Table 2.

Table 1: Health investigation levels (mg/kg)

Contaminant	HIL-D
Metals	
Arsenic	3000
Cadmium	900
Chromium (VI)	3600
Copper	240 000
Lead	1500
Mercury (inorganic)	730
Nickel	6000
Zinc	400 000
PAH	
B(a)P TEQ	40
Total PAH	4000
Phenols	
Phenol	240 000
Pentachlorophenol	660
OCP	
DDT+DDE+DDD	3600
Aldrin and dieldrin	45
Chlordane	530
Endosulfan	2000
Endrin	100
Heptachlor	50
HCB	80
Methoxychlor	2500
OPP	
Chlorpyrifos	2000
PCB	
PCB	7

Table 2: Health screening levels (mg/kg)

Contaminant	HSL-D
SAND	0 m to <1 m
Benzene	3
Toluene	NL
Ethylbenzene	NL
Xylenes	230
Naphthalene	NL
TRH F1	260
TRH F2	NL

Notes: TRH F1 is TRH C₆-C₁₀ minus BTEX

TRH F2 is TRH >C₁₀-C₁₆ minus naphthalene

The soil saturation concentration (C_{sat}) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds C_{sat}, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'

The HSL for direct contact derived from CRC CARE (2011) are in Table 3.

Table 3: Health screening levels for direct contact (mg/kg)

Contaminant	DC HSL-D	DC HSL-IMW
Benzene	430	1100
Toluene	99 000	120 000
Ethylbenzene	27 000	85 000
Xylenes	81 000	130 000
Naphthalene	11 000	29 000
TRH F1	26 000	82 000
TRH F2	20 000	62 000
TRH F3	27 000	85 000
TRH F4	38 000	120 000

Notes: TRH F1 is TRH C₆-C₁₀ minus BTEX

TRH F2 is TRH >C₁₀-C₁₆ minus naphthalene

IMW intrusive maintenance worker

2.2 Health investigation levels for per- and poly-fluoroalkyl substances in soil

The laboratory analytical results for per- and poly-fluoroalkyl substances (PFAS) in soil have been assessed against HIL published in HEPA (2025). The HIL represent a nationally-agreed suite that should be used to inform site investigations. The HIL are intentionally conservative, and an exceedance of these criteria may not constitute a risk if other exposure pathways are controlled. An exceedance of the HIL should trigger further investigations, such as a site-specific risk assessment. At the time of this investigation, screening values were available only for perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS).

The HIL derived from Table 2 of HEPA (2025) are in Table 4.

Table 4: Health investigation levels (mg/kg)

Contaminant	HIL-D
PFOS and PFHxS *	20
PFOA	50

Notes: * Includes PFOS only, PFHxS only and the sum of the two.

2.3 Asbestos in soil

Based on the CSM and/or current site access limitations, a detailed asbestos assessment was not considered to be warranted at this stage, and as such any detection of asbestos will be considered to trigger the need for further assessment.

The HSL for asbestos in soil are based on likely exposure levels for different scenarios published in NEPC (2013) for the following forms of asbestos:

- Bonded asbestos containing material (ACM); and
- Fibrous asbestos and asbestos fines (FA and AF).

The HSL are in Table 5.

Table 5: Health screening levels for asbestos

Form of asbestos	HSL-D
ACM	0.05%
FA and AF	0.001%
FA and AF and ACM	No visible asbestos for surface soil *

Notes: Surface soils defined as top 10 cm.

* Based on site observations at the sampling points and the analytical results of surface samples.

2.4 Ecological investigation levels

Ecological investigation levels (EIL) and added contaminant limits (ACL), where appropriate, have been derived in NEPC (2013) for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene. The adopted EIL, derived using the interactive (excel) calculation spreadsheet on the NEPM toolbox website are shown in Table 7, with inputs into their derivation shown in Table 6.

Table 6: Inputs to the derivation of the ecological investigation levels

Variable	Input	Rationale
Age of contaminants	"Aged" (>2 years)	Known
pH	6.3	calculated
CEC	5.55 cmol _c /kg	Calculated
Clay content	10%	assumed
Traffic volumes	high	known
State / Territory	NSW	Known

Table 7: Ecological investigation levels (mg/kg)

Contaminant	EIL-D
Metals	
Arsenic	160
Copper	180
Nickel	75
Chromium III	680
Lead	1800
Zinc	510
PAH	
Naphthalene	370
OCP	
DDT	640

2.5 Ecological screening levels

Ecological screening levels (ESL) are used to assess the risk of selected petroleum hydrocarbon compounds, BTEX and benzo(a)pyrene to terrestrial ecosystems. The adopted ESL are shown in Table 8.

Table 8: Ecological screening levels (mg/kg)

Contaminant	Soil type	ESL-D
Benzene	Coarse	75
Toluene	Coarse	135
Ethylbenzene	Coarse	165
Xylenes	Coarse	180
TRH F1	Coarse/ Fine	215*
TRH F2	Coarse/ Fine	170*
TRH F3	Coarse	1700
TRH F4	Coarse	3300
B(a)P	Coarse	1.4

Notes: ESL are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability

TRH F1 is TRH C₆-C₁₀ minus BTEX

TRH F2 is TRH >C₁₀-C₁₆ including naphthalene

2.6 Ecological soil guideline values

The interim ecological soil guideline values (EGV) derived from Table3 of HEPA (2025) are in Table 9.

Table 9: Ecological soil guideline values (mg/kg) – all land uses

Contaminant	Direct exposure	Indirect exposure
PFOS	1	0.003
PFOA	10 (and 0.005 for reptiles)	0.003
PFHxS	NC	NC

Notes: NC no criterion

*For intensely developed sites with no secondary consumers and minimal potential for indirect ecological exposure, a higher criterion of up to 0.14 mg/kg PFOS may be appropriate.

2.7 Management limits

In addition to appropriate consideration and application of the HSL and ESL, there are additional considerations which reflect the nature and properties of petroleum hydrocarbons, including:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosion hazards; and
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services.

The adopted management limits are in Table 10.

Table 10: Management limits (mg/kg)

Contaminant	Soil type	ML-D
TRH F1	Coarse	700
TRH F2	Coarse	1000
TRH F3	Coarse	3500
TRH F4	Coarse	10 000

Notes: TRH F1 is TRH C₆-C₁₀ including BTEX
 TRH F2 is TRH >C₁₀-C₁₆ including naphthalene
 ML-A-B-C residential, parkland and public open space

3. Groundwater

3.1 Introduction

The groundwater investigation levels (GIL) used for interpretation of the groundwater data (as a Tier 1 assessment) have been selected based on the potential risks posed from contamination sourced from the site to receptors at or down-gradient of the site, as identified by the conceptual site model (CSM). The receptors, exposure points and pathways are summarised in Table 11.

Table 11: Summary of potential receptors and potential risks

Receptor	Location	Exposure point	Exposure pathway
Surface water aquatic ecosystem	Down-gradient from site.	Receiving surface water body at the groundwater discharge point.	Exposure to contaminants.
Human recreation (e.g. swimming)	Down-gradient from site.	Receiving surface water body at the groundwater discharge point.	Ingestion / dermal absorption of contaminants during recreational activities (e.g. swimming).

The rationale for the selection of GIL is in Table 12.

Table 12: Groundwater investigation level rationale

Receptor / beneficial use	GIL	Source	Comments / rationale
Aquatic ecosystem	DGV	ANZG (2018)	Lane Cove River, estuarine / marine water 99% LOP for bioaccumulative contaminants 95% LOP for non-bioaccumulative contaminants
Aquatic ecosystem	DGV	HEPA (2025)	Lane Cove River, estuarine / marine water 99% LOP as recommended for potential bioaccumulation Screening values were only available for PFOS and PFOA at the time of this investigation.

Receptor / beneficial use	GIL	Source	Comments / rationale
Recreational waters	GV	NHMRC (2008)	Based on the NHMRC (2022) values x10 (lower limit of recommended 10-20x) to account for ingestion of water whilst undertaking recreational activities. PFAS GV adopted as per NHMRC (2019) guidance note

Notes: DGV default guideline value
 % LOP percentage level of protection of species
 HSL health screening level
 GV guideline value

3.2 Groundwater investigation levels for aquatic ecosystems

The DGV for the protection of aquatic ecosystems derived from ANZG (2018) are in Table 13.

Table 13: Groundwater investigation levels for protection of aquatic ecosystems (µg/L)

Contaminant	Marine DGV 95% LOP	Notes
Metals / metalloids		
Arsenic	24 / 13	Levels provided for As III / As IV respectively as adopted from freshwater criteria in absence of marine criteria. Unknown reliability.
Cadmium	0.7	99% LOP adopted as recommended due to potential for bioaccumulation. Very high reliability.
Chromium (VI)	4.4	Chromium VI levels adopted as initial screen for total chromium. Very high reliability.
Copper	1.3	Very high reliability.
Lead	4.4	Low reliability.
Mercury (inorganic)	0.1	99% LOP adopted as recommended due to potential for bioaccumulation. Very high reliability.
Nickel	7	99% LOP adopted as recommended to protect key species from chronic toxicity. Very high reliability.
Zinc	8	Very high reliability.
BTEX		
Benzene	500	99% LOP adopted as recommended to protect key species from chronic toxicity. Moderate reliability.
Ethylbenzene	80	Unknown reliability.
m-Xylene	75	Unknown reliability.
o-xylene	350	Adopted from freshwater criteria for in absence of marine criteria. Unknown reliability.

Contaminant	Marine DGV 95% LOP	Notes
p-Xylene	200	Adopted from freshwater criteria for in absence of marine criteria. Unknown reliability.
Toluene	180	Unknown reliability.
PAH		
Anthracene	0.01	99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Benzo(a)pyrene	0.1	99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Fluoranthene	1	99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Naphthalene	50	99% LOP adopted as recommended to protect key species from chronic toxicity. Moderate reliability.
Phenanthrene	0.6	99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Phenols		
Phenol	400	Moderate reliability.
Pentachlorophenol	11	99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
OCP		
Aldrin	0.003	Unknown reliability and LOP.
Chlordane	0.001	Unknown reliability and LOP.
DDT	0.0004	Unknown reliability and LOP.
Dieldrin	0.01	Freshwater criteria adopted in absence of marine criteria. Unknown reliability and LOP.
Endosulfan	0.005	99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
Endrin	0.004	99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
Heptachlor	0.0004	Unknown reliability and LOP.
Methoxychlor	0.004	Unknown reliability and LOP.
OPP		
Chlorpyrifos	0.009	Low reliability.
Diazinon	0.01	Freshwater criteria adopted in absence of marine criteria. Unknown reliability.

Contaminant	Marine DGV 95% LOP	Notes
Dimethoate	0.15	Freshwater criteria adopted in absence of marine criteria. Unknown reliability.
Fenitrothion	0.001	Unknown reliability and LOP.
Malathion	0.05	Freshwater criteria adopted in absence of marine criteria. Unknown reliability.
Parathion	0.004	Freshwater criteria adopted in absence of marine criteria. Unknown reliability.
PCB		
Aroclor 1242	0.3	Adopted from freshwater criteria for in absence of marine criteria. 99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Aroclor 1254	0.01	Adopted from freshwater criteria for in absence of marine criteria. 99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Inorganics		
Ammonia	910	Very high reliability. At a receiving body pH of 8. Note: ammonia toxicity is pH and temperature dependent.

Notes: 95% LOP for non-bioaccumulative contaminants
 99% LOP for bioaccumulative contaminants

The DGV for the protection of aquatic ecosystems derived from HEPA (2025) are in Table 14.

Table 14: Groundwater investigation levels for protection of aquatic ecosystems (µg/L)

Contaminant / LOP	Interim marine water DGV
PFOS 99% LOP	0.00023
PFOA 99% LOP	19

3.3 Groundwater investigation levels for recreational water

The GV for recreational water derived from NHMRC (2008) are in Table 15.

Table 15: Groundwater investigation levels for protection of recreational waters (µg/L)

Contaminant	Recreational water guideline values
Metals / metalloids	
Arsenic	100
Cadmium	20
Chromium (VI)	500
Copper	20000

Contaminant	Recreational water guideline values
Lead	100
Manganese	5000
Mercury (inorganic)	10
Nickel	200
Zinc	30000 (aesthetic only)
BTEX	
Benzene	10
Ethylbenzene	3000
Xylenes	6000
Toluene	8000
PAH	
Benzo(a)pyrene	0.1
Phenols	
Pentachlorophenol	100
OCP	
Aldrin + Dieldrin	3
Chlordane	20
DDT	90
Endosulfan	200
Heptachlor	3
Methoxychlor	3000
OPP	
Chlorpyrifos	100
Diazinon	40
Dimethoate	70
Fenitrothion	70
Malathion	700
Parathion	200

3.4 Health screening levels for vapour intrusion

The HSL to evaluate potential vapour intrusion risks derived from NEPC (2013) are in Table 16. There are no generic HSL for groundwater within 2 m of the ground (or basement) level.

Table 16: Groundwater health screening levels for vapour intrusion (µg/L)

Contaminant	HSL-D	Solubility limit
SAND	2 m to <4 m	-
Benzene	5000	59 000
Toluene	NL	61 000
Ethylbenzene	NL	3900
Xylenes	NL	21 000
Naphthalene	NL	170
TRH F1	6000	9000
TRH F2	NL	3000

Notes: TRH F1 is TRH C₆-C₁₀ minus BTEX

TRH F2 is TRH >C₁₀-C₁₆ minus naphthalene

The solubility limit is defined as the groundwater concentration at which the water cannot dissolve any more of an individual chemical based on a petroleum mixture. The soil vapour that is in equilibrium with the groundwater will be at its maximum. If the derived groundwater HSL exceeds the water solubility limit, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'.

4. References

ANZECC. (2000). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australia and New Zealand Environment and Conservation Council.

ANZG. (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Canberra, ACT: Australian and New Zealand Governments and Australian state and territory governments.

CRC CARE. (2011). *Health screening levels for petroleum hydrocarbons in soil and groundwater*. Parts 1 to 3, Technical Report No. 10: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

HEPA. (2025). *PFAS National Environmental Management Plan (NEMP)*. Version 3.0: Heads of EPAs Australia and New Zealand.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

NHMRC. (2008). *Guidelines for Managing Risks In Recreational Water*.

NHMRC. (2019). *Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water*. National Health and Medical Research Council.

NHMRC, NRMMC. (2022). *Australian Drinking Water Guidelines 6 2011, Version 3.7*. Canberra: National Health and Medical Research Council, National Resource Management Ministerial Council.

Warne, M., Batley, G., van Dam, R., Chapman, J., Fox, D., Hickey, C., & Stauber, J. (2018). *Revised Method for Deriving Australian and New Zealand Water Quality Guideline Values for Toxicants*. Canberra: Australian Government Department of Agriculture and Water Resources.

Appendix I

Summary of Results

Lab result
 HIL/HSL value EIL/ESL/ECV value

■ HIL/HSL exceedance ■ EIL/ESL exceedance ■ HIL/HSL and EIL/ESL exceedance ■ ML exceedance ■ ML and HIL/HSL or EIL/ESL exceedance
 ■ Indicates that asbestos has been detected by the lab, refer to the lab report ■ Blue = DC exceedance ■ Red = EGV-indirect exceedance ■ HSL 0-<1 Exceedance
Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Not limiting NAD = No Asbestos detected

Site Assessment Criteria (SAC):				
SAC based on generic land use thresholds for Commercial/ industrial D				
Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:				
HIL	HIL-D (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	ECV, all land uses, direct exposure (HEPA, 2020)	
HSL (vapour intrusion)	HSL-D (NEPC, 2013)	ESL	Commercial and Industrial (NEPC, 2013)	
DC	Direct contact HSL D Commercial/Industrial (CRC CARE, 2011)	ML	Commercial and Industrial (NEPC, 2013)	
		EGV-Indir	ECV, all land uses, Indirect exposure, Intensively developed sites, Site specific	



Table I2: Summary of Results of Water Analysis

		Metals & Metalloids - Dissolved								TRH				BTEx						PAH								OCP	OPP	PCB
		Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	F1 (C6-C10)-BTEx)	F2 (>C10-C16 (ess Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	Total Xylenes	Acenaphthene	Anthracene	Naphthalene	Benzo(a)pyrene (BaP)	Fluoranthene	Phenanthrene	Sum of detected PAH	Sum of detected OCP	Sum of detected Opp	Sum of detected PCB	
	PQL	1	0.1	1	1	1	0.05	1	1	10	50	100	100	1	1	1	1	2	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.001	0.004	0.01	
NHMRC (2012) Recreation		100	20	500	20,000	100	10	200	30,000					10	8,000	3,000			6,000				0.1							
NEPC (2013) HSL 2-4m (coarse grained soils)										6,000	NL			5,000	NL	NL			NL			NL								
ANZG (2018) 95% LOP Marine		24 / 13	0.7	4.4	1.3	4.4	0.1	7	8					500	180	80	350	75		0.01	0.01	50	0.1	1	0.6					
Sample ID	Sample Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
101A	03/03/25	<1	<0.1	2	4	12	<0.05	5	56	<10	67	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.001	<0.004	<0.01	
BD1/20250303	03/03/25	<1	<0.1	2	3	11	<0.05	4	55	<10	120	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	-	-	-	
106	03/03/25	1	<0.1	<1	<1	<1	<0.05	9	27	<10	180	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.001	<0.004	<0.01	

Notes:

- No criterion / not defined / not tested / not applicable

* QA/QC replicate of sample listed directly below the primary sample

NL Not limiting

PQL Practical quantitation limit

Shaded cell is exceedance of guideline value

Where one or more guideline value is exceeded, the cell is shaded to the colour of the highest guideline value exceeded

NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013), health screening level Sand 2-4m

ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 95% level of protection of species for Marine aquatic ecosystems [NB: 99% level of protection adopted for bioaccumulative chemicals]

NHMRC (2008) Guidelines for Managing Risk in Recreational Water

ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, orange text is 'unknown' level of protection

Underlining of ANZG (2018) criteria indicates a criteria with an 'unknown' level of protection.

ANZG (2018) DGV adopted for most conservative species of following analytes: DGV for xylene (m) adopted for xylene (m+p); DGV for CrVI adopted for total chromium; DGV for AsV adopted for total arsenic

ANZG (2018) DGV adopted for aluminium in freshwater is for receiving waters with pH >6.5. For receiving waters with pH <6.5 suitability of the more conservative, low reliability DGV of unknown LOP should be considered

ANZG (2018) Ammonia DGV is pH and temperature dependant. DGV for a pH of 8 provided in table.



Table I3: Summary of Results of Preliminary Waste Classification

			Metals						TRH		TPH	BTEX				PAH		Phenols	OCP	OPP	PCB	PFAS		Asbestos			
			Total Arsenic	Cadmium	Total Chromium	Lead	Mercury (inorganic)	Nickel	TRH C6 - C9	TRH C10-C36	TPH C10-C36 (SG)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Benzo(a)pyrene (BaP)	Total PAH	Total Phenolics	Total Analysed OCP	Total Analysed OPP	Total PCB	PFOA	PFOS + PFHxS	Asbestos ID in soil >0.1g/kg	FA and AF Estimation		
		PQL	4	0.4	1	1	0.1	1	25	50	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.0001	0.0001		0.001		
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	%(w/w)	
BH1	0 - 0.1 m	18/02/25	<4	<0.4	4	11	<0.1	3	<25	190	-	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.0001	0.0002	NAD	-		
BH1 - [TRIPLICATE]	0 - 0.1 m	18/02/25	<4	<0.4	3	9	<0.1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH2	0 - 0.1 m	18/02/25	5	<0.4	3	7	<0.1	<1	<25	210	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	NAD	-		
BH3	0 - 0.1 m	18/02/25	<4	<0.4	9	34	<0.1	<1	<25	420	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	NAD	-		
BH4	0 - 0.1 m	18/02/25	<4	<0.4	4	28	<0.1	<1	<25	490	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	NAD	-		
BH5	0 - 0.1 m	18/02/25	<4	<0.4	6	31	<0.1	2	<25	2,100	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	NAD	-		
BH6	0 - 0.1 m	18/02/25	<4	<0.4	4	16	<0.1	<1	<25	220	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	0.0003	0.0015	NAD	-		
BH6	0.1 - 0.2 m	18/02/25	<4	<0.4	4	11	<0.1	<1	<25	110	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-		
BD1/20250218	0.1 - 0.2 m	18/02/25	<4	<0.4	4	21	<0.1	<1	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-		
BH7	0 - 0.1 m	21/02/25	<4	<0.4	4	23	<0.1	2	<25	240	-	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	-	-	NAD	<0.001		
BH7	0.1 - 0.2 m	21/02/25	<4	<0.4	3	11	<0.1	<1	<25	260	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	NAD	-		
BH8	0 - 0.1 m	18/02/25	<4	<0.4	4	8	<0.1	5	<25	120	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	NAD	-		
BH8	0.2 - 0.3 m	18/02/25	<4	<0.4	3	5	<0.1	2	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-		
BH9	0 - 0.1 m	18/02/25	<4	<0.4	5	10	<0.1	3	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	<0.0001	0.0026	NAD	-		
BH9	0.1 - 0.2 m	18/02/25	<4	<0.4	7	18	<0.1	2	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-		
BH10	0.1 - 0.2 m	21/02/25	<4	<0.4	24	18	0.3	20	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-		
BD1/20250221	0.1 - 0.2 m	21/02/25	<4	<0.4	8	15	0.1	17	<25	110	-	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-		
BH11	0 - 0.2 m	21/02/25	<4	<0.4	9	16	<0.1	16	<25	110	-	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	0.0001	0.0018	NAD	<0.001		
BH11 - [TRIPLICATE]	0 - 0.2 m	21/02/25	<4	<0.4	9	15	<0.1	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH13	0 - 0.1 m	03/03/25	<4	0.6	9	51	<0.1	9	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	-	-	NAD	<0.001		
BH14	0 - 0.1 m	03/03/25	<4	<0.4	4	20	<0.1	3	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	0.0001	0.0002	NAD	<0.001		
BH15	0 - 0.1 m	03/03/25	<4	<0.4	11	19	<0.1	4	<25	<50	-	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	-	-	NAD	<0.001		
Waste Classification Criteria ^f																											
CT1			-	-	-	-	-	-	-	10,000	10,000	-	-	-	1000	-	-	-	-	4	<50	-	-	-	-		
SCC1			-	-	-	-	-	-	-	10,000	10,000	-	-	-	1,800	-	-	-	-	7.5	<50	-	-	-	-		
TCLP1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CT2			-	-	-	-	-	-	-	40,000	40,000	-	-	-	4,000	-	-	-	-	16	<50	-	-	-	-		
SCC2			-	-	-	-	-	-	-	40,000	40,000	-	-	-	7,200	-	-	-	-	30	<50	-	-	-	-		
TCLP2			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

CT1 exceedance TCLP1 and/or SCC1 exceedance CT2 exceedance TCLP2 and/or SCC2 exceedance Asbestos detection

- = Not tested, no criteria or not applicable NAD = no asbestos detected

Notes:

- a QA/QC replicate of sample listed directly below the primary sample
- b Total chromium used as initial screen for chromium(VI).
- c Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)
- d Criteria for scheduled chemicals used as an initial screen
- e Criteria for Chlorpyrifos used as initial screen
- f NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste
- PQL Practical quantitation limit
- CT1 Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste
- SCC1 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
- TCLP1 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
- CT2 Maximum values of specific contaminant concentration (SCC) for classification without TCLP: Restricted solid waste
- SCC2 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste
- TCLP2 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste

Appendix J

Borehole Logs and Field Sheets

Appendix J1

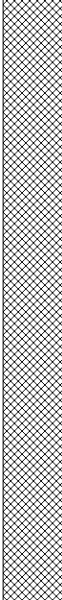
Borehole Logs

TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 31.0 AHD
COORDINATE: E:328061.2, N:6258536.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH1
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

		CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS				
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
18/02/25 NFGWO			FILL / Silty SAND: brown; fine to medium; low to medium plasticity silt; trace rootlets, trace sandstone.		 FILL	 ND	 D				 ES	0.10		
			Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..											
NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.														

PLANT: Hand Tools **OPERATOR:** NW **LOGGED:** NW
METHOD:
REMARKS: GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

Refer to explanatory notes for symbol and abbreviation definitions

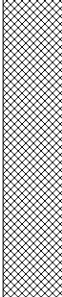


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 28.5 AHD
COORDINATE: E:328170.0, N:6258641.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH10
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

GROUNDWATER		CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS				
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
18/02/25 NFGWO	0.10	FILL / Silty SAND: pale brown; fine to medium; low to medium plasticity silt; trace rootlets.		FILL	ND		D			ES				
		Clayey SAND: yellow-brown; fine to coarse; low to medium plasticity clay; trace sandstone gravel.		RS	ND		D			* ES		0.10		
	Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..											0.20		
NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.														

PLANT: Hand Tools **OPERATOR:** NW **LOGGED:** NW
METHOD:
REMARKS: *Replicate sample BD1/20250221 taken 0.1-0.2m. GPS coordinates were estimated using visual landmarks

Refer to explanatory notes for symbol and abbreviation definitions



TEST PIT LOG

CLIENT: ISPT Pty Ltd

PROJECT: Proposed Residential Development

LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 28.5 AHD

COORDINATE: E:328185.5, N:6258662.2

DATUM/GRID: MGA2020 Zone 56

DIP/AZIMUTH: 90°/---°

LOCATION ID: BH11

PROJECT No: 233059.01

DATE: 18/02/25

SHEET: 1 of 1

GROUNDWATER		CONDITIONS ENCOUNTERED					SAMPLE				TESTING AND REMARKS		
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
					■	■							
18/02/25 NFGWO		FILL / Silty SAND: pale brown; fine to medium; low to medium plasticity silt; trace rootlets.		FILL	ND		D		ES				
		0.15m: with sandstone gravel											
											0.20		
		Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..											
NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.													

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks

Refer to explanatory notes for symbol and abbreviation definitions



TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 23.0 AHD
COORDINATE: E:328191.7, N:6258645.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH12
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED														SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS				
18/02/25 NFGWO			FILL / Sandy GRAVEL: pale grey to dark grey; igneous; fine to coarse sand; Shallow fill overlying sandstone bedrock, no sample able to be obtained..		FILL													
			Test Pit discontinued at 0.05m depth. Refusal on inferred sandstone bedrock..															

NOTES: ^(#)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Hand Tools
METHOD:
REMARKS: GPS coordinates were estimated using visual landmarks.

OPERATOR: NW
LOGGED: NW

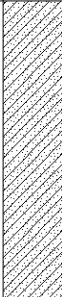


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 35.0 AHD
COORDINATE: E:328067.0, N:6258675.4
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH13
PROJECT No: 233059.01
DATE: 03/03/25
SHEET: 1 of 1

GROUNDWATER	CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS		
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
03/03/25 NFGWO			Clayey SAND; yellow-brown; fine to coarse; low to medium plasticity clay; trace sandstone and rootlets.		RS	ND	D		ES		0.10		
		Test Pit discontinued at 0.10m depth. Refusal on inferred sandstone bedrock..											

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks

Refer to explanatory notes for symbol and abbreviation definitions

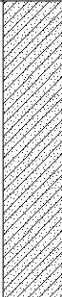


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 35.0 AHD
COORDINATE: E:328096.9, N:6258695.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH14
PROJECT No: 233059.01
DATE: 03/03/25
SHEET: 1 of 1

GROUNDWATER	CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS		
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
03/03/25 NFGWO			Clayey SAND; yellow-brown; fine to coarse; low to medium plasticity clay; trace sandstone and rootlets.		RS	ND	D		ES		0.10		
			Test Pit discontinued at 0.10m depth. Refusal on inferred sandstone bedrock..										

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Hand Tools
METHOD:
REMARKS: GPS coordinates were estimated using visual landmarks

OPERATOR: NW
LOGGED: NW

Refer to explanatory notes for symbol and abbreviation definitions

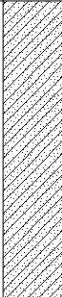


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 35.0 AHD
COORDINATE: E:328105.3, N:6258647.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH15
PROJECT No: 233059.01
DATE: 03/03/25
SHEET: 1 of 1

GROUNDWATER	CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS			
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
03/03/25 NFGWO			Clayey SAND; yellow-brown; fine to coarse; low to medium plasticity clay; trace sandstone and rootlets.		RS	ND	D		ES		0.10		
			Test Pit discontinued at 0.10m depth. Refusal on inferred sandstone bedrock..										

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks.

Refer to explanatory notes for symbol and abbreviation definitions

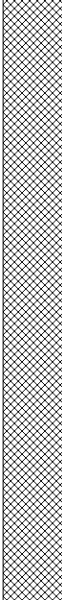


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 31.5 AHD
COORDINATE: E:328094.2, N:6258511.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH2
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED														SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS				
18/02/25 NFGWO			FILL / Silty SAND: brown; fine to medium; low to medium plasticity silt; trace sandstone gravel and rootlets.		 FILL	 ND	 D				ES		0.10					
Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..																		
NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.																		

PLANT: Hand Tools **OPERATOR:** NW **LOGGED:** NW
METHOD:
REMARKS: GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

Refer to explanatory notes for symbol and abbreviation definitions

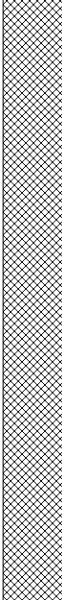
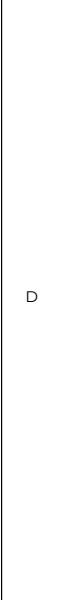


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 32.0 AHD
COORDINATE: E:328093.0, N:6258562.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH3
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED													SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS			
18/02/25 NFGWO			FILL / Silty SAND: pale brown; fine to medium; low to medium plasticity silt; trace rootlets.		 FILL	 ND	 D				ES	0.10					
Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..																	
NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.																	

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

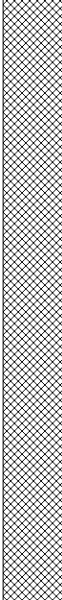
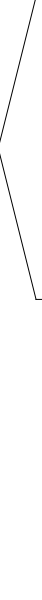
Refer to explanatory notes for symbol and abbreviation definitions

TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 30.0 AHD
COORDINATE: E:328120.2, N:6258591.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH4
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED														SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS				
18/02/25 NFGWO			FILL / Silty SAND: brown; fine to medium; low to medium plasticity silt; trace igneous gravel and rootlets .		 FILL	 ND	 D				ES	 0.10						
Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..																		
NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.																		

PLANT: Hand Tools **OPERATOR:** NW **LOGGED:** NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

Refer to explanatory notes for symbol and abbreviation definitions

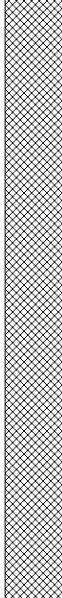


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 24.5 AHD
COORDINATE: E:328136.2, N:6258567.4
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH5
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED													SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN ^(#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS			
18/02/25 NFGWO			FILL / SAND: brown; fine to medium; trace igneous gravel and rootlets.		FILL	ND		D			ES	0.10					
			Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..														
NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.																	

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

Refer to explanatory notes for symbol and abbreviation definitions

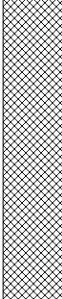


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 24.5 AHD
COORDINATE: E:328159.9, N:6258605.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH6
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

GROUNDWATER		CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS				
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
18/02/25 NFGWO	0.10	FILL / Silty SAND: pale brown; fine to medium; low to medium plasticity silt; trace igneous gravel and rootlets.		FILL	ND		D			ES				
		Clayey SAND: yellow-brown; fine to medium; low to medium plasticity clay; trace sandstone gravel.		RS	ND		D			* ES		0.10		
		Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..												
NOTES: [#] Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.														

PLANT: Hand Tools **OPERATOR:** NW **LOGGED:** NW

METHOD:

REMARKS: *Replicate sample BD1/20250218 taken at 0.1-0.2m. GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

Refer to explanatory notes for symbol and abbreviation definitions

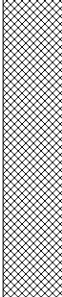


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 32.0 AHD
COORDINATE: E:328142.4, N:6258628.4
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH7
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED														SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS				
18/02/25 NFGWO		0.10	FILL / Silty SAND: brown; fine to medium; low to medium plasticity silt; trace igneous gravel and rootlets.		FILL	ND		D			ES							
			Clayey SAND: yellow-brown; fine to coarse; low to medium plasticity clay; trace sandstone gravel.		RS	ND		D			ES							
			Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..															
NOTES: ^(*) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.																		

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

Refer to explanatory notes for symbol and abbreviation definitions

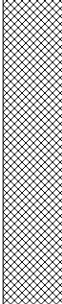
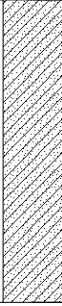


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 21.0 AHD
COORDINATE: E:328160.3, N:6258565.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH8
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

GROUNDWATER		CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS			
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
18/02/25 NFGWO		FILL / Silty SAND: brown; fine to medium; low to medium plasticity silt; trace igneous gravel and rootlets.		FILL	ND		D			ES	0.10		
	0.20	Clayey SAND: yellow-brown; fine to medium; low to medium plasticity clay; trace sandstone gravel.		RS	ND		D			ES	0.20		
		Test Pit discontinued at 0.30m depth. Refusal on inferred sandstone bedrock..											

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmark. RL's measure to the nearest 0.5m using lidar survey.s

Refer to explanatory notes for symbol and abbreviation definitions

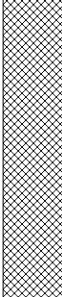


TEST PIT LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Residential Development
LOCATION: 6-8 Julius Ave, North Ryde, NSW

SURFACE LEVEL: 21.5 AHD
COORDINATE: E:328181.4, N:6258604.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH9
PROJECT No: 233059.01
DATE: 18/02/25
SHEET: 1 of 1

GROUNDWATER		CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS				
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
18/02/25 NFGWO	0.10	FILL / Silty SAND: pale brown; fine to medium; low to medium plasticity silt; trace igneous gravel and rootlets.		FILL	ND	D				ES		0.10		
		Clayey SAND: yellow-brown; fine to coarse; low to medium plasticity clay; trace sandstone.		RS	ND	D				ES				
		Test Pit discontinued at 0.20m depth. Refusal on inferred sandstone bedrock..												

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Hand Tools

OPERATOR: NW

LOGGED: NW

METHOD:

REMARKS: GPS coordinates were estimated using visual landmarks. RL's measure to the nearest 0.5m using lidar survey.

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328051.4, N:6258683.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH101
PROJECT No: 233059.00
DATE: 17/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED													SAMPLE				TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
		0.79	SANDSTONE: fine to medium grained, pale orange and grey, inferred from surface and cuttings				RS XW H DW H SW T ER													
	35	1	SANDSTONE: pale orange and pale grey, fine to medium grained, very thickly bedded with distinct crossbedding, <1% carbonaceous flecks; unbroken. Hawkesbury Sandstone				MW possibly	0.79	(H)									1	PLT	PL(A)=1.1MPa
	34	2									100	100						2	PLT	PL(A)=1.0MPa
	33	3							H									3	PLT	PL(A)=1.1MPa
	32	4																4	PLT	PL(A)=1.0MPa
	31	5					MW to SW	4.78		100	98		4.78m: B, 10°, PR, VNR Clay, RF 4.90m: B, 40°, PR, CN, RF 4.94m: B, 10°, PR, VNR Clay, RF				5	PLT	PL(A)=0.75MPa	
	30	6							M								6	PLT	PL(A)=0.55MPa	
	29	7						6.70									7	PLT	PL(A)=1.2MPa	
	28	8							H	100	100						8	PLT	PL(A)=1.8MPa	
	27	9															9	PLT	PL(A)=1.0MPa	
			Borehole discontinued at 9.55m depth. target depth reached.																	
	6																			

NOTES: #Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
METHOD: RR to 0.79m, then NMLC to 9.55m
REMARKS:

OPERATOR: Groundtest (JJ)

LOGGED: E Benajmin
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



CORE PHOTO LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328051.4, N:6258683.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH101
PROJECT No: 233059.00
DATE: 17/02/25
SHEET: 1 of 1



0.79-5.00 m depth



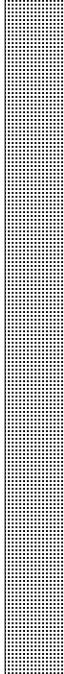
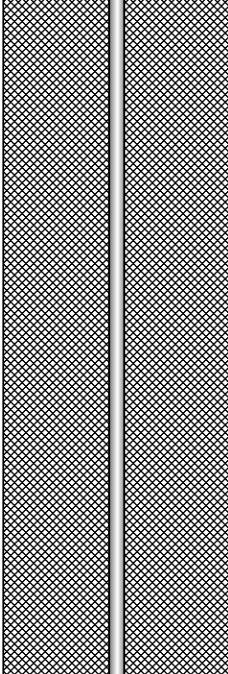
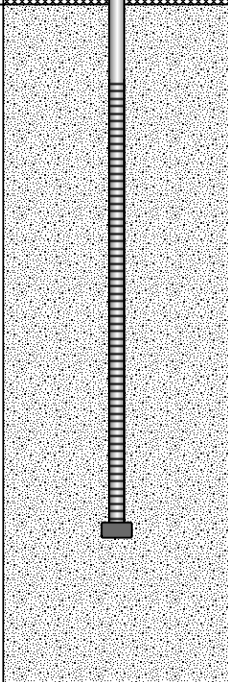
5.00-9.55 m depth

WELL INSTALLATION LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328051.6, N:6258684.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH101A
PROJECT No: 233059.00
DATE: 19/02/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED				WELL INSTALLATION			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	BACKFILL	DIAGRAM	WELL DETAILS
▼ 26/02/25	35	1	SANDSTONE: see BH101 for detailed geotechnical information.		Bentonite		Plain screen
	34	2					
	33	3					
	32	4					
	31	5	Borehole discontinued at 9.00m depth. target depth reached.		Sand		Slotted screen
	30	6					
	29	7					
	28	8					
	27	9					
	26		Borehole discontinued at 9.00m depth. target depth reached.				

NOTES:  Soil origin is "probable" unless otherwise stated.  Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: #Soil origin is "probable" unless otherwise stated. *Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Bobcat

OPERATOR: Groundtest (JJ)

LOGGED: E Benjamin

METHOD: RR to 9m

CASING: Nil

REMARKS: Well has 1.0m stick up - hole drilled for well installation.

Refer to explanatory notes for symbol and abbreviation definitions

BOREHOLE LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328100.5, N:6258671.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH102
PROJECT No: 233059.00
DATE: 17/02/25
SHEET: 1 of 2

CONDITIONS ENCOUNTERED											SAMPLE			TESTING		
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
	0.68	SANDSTONE: fine to medium grained, pale grey, inferred from surface and cuttings		SW possibly	0.68	(H)									PLT	PL(A)=1.2MPa
	1	SANDSTONE: pale grey, medium grained, very thickly bedded with distinct crossbedding, <1% carbonaceous flecks; unbroken. Hawkesbury Sandstone												1	PLT	PL(A)=1.7MPa
	2						100	100						2	PLT	PL(A)=1.9MPa
	3													3		
	4													4	PLT	PL(A)=1.4MPa
	5			FR		H	100	100						5	PLT	PL(A)=1.1MPa
	6													6	PLT	PL(A)=1.4MPa
	7													7	PLT	PL(A)=1.0MPa
	8						100	100						8	PLT	PL(A)=1.4MPa
	9													9	PLT	PL(A)=1.3MPa
	10	Borehole discontinued at 10.00m depth. target depth reached.								734m B 0-5°, PR, CN, RF					PLT	PL(A)=1.2MPa

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
METHOD: RR to 0.68m, then NMLC to 10m
REMARKS:

OPERATOR: Groundtest (JJ)

LOGGED: R Fernando
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



CORE PHOTO LOG

CLIENT: ISPT Pty Ltd

PROJECT: Proposed Data Centre Development

LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD

COORDINATE: E:328100.5, N:6258671.0

DATUM/GRID: MGA2020 Zone 56

DIP/AZIMUTH: 90°/---°

LOCATION ID: BH102

PROJECT No: 233059.00

DATE: 17/02/25

SHEET: 1 of 1



0.68-5.00 m depth



5.00-10.00 m depth

BOREHOLE LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328115.3, N:6258723.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH103
PROJECT No: 233059.00
DATE: 18/02/25
SHEET: 1 of 2

CONDITIONS ENCOUNTERED													SAMPLE			TESTING						
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
		0.75	SANDSTONE: fine to medium grained, pale orange and grey, inferred from surface and cuttings				MW possibly	0.75	(H)													
		1	SANDSTONE: pale grey and orange-brown, medium grained, very thickly bedded with distinct crossbedding, <1% carbonaceous flecks; slightly fractured then unbroken. Hawkesbury Sandstone				MW to SW			100	99		1.19m: EW, 10mm 1.31m: EW, 5mm				1	PLT	PL(A)=1.2MPa	Bentonite		
		2															2	PLT	PL(A)=1.7MPa			
		3															3	PLT	PL(A)=1.9MPa			
		4	From 4.00m: pale grey					4.00									4	PLT	PL(A)=1.4MPa			
		5								100	100						5	PLT	PL(A)=1.1MPa			
		6															6	PLT	PL(A)=1.4MPa	Sand		
		7					FR										7	PLT	PL(A)=1.2MPa			
		8								100	100						8	PLT	PL(A)=1.5MPa			
		9															9	PLT	PL(A)=1.6MPa	Bentonite		
		10	Borehole discontinued at 10.00m depth. target depth reached.															10	PLT	PL(A)=1.9MPa		

NOTES: [#]Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat

OPERATOR: Groundtest (JJ)

LOGGED: L Straney

METHOD: RR to 0.75m, then NMLC to 10m

CASING: Uncased

REMARKS: RR to 8.0m after target depth reached for well installation. Well has 1.0m stick up.

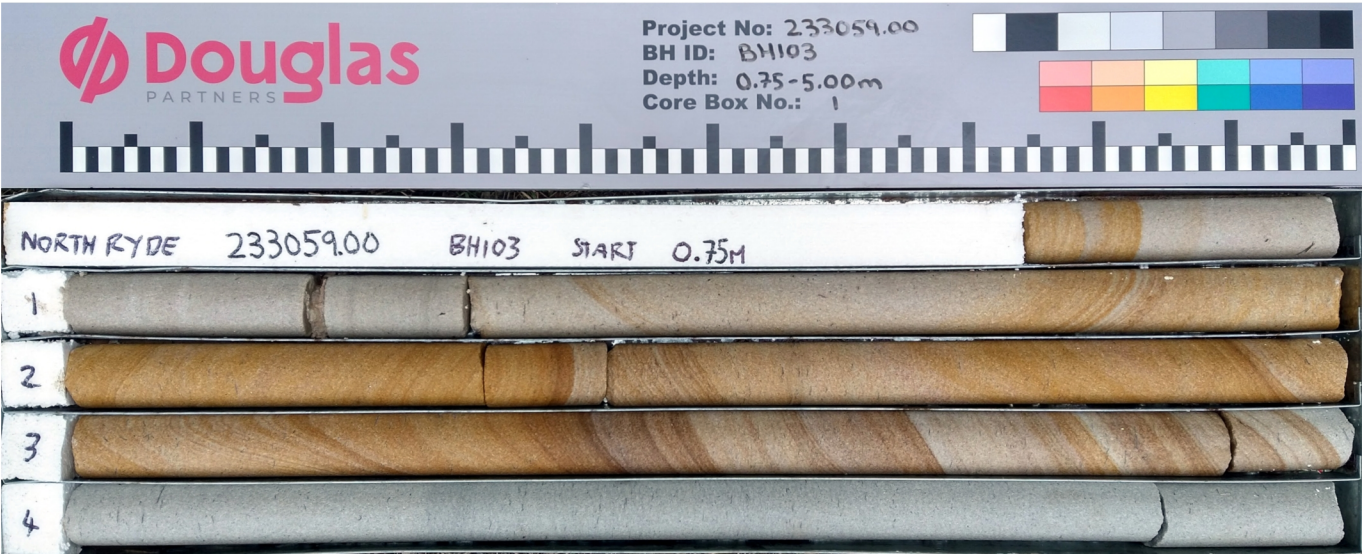
Refer to explanatory notes for symbol and abbreviation definitions

CORE PHOTO LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328115.3, N:6258723.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH103
PROJECT No: 233059.00
DATE: 18/02/25
SHEET: 1 of 1



0.75-5.00 m depth



5.00-10.00 m depth

BOREHOLE LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328057.3, N:6258630.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH105
PROJECT No: 233059.00
DATE: 14/02/25
SHEET: 1 of 2

CONDITIONS ENCOUNTERED											SAMPLE			TESTING					
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
				PS SW HW MW SW FR	DW				VL L M H VH EH										

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
METHOD: RR to 0.66m, then NMLC to 15.71m
REMARKS:

OPERATOR: Groundtest (JJ)

LOGGED: R Fernando
CASING: Uncased

BOREHOLE LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328057.3, N:6258630.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH105
PROJECT No: 233059.00
DATE: 14/02/25
SHEET: 2 of 2

CONDITIONS ENCOUNTERED																		SAMPLE				TESTING	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.				DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
			[CONT] SANDSTONE: pale grey, medium grained, massive; unbroken. Hawkesbury Sandstone				PS XW HW MW SW FR																
	25	11																			11	PLT	PL(A)=1.1MPa
	24	12																			12	PLT	PL(A)=1.2MPa
	23	13.00																					
	22	14	SANDSTONE: pale grey, medium grained, very thickly bedded, with carbonaceous flecks and 5-15mm ø siltstone clasts; unbroken. Hawkesbury Sandstone				FR														13		
	21	15																			14	PLT	PL(A)=1.3MPa
			15.56m: siltstone band 20mm																		15	PLT	PL(A)=1.1MPa
	20	16	Borehole discontinued at 15.71m depth. target depth reached.																				
	19	17																					
	18	18																					
	17	19																					
	16																						

NOTES: [#]Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
METHOD: RR to 0.66m, then NMLC to 15.71m
REMARKS:

OPERATOR: Groundtest (JJ)

LOGGED: R Fernando
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



CORE PHOTO LOG

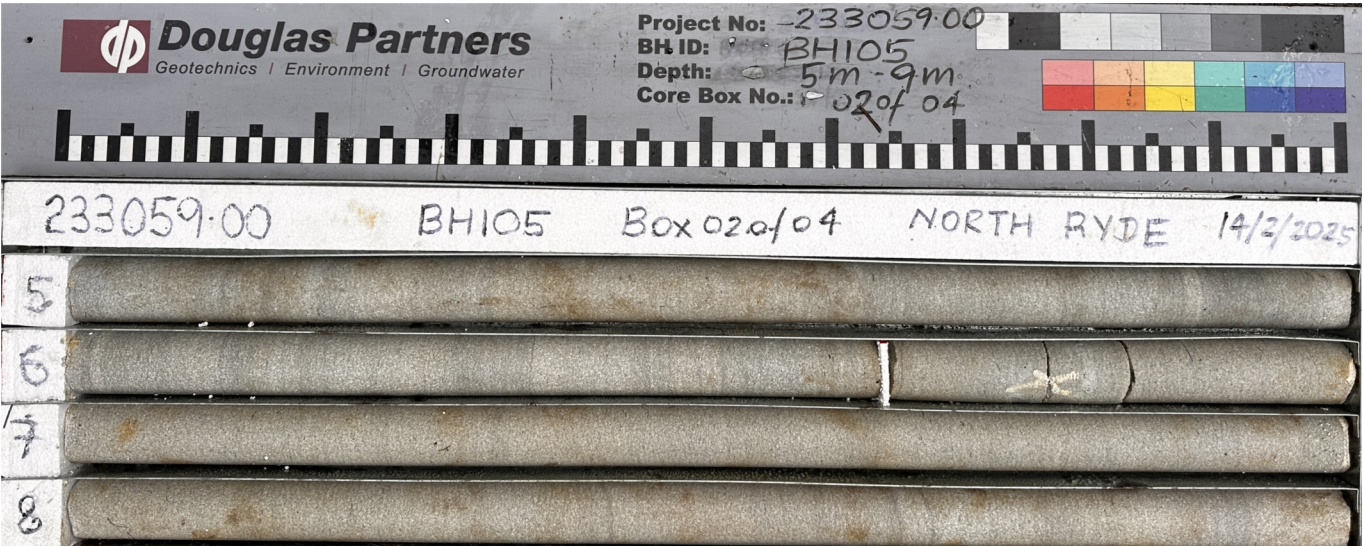
CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD
COORDINATE: E:328057.3, N:6258630.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH105
PROJECT No: 233059.00
DATE: 14/02/25
SHEET: 1 of 2



0.66-5.00 m depth



5.00-9.00 m depth

CORE PHOTO LOG

CLIENT: ISPT Pty Ltd

PROJECT: Proposed Data Centre Development

LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 35.9 AHD

COORDINATE: E:328057.3, N:6258630.1

DATUM/GRID: MGA2020 Zone 56

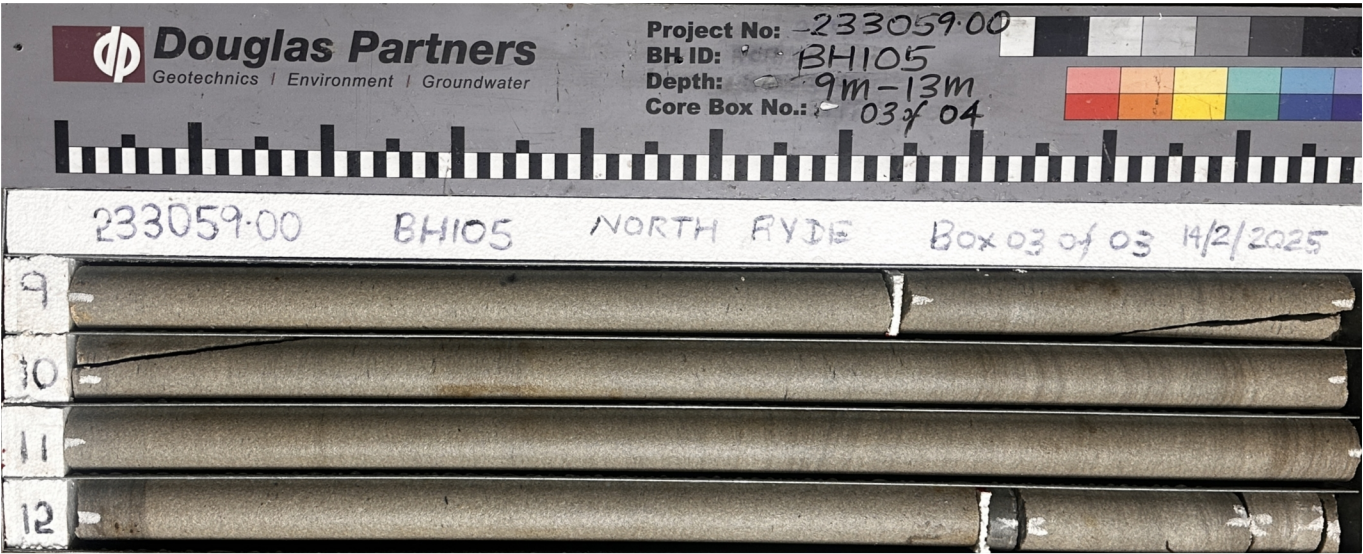
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH105

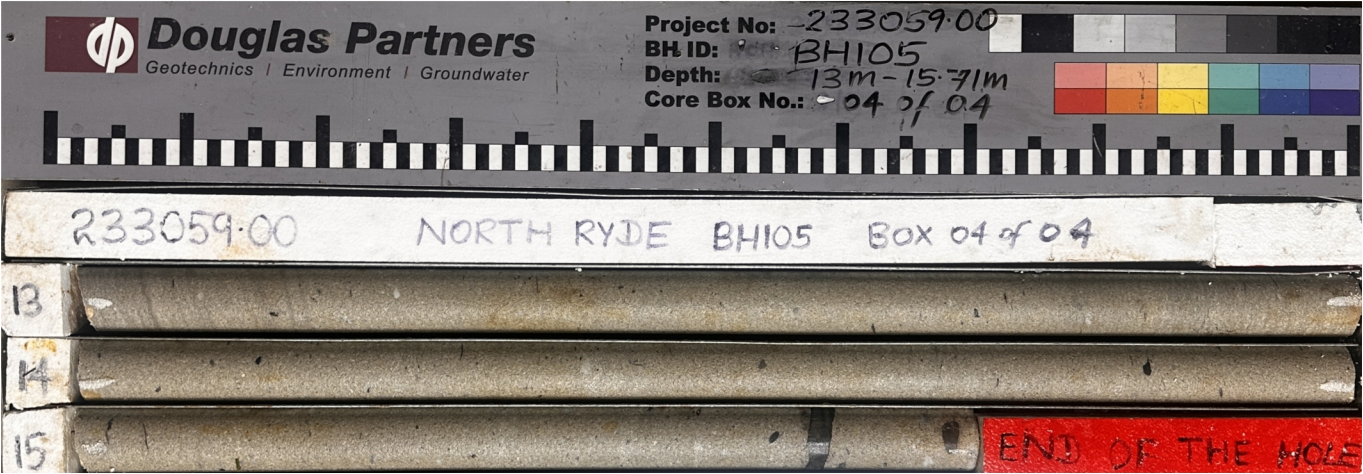
PROJECT No: 233059.00

DATE: 14/02/25

SHEET: 2 of 2



9.00-13.00 m depth



13.00-15.71 m depth

BOREHOLE LOG

CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 36.0 AHD
COORDINATE: E:328100.8, N:6258638.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH106
PROJECT No: 233059.00
DATE: 19/02/25
SHEET: 1 of 2

CONDITIONS ENCOUNTERED													SAMPLE			TESTING					
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
	0.68	SANDSTONE: fine to medium grained, pale orange and grey, inferred from surface and cuttings				FR possibly	0.68	(M) (H)				0.68m: All breaks are handling and drilling breaks						PLT	PL(A)=0.70MPa		
	1	SANDSTONE: pale grey, medium grained, very thickly bedded, <1% carbonaceous flecks; unbroken. Hawkesbury Sandstone				FR			100	100							1	PLT	PL(A)=0.76MPa		
	2																2	PLT	PL(A)=1.1MPa		
	3																3	PLT	PL(A)=0.63MPa		
	4	3.64m-4.12m: orange-brown and pale grey, distinct bedding				MW	3.64										4	PLT	PL(A)=0.99MPa		
	5						4.12										5	PLT	PL(A)=0.94MPa		
	6							M to H	100	100							6	PLT	PL(A)=1.1MPa		
	7					FR											7	PLT	PL(A)=0.86MPa		
	8								100	100							8	PLT	PL(A)=0.73MPa		
	9																9	PLT	PL(A)=1.1MPa		
		Borehole discontinued at 10.00m depth. target depth reached.															PLT	PL(A)=0.90MPa			

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat

OPERATOR: Groundtest (JJ)

LOGGED: E Vega

METHOD: RR to 0.68m, then NMLC to 10m

CASING: Uncased

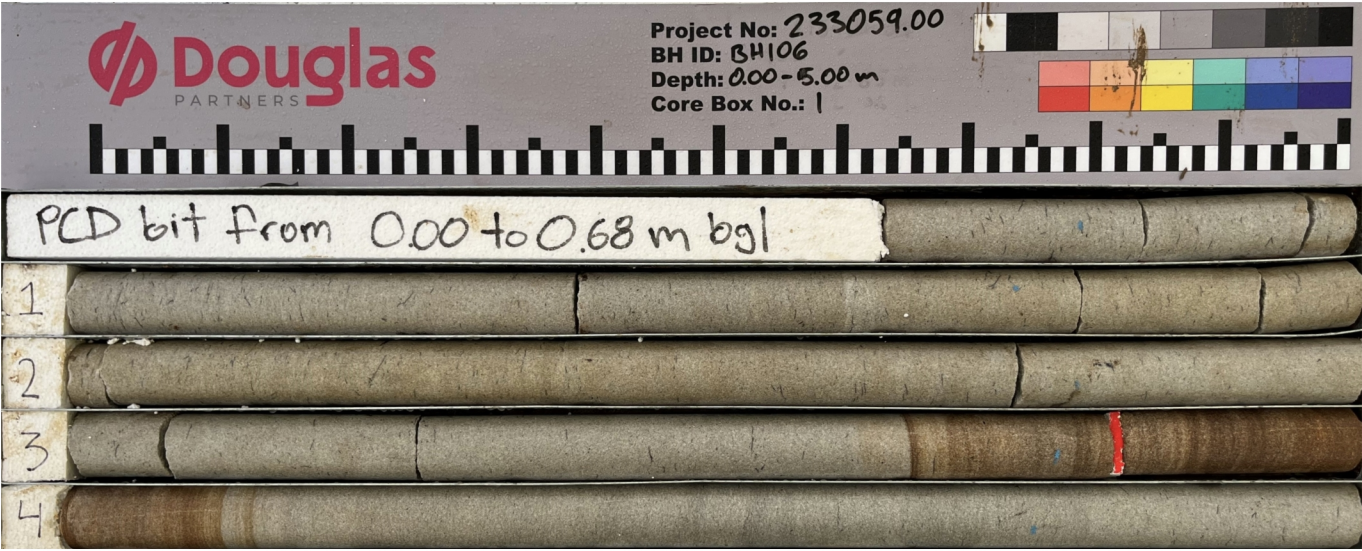
REMARKS: RR to 9.0m after target depth reached for well installation. Well has 1.0m stick up.

CORE PHOTO LOG

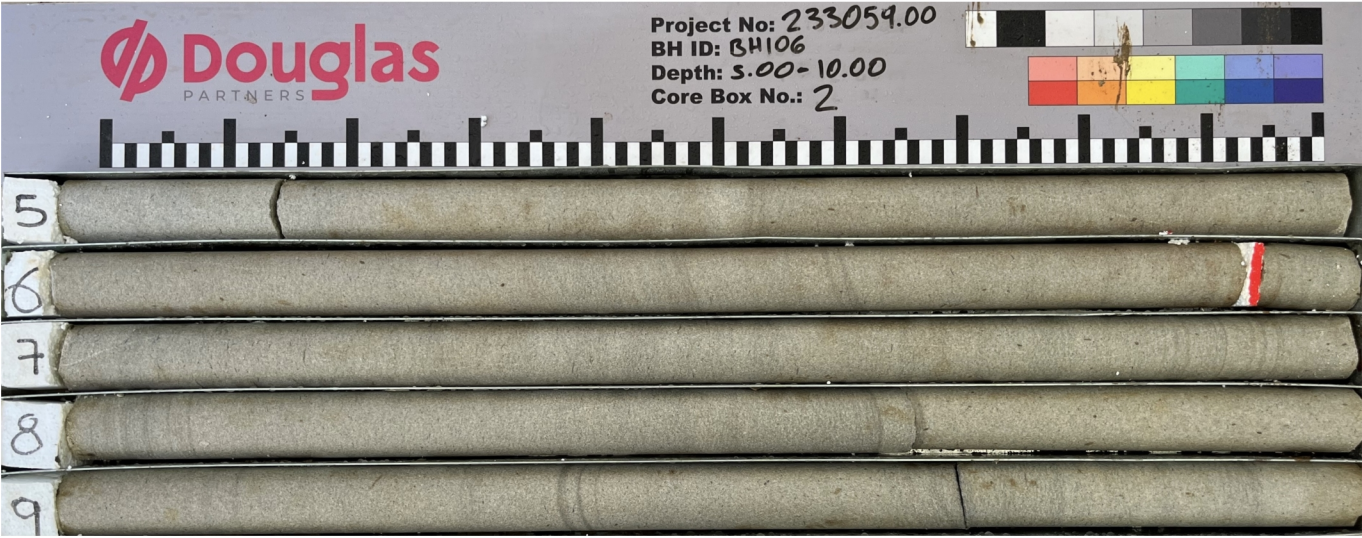
CLIENT: ISPT Pty Ltd
PROJECT: Proposed Data Centre Development
LOCATION: 6-8 Julius Avenue, North Ryde, NSW

SURFACE LEVEL: 36.0 AHD
COORDINATE: E:328100.8, N:6258638.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH106
PROJECT No: 233059.00
DATE: 19/02/25
SHEET: 1 of 1



0.68-5.00 m depth



5.00-10.00 m depth

Introduction to Terminology, Symbols and Abbreviations

Douglas Partners' reports, investigation logs, and other correspondence may use terminology which has quantitative or qualitative connotations. To remove ambiguity or uncertainty surrounding the use of such terms, the following sets of notes pages may be attached Douglas Partners' reports, depending on the work performed and conditions encountered:

- Soil Descriptions;
- Rock Descriptions; and
- Sampling, insitu testing, and drilling methodologies

In addition to these pages, the following notes generally apply to most documents.

Abbreviation Codes

Site conditions may also be presented in a number of different formats, such as investigation logs, field mapping, or as a written summary. In some of these formats textual or symbolic terminology may be presented using textual abbreviation codes or graphic symbols, and, where commonly used, these are listed alongside the terminology definition. For ease of identification in these note pages, textual codes are presented in these notes in the following style **XW**. Code usage conforms with the following guidelines:

- Textual codes are case insensitive, although herein they are generally presented in upper case; and
- Textual codes are contextual (i.e. the same or similar combinations of characters may be used in different contexts with different meanings (for example `PL` is used for plastic limit in the context of soil moisture condition, as well as in `PL(A)` for point load test result in the testing results column)).

Data Integrity Codes

Subsurface investigation data recorded by Douglas Partners is generally managed in a highly structured database environment, where records "span" between a top and bottom depth interval. Depth interval "gaps" between records are considered to introduce ambiguity, and, where appropriate, our practice guidelines may require contiguous data sets. Recording meaningful data is not always appropriate (for example assigning a "strength" to a concrete pavement) and the following codes may be used to maintain contiguity in such circumstances.

Term	Description	Abbreviation Code
Core loss	No core recovery	KL
Unknown	Information was not available to allow classification of the property. For example, when auguring in loose, saturated sand auger cuttings may not be returned.	UK
No data	Information required to allow classification of the property was not available. For example if drilling is commenced from the base of a hole predrilled by others	ND
Not Applicable	Derivation of the properties not appropriate or beyond the scope of the investigation. For example providing a description of the strength of a concrete pavement	NA

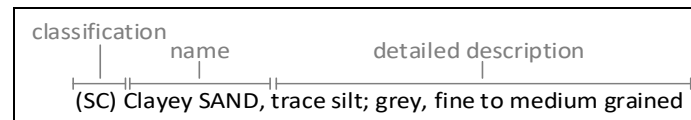
Graphic Symbols

Douglas Partners' logs contain a "graphic" column which provides a pictorial representation of the basic composition of the material. The symbols used are directly representing the material name stated in the adjacent "Description of Strata" column, and as such no specific graphic symbology legend has been provided in these notes.

intentionally blank

Introduction

All materials which are not considered to be “in-situ rock” are described in general accordance with the soil description model of AS 1726-2017 Part 6.1.3, and can be broken down into the following description structure:



The “classification” comprises a two character “group symbol” providing a general summary of dominant soil characteristics. The “name” summarises the particle sizes within the soil which most influence its behaviour. The detailed description presents more information about composition, condition, structure, and origin of the soil.

Classification, naming and description of soils require the relative proportion of particles of different sizes within the whole soil mixture to be considered.

Particle size designation and Behaviour Model

Solid particles within a soil are differentiated on the basis of size.

The engineering behaviour properties of a soil can subsequently be modelled to be either “fine grained” (also known as “cohesive” behaviour) or “coarse grained” (“non cohesive” behaviour), depending on the relative proportion of fine or coarse fractions in the soil mixture.

Particle Size Designation	Particle Size (mm)	Behaviour Model	
		Behaviour	Approximate Dry Mass
Boulder	>200	Excluded from particle behaviour model as “oversize”	
Cobble	63 - 200		
Gravel ¹	2.36 - 63	Coarse	>65%
Sand ¹	0.075 - 2.36		
Silt	0.002 - 0.075	Fine	>35%
Clay	<0.002		

¹ – refer grain size subdivision descriptions below

The behaviour model boundaries defined above are not precise, and the material behaviour should be assumed from the name given to the material (which considers the particle fraction which dominates the behaviour, refer “component proportions” below), rather than strict observance of the proportions of particle sizes. For example, if a material is named a “Sandy CLAY”, this is indicative that the material exhibits fine grained behaviour, even if the dry mass of coarse grained material may exceed 65%.

Component proportions

The relative proportion of the dry mass of each particle size fraction is assessed to be a “primary”, “secondary”, or “minor” component of the soil mixture, depending on its influence over the soil behaviour.

Component Proportion Designation	Definition ¹	Relative Proportion	
		In Fine Grained Soil	In Coarse Grained Soil
Primary	The component (particle size designation, refer above) which dominates the engineering behaviour of the soil	The clay/silt component with the greater proportion	The sand/gravel component with the greater proportion
Secondary	Any component which is not the primary, but is significant to the engineering properties of the soil	Any component with greater than 30% proportion	Any granular component with greater than 30%; or Any fine component with greater than 12%
Minor ²	Present in the soil, but not significant to its engineering properties	All other components	All other components

¹ As defined in AS1726-2017 6.1.4.4

² In the detailed material description, minor components are split into two further sub-categories. Refer “identification of minor components” below.

Composite Materials

In certain situations, a lithology description may describe more than one material, for example, collectively describing a layer of interbedded sand and clay. In such a scenario, the two materials would be described independently, with the names preceded or followed by a statement describing the arrangement by which the materials co-exist. For example, “INTERBEDDED Silty CLAY AND SAND”.

Classification

The soil classification comprises a two character group symbol. The first character identifies the primary component. The second character identifies either the grading or presence of fines in a coarse grained soil, or the plasticity in a fine grained soil. Refer AS1726-2017 6.1.6 for further clarification.

Soil Name

For most soils, the name is derived with the primary component included as the noun (in upper case), preceded by any secondary components stated in an adjective form. In this way, the soil name also describes the general composition and indicates the dominant behaviour of the material.

Component ¹	Prominence in Soil Name
Primary	Noun (eg "CLAY")
Secondary	Adjective modifier (eg "Sandy")
Minor	No influence

¹ – for determination of component proportions, refer component proportions on previous page

For materials which cannot be disaggregated, or which are not comprised of rock or mineral fragments, the names "ORGANIC MATTER" or "ARTIFICIAL MATERIAL" may be used, in accordance with AS1726-2017 Table 14.

Commercial or colloquial names are not used for the soil name where a component derived name is possible (for example "Gravelly SAND" rather than "CRACKER DUST").

Materials of "fill" or "topsoil" origin are generally assigned a name derived from the primary/secondary component (where appropriate). In log descriptions this is preceded by uppercase "FILL" or "TOPSOIL". Origin uncertainty is indicated in the description by the characters (?), with the degree of uncertainty described (using the terms "probably" or "possibly" in the origin column, or at the end of the description).

Identification of minor components

Minor components are identified in the soil description immediately following the soil name. The minor component fraction is usually preceded with a term indicating the relative proportion of the component.

Minor Component Proportion Term	Relative Proportion	
	In Fine Grained Soil	In Coarse Grained Soil
With	All fractions: 15-30%	Clay/silt: 5-12% sand/gravel: 15-30%
Trace	All fractions: 0-15%	Clay/silt: 0-5% sand/gravel: 0-15%

The terms "with" and "trace" generally apply only to gravel or fine particle fractions. Where cobbles/boulders are encountered in minor proportions (generally less than about 12%) the term "occasional" may be used. This term describes the sporadic distribution of the material within the confines of the investigation excavation only, and there may be considerable variation in proportion over a wider area which is difficult to factually characterise due to the relative size of the particles and the investigation methods.

Soil Composition

Plasticity

Descriptive Term	Laboratory liquid limit range	
	Silt	Clay
Non-plastic materials	Not applicable	Not applicable
Low plasticity	≤50	≤35
Medium plasticity	Not applicable	>35 and ≤50
High plasticity	>50	>50

Note, Plasticity descriptions generally describe the plasticity behaviour of the whole of the fine grained soil, not individual fine grained fractions.

Grain Size

Type	Particle size (mm)	
	Coarse	Fine
Gravel	19 - 63	6.7 - 19
	6.7 - 19	2.36 - 6.7
	2.36 - 6.7	0.6 - 2.36
Sand	0.6 - 2.36	0.21 - 0.6
	0.21 - 0.6	0.075 - 0.21
	0.075 - 0.21	

Grading

Grading Term	Particle size (mm)
Well	A good representation of all particle sizes
Poorly	An excess or deficiency of particular sizes within the specified range
Uniformly	Essentially of one size
Gap	A deficiency of a particular size or size range within the total range

Note, AS1726-2017 provides terminology for additional attributes not listed here.

Soil Condition

Moisture

The moisture condition of soils is assessed relative to the plastic limit for fine grained soils, while for coarse grained soils it is assessed based on the appearance and feel of the material. The moisture condition of a material is considered to be independent of stratigraphy (although commonly these are related), and this data is presented in its own column on logs.

Applicability	Term	Tactile Assessment	Abbreviation code
Fine	Dry of plastic limit	Hard and friable or powdery	w<PL
	Near plastic limit	Can be moulded	w=PL
	Wet of plastic limit	Water residue remains on hands when handling	w>PL
	Near liquid limit	"oozes" when agitated	w=LL
	Wet of liquid limit	"oozes"	w>LL
Coarse	Dry	Non-cohesive and free running	D
	Moist	Feels cool, darkened in colour, particles may stick together	M
	Wet	Feels cool, darkened in colour, particles may stick together, free water forms when handling	W

The abbreviation code **NDF**, meaning "not-assessable due to drilling fluid use" may also be used.

Note, observations relating to free ground water or drilling fluids are provided independent of soil moisture condition.

Consistency/Density/Compaction/Cementation/Extremely Weathered Material

These concepts give an indication of how the material may respond to applied forces (when considered in conjunction with other attributes of the soil). This behaviour can vary independent of the composition of the material, and on logs these are described in an independent column and are generally mutually exclusive (i.e it is inappropriate to describe both consistency and compaction at the same time). The method by which the behaviour is described depends on the behaviour model and other characteristics of the soil as follows:

- In fine grained soils, the "consistency" describes the ease with which the soil can be remoulded, and is generally correlated against the materials undrained shear strength;
- In granular materials, the relative density describes how tightly packed the particles are, and is generally correlated against the density index;
- In anthropogenically modified materials, the compaction of the material is described qualitatively;
- In cemented soils (both natural and anthropogenic), the cemented "strength" is described qualitatively, relative to the difficulty with which the material is disaggregated; and
- In soils of extremely weathered material origin, the engineering behaviour may be governed by relic rock features, and expected behaviour needs to be assessed based the overall material description.

Quantitative engineering performance of these materials may be determined by laboratory testing or estimated by correlated field tests (for example penetration or shear vane testing). In some cases, performance may be assessed by tactile or other subjective methods, in which case investigation logs will show the estimated value enclosed in round brackets, for example (VS).

Consistency (fine grained soils)

Consistency Term	Tactile Assessment	Undrained Shear Strength (kPa)	Abbreviation Code
Very soft	Extrudes between fingers when squeezed	<12	VS
Soft	Mouldable with light finger pressure	>12 - ≤25	S
Firm	Mouldable with strong finger pressure	>25 - ≤50	F
Stiff	Cannot be moulded by fingers	>50 - ≤100	St
Very stiff	Indented by thumbnail	>100 - ≤200	VSt
Hard	Indented by thumbnail with difficulty	>200	H
Friable	Easily crumbled or broken into small pieces by hand	-	Fr

Relative Density (coarse grained soils)

Relative Density Term	Density Index	Abbreviation Code
Very loose	<15	VL
Loose	>15 - ≤35	L
Medium dense	>35 - ≤65	MD
Dense	>65 - ≤85	D
Very dense	>85	VD

Note, tactile assessment of relative density is difficult, and generally requires penetration testing, hence a tactile assessment guide is not provided.

Compaction (anthropogenically modified soil)

Compaction Term	Abbreviation Code
Well compacted	WC
Poorly compacted	PC
Moderately compacted	MC
Variably compacted	VC

Cementation (natural and anthropogenic)

Cementation Term	Abbreviation Code
Moderately cemented	MOD
Weakly cemented	WEK

Extremely Weathered Material

AS1726-2017 considers weathered material to be soil if the unconfined compressive strength is less than 0.6 MPa (i.e. less than very low strength rock). These materials may be identified as “extremely weathered material” in reports and by the abbreviation code **XWM** on log sheets. This identification is not correlated to any specific qualitative or quantitative behaviour, and the engineering properties of this material must therefore be assessed according to engineering principles with reference to any relic rock structure, fabric, or texture described in the description.

Soil Origin

Term	Description	Abbreviation Code
Residual	Derived from in-situ weathering of the underlying rock	RS
Extremely weathered material	Formed from in-situ weathering of geological formations. Has strength of less than ‘very low’ as per as1726 but retains the structure or fabric of the parent rock.	XWM
Alluvial	Deposited by streams and rivers	ALV
Fluvial	Deposited by channel fill and overbank (natural levee, crevasse splay or flood basin)	FLV
Estuarine	Deposited in coastal estuaries	EST
Marine	Deposited in a marine environment	MAR
Lacustrine	Deposited in freshwater lakes	LAC
Aeolian	Carried and deposited by wind	AEO
Colluvial	Soil and rock debris transported down slopes by gravity	COL
Slopewash	Thin layers of soil and rock debris gradually and slowly deposited by gravity and possibly water	SW
Topsoil	Mantle of surface soil, often with high levels of organic material	TOP
Fill	Any material which has been moved by man	FILL
Littoral	Deposited on the lake or seashore	LIT
Unidentifiable	Not able to be identified	UID

Cobbles and Boulders

The presence of particles considered to be “oversize” may be described using one of the following strategies:

- Oversize encountered in a minor proportion (when considered relative to the wider area) are noted in the soil description; or
- Where a significant proportion of oversize is encountered, the cobbles/boulders are described independent of the soil description, in a similar manner to composite soils (described above) but qualified with “MIXTURE OF”.

intentionally blank



Rock Strength

Rock strength is defined by the unconfined compressive strength, and it refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects.

The Point Load Strength Index $I_{s(50)}$ is commonly used to provide an estimate of the rock strength and site specific correlations should be developed to allow UCS values to be determined. The point load strength test procedure is described by Australian Standard AS4133.4.1-2007. The terms used to describe rock strength are as follows:

Strength Term	Unconfined Compressive Strength (MPa)	Point Load Index ¹ $I_{s(50)}$ MPa	Abbreviation Code
Very low	0.6 - 2	0.03 - 0.1	VL
Low	2 - 6	0.1 - 0.3	L
Medium	6 - 20	0.3 - 1.0	M
High	20 - 60	1 - 3	H
Very high	60 - 200	3 - 10	VH
Extremely high	>200	>10	EH

¹ Rock strength classification is based on UCS. The UCS to $I_{s(50)}$ ratio varies significantly for different rock types and specific ratios may be required for each site. The point load Index ranges shown above are as suggested in AS1726 and should not be relied upon without supporting evidence.

The following abbreviation codes are used for soil layers or seams of material “within rock” but for which the equivalent UCS strength is less than 0.6 MPa.

Scenario	Abbreviation Code
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The properties of the material encountered over this interval are described in the “Description of Strata” and soil properties columns.	SOIL
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The prominence of the material is such that it can be considered to be a seam (as defined in Table 22 of AS1726-2017) and the properties of the material are described in the defect column.	SEAM

Degree of Weathering

The degree of weathering of rock is classified as follows:

Weathering Term	Description	Abbreviation Code
Residual Soil ¹	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.	RS
Extremely weathered ¹	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible	XW
Highly weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching or may be decreased due to deposition of weathering products in pores.	HW
Moderately weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MW
Slightly weathered	Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.	SW
Fresh	No signs of decomposition or staining.	FR
Note: If HW and MW cannot be differentiated use DW (see below)		
Distinctly weathered	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching or may be decreased due to deposition of weathered products in pores.	DW

¹ The parent rock type, of which the residual/extremely weathered material is a derivative, will be stated in the description (where discernible).

Degree of Alteration

The degree of alteration of the rock material (physical or chemical changes caused by hot gasses or liquids at depth) is classified as follows:

Term	Description	Abbreviation Code
Extremely altered	Material is altered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.	XA
Highly altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is changed by alteration. Some primary minerals are altered to clay minerals. Porosity may be increased by leaching or may be decreased due to precipitation of secondary materials in pores.	HA
Moderately altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MA
Slightly altered	Rock is slightly discoloured but shows little or no change of strength from fresh rock	SA
Note: If HA and MA cannot be differentiated use DA (see below)		
Distinctly altered	Rock strength usually changed by alteration. The rock may be highly discoloured, usually by staining or bleaching. Porosity may be increased by leaching or may be decreased due to precipitation of secondary minerals in pores.	DA

Degree of Fracturing

The following descriptive classification apply to the spacing of natural occurring fractures in the rock mass. It includes bedding plane partings, joints and other defects, but excludes drilling breaks. These terms are generally not required on investigation logs where fracture spacing is presented as a histogram, and where used are presented in an unabbreviated format.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with occasional fragments
Fractured	Core lengths of 30-100 mm with occasional shorter and longer sections
Slightly Fractured	Core lengths of 300 mm or longer with occasional sections of 100-300 mm
Unbroken	Core contains very few fractures

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$RQD \% = \frac{\text{cumulative length of 'sound' core sections} > 100 \text{ mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or stronger. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e., drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

These terms may be used to describe the spacing of bedding partings in sedimentary rocks. Where used, these terms are generally presented in an unabbreviated format

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Rock Descriptions

Terminology
Symbols
Abbreviations

Defect Descriptions

Defect Type

Term	Abbreviation Code
Bedding plane	B
Cleavage	CL
Crushed seam	CS
Crushed zone	CZ
Drilling break	DB
Decomposed seam	DS
Drill lift	DL
Extremely Weathered seam	EW
Fault	F
Fracture	FC
Fragmented	FG
Handling break	HB
Infilled seam	IS
Joint	JT
Lamination	LAM
Shear seam	SS
Shear zone	SZ
Vein	VN
Mechanical break	MB
Parting	P
Sheared Surface	S

Rock Defect Orientation

Term	Abbreviation Code
Horizontal	H
Vertical	V
Sub-horizontal	SH
Sub-vertical	SV

Rock Defect Coating

Term	Abbreviation Code
Clean	CN
Coating	CT
Healed	HE
Infilled	INF
Stained	SN
Tight	TI
Veneer	VNR

Rock Defect Infill

Term	Abbreviation Code
Calcite	CA
Carbonaceous	CBS
Clay	CLAY
Iron oxide	FE
Manganese	MN
Pyrite	Py
Secondary material	MS
Silt	M
Quartz	Qz
Unidentified material	MU

Rock Defect Shape/Planarity

Term	Abbreviation Code
Curved	CU
Discontinuous	DIS
Irregular	IR
Planar	PR
Stepped	ST
Undulating	UN

Rock Defect Roughness

Term	Abbreviation Code
Polished	PO
Rough	RF
Smooth	SM
Slickensided	SL
Very rough	VR

Defect Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

intentionally blank

Sampling and Testing

A record of samples retained, and field testing performed is usually shown on a Douglas Partners' log with samples appearing to the left of a depth scale, and selected field and laboratory testing (including results, where relevant) appearing to the right of the scale, as illustrated below:

SAMPLE			DEPTH (m)	TESTING	
SAMPLE REMARKS	TYPE	INTERVAL		TEST TYPE	RESULTS AND REMARKS
	SPT		1.0 1.45	SPT	4,9,11 N=20

Sampling

The type or intended purpose for which a sample was taken is indicated by the following abbreviation codes.

Sample Type	Code
Auger sample	A
Acid Sulfate sample	ASS
Bulk sample	B
Core sample	C
Disturbed sample	D
Environmental sample	ES
Driven Tube sample	DT
Gas sample	G
Piston sample	P
Sample from SPT test	SPT
Undisturbed tube sample	U ¹
Water sample	W
Material Sample	MT
Core sample for unconfined compressive strength testing	UCS

¹ – numeric suffixes indicate tube diameter/width in mm

The above codes only indicate that a sample was retained, and not that testing was scheduled or performed.

Field and Laboratory Testing

A record that field and laboratory testing was performed is indicated by the following abbreviation codes.

Test Type	Code
Pocket penetrometer (kPa)	PP
Photo ionisation detector (ppm)	PID
Standard Penetration Test x/y = x blows for y mm penetration HB = hammer bouncing HW = fell under weight of hammer	SPT
Shear vane (kPa)	V
Unconfined compressive strength, (MPa)	UCS
Point load test, (MPa), axial (A), diametric (D), irregular (I)	PLT(-)
Dynamic cone penetrometer, followed by blow count penetration increment in mm (cone tip, generally in accordance with AS1289.6.3.2)	DCP9/150
Perth sand penetrometer, followed by blow count penetration increment in mm (flat tip, generally in accordance with AS1289.6.3.3)	PSP/150
Dynamic probe super heavy, followed by blow count penetration increment in mm	DPSH/100

Groundwater Observations

	water seepage/inflow
	water seepage/outflow
	standing or observed water level
NFGWO	no free groundwater observed
OBS	observations obscured by drilling fluids

Drilling or Excavation Methods/Tools

The drilling/excavation methods used to perform the investigation may be shown either in a dedicated column down the left-hand edge of the log, or stated in the log footer. In some circumstances abbreviation codes may be used.

Method	Abbreviation Code
Direct Push	DP
Solid flight auger. Suffixes: /T = tungsten carbide tip, /V = v-shaped tip	AD ¹
Air Track	AT
Diatube	DT ¹
Hand auger	HA ¹
Hand tools (unspecified)	HAND
Existing exposure	X
Hollow flight auger	HSA ¹
HQ coring	HQ3
HMLC series coring	HMLC
NMLC series coring	NMLC
NQ coring	NQ3
PQ coring	PQ3
Predrilled	PD
Push tube	PT ¹
Ripping tyne/ripper	R
Rock roller	RR ¹
Rock breaker/hydraulic hammer	EH
Sonic drilling	SON ¹
Mud/blade bucket	MB ¹
Toothed bucket	TB ¹
Vibrocore	VC ¹
Vacuum excavation	VE
Wash bore (unspecified bit type)	WB ¹

¹ – numeric suffixes indicate tool diameter/width in mm

Appendix J2

Field Sheets

Groundwater (GW) Field Sheet

Project and Bore Installation Details						
Project Name / Site Location					Project Number	
Well Construction Details	Well ID	101A	Drilling Method		Hole Diameter (m)	
	Well Depth (m bgl)		Screened (m bgl)		Stick Up (m)	
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details				
Date / Time / Weather Conditions				Purged By
Purge Method / Equipment				
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)	
GW Level (pre-purge)		m bgl	Observed Well Depth	m bgl
Height of Water Column (H)		m bgl	Estimated Bore Volume*	L
GW Level (post-purge)		m bgl	Total Volume Purged**	L
Appearance/Comments				

Sampling Details					
Date / Time / Weather Conditions	10:11 am 3/3/25 sunny			Sampled By	mw
Sampling Method / Equipment	Perripump				
WQM Model	VS1		WQM Calibration Date	28/2/25	
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)	N/ Interface	
GW Level (pre-micropurge)	0.76	m bgl	Observed Well Depth	8.00	m bgl
Height of Water Column	7.24	m bgl	Estimated Bore Volume*	26 - 30L	L
GW Level (post sample)		m bgl	Total Volume of Micro-Purged		L

Water Quality Parameters							
Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L) [#]	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity [^]
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
	0	21.2	6.67	284	4.05	447.2	26.04
	2.5	20.8	6.32	782	4.13	452.9	26.91
	1.0	20.7	6.32	778	4.17	455.0	25.7
	1.5	20.6	6.32	775	4.19	455.9	27.27
	6.0	20.6	6.32	776	4.20	456.0	28.09
		20.6	6.32	775	4.20	456.3	29.62
Notes:	# Considered stabilised if three DO values are less than 0.5 mg/L			^ Considered stabilised if three Turbidity values are less than 5 NTU			

Sample Details						
Sampling Depth (rationale)		m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)						
Sample ID	101A + BDI/20250303					
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers	Amber glass		Plastic		PFAS (no teflon)	
Quantity / Preservation / Filtration	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter (m)	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

Groundwater (GW) Field Sheet

Project and Bore Installation Details						
Project Name / Site Location					Project Number	
Well Construction Details	Well ID		Drilling Method		Hole Diameter (m)~	
	Well Depth (m bgl)		Screened (m bgl)		Stick Up (m)	1.00 from surface
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details				
Date / Time / Weather Conditions				Purged By
Purge Method / Equipment	Developed from geo			
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)	
GW Level (pre-purge)		m bgl	Observed Well Depth	m bgl
Height of Water Column (H)		m bgl	Estimated Bore Volume*	L
GW Level (post-purge)		m bgl	Total Volume Purged**	L
Appearance/Comments				

Sampling Details				
Date / Time / Weather Conditions		9:30 3/5/25 Overcast		Sampled By NW
Sampling Method / Equipment		Perrypump		
WQM Model		YS1	WQM Calibration Date	28/2/24
Product observed / Thickness		ML mm	Confirmed with Bailer? (Y / N)	N / interface
GW Level (pre-micropurge)		2.47 m bgl	Observed Well Depth	8.00 m bgl
Height of Water Column		0.53 m bgl	Estimated Bore Volume*	~1.96 L
GW Level (post sample)		dry m bgl	Total Volume of Micro-Purged	2-3 L

[illegible]

Sample Details						
Sampling Depth (rationale)	7.5-8m		m bgl,			
Sample Observations (e.g. colour, sediment, sheen, odour)	clear, no sheen, no odour					
Sample ID	106					
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers	Amber glass		Plastic		PFAS (no teflon)	
Quantity / Preservation / Filtration	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter (m) ²	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

Appendix K

Laboratory Documentation

CERTIFICATE OF ANALYSIS 373762

Client Details

Client	Douglas Partners Pty Ltd
Attention	Joel James-Hall
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>233059.01 - North Ryde</u>
Number of Samples	17 Soil
Date samples received	21/02/2025
Date completed instructions received	24/02/2025

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. 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.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/02/2025
Date of Issue	28/02/2025
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Analyst: Amanda Lee
 Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Diego Bigolin, Inorganics Supervisor
 Giovanni Agosti, Group Technical Manager
 Jack Wallis, Senior Chemist
 Josh Williams, Senior R&D Chemist
 Lucy Zhu, Asbestos Supervisor
 Nick Sarlamis, Assistant Operation Manager
 Sean McAlary, Senior Chemist
 Timothy Toll, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		373762-1	373762-2	373762-3	373762-4	373762-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH5
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	96	94	96	93

vTRH(C6-C10)/BTEXN in Soil

Our Reference		373762-6	373762-7	373762-8	373762-9	373762-10
Your Reference	UNITS	BH6	BH6	BH7	BH7	BH8
Depth		0-0.1	0.1-0.2	0-0.1	0.1-0.2	0-0.1
Date Sampled		18/02/2025	18/02/2025	21/02/2025	21/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	28/02/2025	28/02/2025	28/02/2025
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	91	84	89	83

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		373762-11	373762-12	373762-13	373762-14	373762-15
Your Reference	UNITS	BH8	BH9	BH9	BH10	BH11
Depth		0.2-0.3	0-0.1	0.1-0.2	0.1-0.2	0-0.2
Date Sampled		18/02/2025	18/02/2025	18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	28/02/2025	28/02/2025	28/02/2025	28/02/2025	28/02/2025
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	89	83	89	88

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		373762-16	373762-17
Your Reference	UNITS	BD1/20250218	BD1/20250221
Depth		-	-
Date Sampled		18/02/2025	21/02/2025
Type of sample		Soil	Soil
Date extracted	-	25/02/2025	25/02/2025
Date analysed	-	28/02/2025	28/02/2025
TRH C ₆ - C ₉	mg/kg	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25
vTRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	85

svTRH (C10-C40) in Soil

Our Reference		373762-1	373762-2	373762-3	373762-4	373762-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH5
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	170
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	130	140	630
TRH C ₂₉ - C ₃₆	mg/kg	190	210	290	340	1,300
Total +ve TRH (C10-C36)	mg/kg	190	210	420	490	2,100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	220
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	220
TRH >C ₁₆ -C ₃₄	mg/kg	180	210	310	370	1,300
TRH >C ₃₄ -C ₄₀	mg/kg	180	200	250	260	1,600
Total +ve TRH (>C10-C40)	mg/kg	360	410	560	620	3,200
Surrogate o-Terphenyl	%	112	114	130	116	87

svTRH (C10-C40) in Soil

Our Reference		373762-6	373762-7	373762-8	373762-9	373762-10
Your Reference	UNITS	BH6	BH6	BH7	BH7	BH8
Depth		0-0.1	0.1-0.2	0-0.1	0.1-0.2	0-0.1
Date Sampled		18/02/2025	18/02/2025	21/02/2025	21/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	220	110	240	260	120
Total +ve TRH (C10-C36)	mg/kg	220	110	240	260	120
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	220	<100	250	200	130
TRH >C ₃₄ -C ₄₀	mg/kg	170	<100	180	120	<100
Total +ve TRH (>C10-C40)	mg/kg	390	<50	430	320	130
Surrogate o-Terphenyl	%	112	106	110	116	106

svTRH (C10-C40) in Soil

Our Reference		373762-11	373762-12	373762-13	373762-14	373762-15
Your Reference	UNITS	BH8	BH9	BH9	BH10	BH11
Depth		0.2-0.3	0-0.1	0.1-0.2	0.1-0.2	0-0.2
Date Sampled		18/02/2025	18/02/2025	18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	110
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	110
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	106	102	104	108	106

svTRH (C10-C40) in Soil

Our Reference		373762-16	373762-17
Your Reference	UNITS	BD1/20250218	BD1/20250221
Depth		-	-
Date Sampled		18/02/2025	21/02/2025
Type of sample		Soil	Soil
Date extracted	-	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	110
Total +ve TRH (C10-C36)	mg/kg	<50	110
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	106	104

PAHs in Soil						
Our Reference		373762-1	373762-2	373762-3	373762-4	373762-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH5
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	73	80	78	79	78

PAHs in Soil						
Our Reference		373762-6	373762-7	373762-8	373762-9	373762-10
Your Reference	UNITS	BH6	BH6	BH7	BH7	BH8
Depth		0-0.1	0.1-0.2	0-0.1	0.1-0.2	0-0.1
Date Sampled		18/02/2025	18/02/2025	21/02/2025	21/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	26/02/2025	27/02/2025	27/02/2025
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	79	81	62	78	78

PAHs in Soil						
Our Reference		373762-11	373762-12	373762-13	373762-14	373762-15
Your Reference	UNITS	BH8	BH9	BH9	BH10	BH11
Depth		0.2-0.3	0-0.1	0.1-0.2	0.1-0.2	0-0.2
Date Sampled		18/02/2025	18/02/2025	18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	27/02/2025	27/02/2025	26/02/2025
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	79	75	76	76	71

PAHs in Soil			
Our Reference		373762-16	373762-17
Your Reference	UNITS	BD1/20250218	BD1/20250221
Depth		-	-
Date Sampled		18/02/2025	21/02/2025
Type of sample		Soil	Soil
Date extracted	-	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025
Naphthalene	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+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	80	78

Organochlorine Pesticides in soil				
Our Reference		373762-1	373762-8	373762-15
Your Reference	UNITS	BH1	BH7	BH11
Depth		0-0.1	0-0.1	0-0.2
Date Sampled		18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-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
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	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 +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	84	71	88

Organophosphorus Pesticides in Soil				
Our Reference		373762-1	373762-8	373762-15
Your Reference	UNITS	BH1	BH7	BH11
Depth		0-0.1	0-0.1	0-0.2
Date Sampled		18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025
Dichlorvos	mg/kg	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	84	71	88

PCBs in Soil				
Our Reference		373762-1	373762-8	373762-15
Your Reference	UNITS	BH1	BH7	BH11
Depth		0-0.1	0-0.1	0-0.2
Date Sampled		18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil
Date extracted	-	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	75	64	74

Acid Extractable metals in soil

Our Reference		373762-1	373762-2	373762-3	373762-4	373762-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH5
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
Arsenic	mg/kg	<4	5	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	3	9	4	6
Copper	mg/kg	5	3	3	2	15
Lead	mg/kg	11	7	34	28	31
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	<1	<1	<1	2
Zinc	mg/kg	22	5	10	8	40

Acid Extractable metals in soil

Our Reference		373762-6	373762-7	373762-8	373762-9	373762-10
Your Reference	UNITS	BH6	BH6	BH7	BH7	BH8
Depth		0-0.1	0.1-0.2	0-0.1	0.1-0.2	0-0.1
Date Sampled		18/02/2025	18/02/2025	21/02/2025	21/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	4	4	3	4
Copper	mg/kg	2	1	4	<1	3
Lead	mg/kg	16	11	23	11	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	2	<1	5
Zinc	mg/kg	10	7	13	4	10

Acid Extractable metals in soil

Our Reference		373762-11	373762-12	373762-13	373762-14	373762-15
Your Reference	UNITS	BH8	BH9	BH9	BH10	BH11
Depth		0.2-0.3	0-0.1	0.1-0.2	0.1-0.2	0-0.2
Date Sampled		18/02/2025	18/02/2025	18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	3	5	7	24	9
Copper	mg/kg	6	4	5	11	19
Lead	mg/kg	5	10	18	18	16
Mercury	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1
Nickel	mg/kg	2	3	2	20	16
Zinc	mg/kg	8	23	26	160	52

Acid Extractable metals in soil

Our Reference		373762-16	373762-17	373762-18	373762-19
Your Reference	UNITS	BD1/20250218	BD1/20250221	BH1 - [TRIPLICATE]	BH11 - [TRIPLICATE]
Depth		-	-	0-0.1	0-0.2
Date Sampled		18/02/2025	21/02/2025	18/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025	26/02/2025
Arsenic	mg/kg	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	8	3	9
Copper	mg/kg	3	13	4	13
Lead	mg/kg	21	15	9	15
Mercury	mg/kg	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	<1	17	<1	16
Zinc	mg/kg	13	49	10	50

Misc Soil - Inorg				
Our Reference		373762-1	373762-8	373762-15
Your Reference	UNITS	BH1	BH7	BH11
Depth		0-0.1	0-0.1	0-0.2
Date Sampled		18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	27/02/2025	27/02/2025
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

Client Reference: 233059.01 - North Ryde

Moisture						
Our Reference	UNITS	373762-1	373762-2	373762-3	373762-4	373762-5
Your Reference		BH1	BH2	BH3	BH4	BH5
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
Moisture	%	3.8	4.4	8.6	7.7	14

Moisture						
Our Reference	UNITS	373762-6	373762-7	373762-8	373762-9	373762-10
Your Reference		BH6	BH6	BH7	BH7	BH8
Depth		0-0.1	0.1-0.2	0-0.1	0.1-0.2	0-0.1
Date Sampled		18/02/2025	18/02/2025	21/02/2025	21/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
Moisture	%	9.0	8.1	12	8.1	8.4

Moisture						
Our Reference	UNITS	373762-11	373762-12	373762-13	373762-14	373762-15
Your Reference		BH8	BH9	BH9	BH10	BH11
Depth		0.2-0.3	0-0.1	0.1-0.2	0.1-0.2	0-0.2
Date Sampled		18/02/2025	18/02/2025	18/02/2025	21/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
Moisture	%	10	10	12	9.1	9.4

Moisture			
Our Reference	UNITS	373762-16	373762-17
Your Reference		BD1/20250218	BD1/20250221
Depth		-	-
Date Sampled		18/02/2025	21/02/2025
Type of sample		Soil	Soil
Date prepared	-	25/02/2025	25/02/2025
Date analysed	-	26/02/2025	26/02/2025
Moisture	%	9.3	9.0

Asbestos ID - soils NEPM			
Our Reference		373762-8	373762-15
Your Reference	UNITS	BH7	BH11
Depth		0-0.1	0-0.2
Date Sampled		21/02/2025	21/02/2025
Type of sample		Soil	Soil
Date analysed	-	27/02/2025	27/02/2025
Sample mass tested	g	623.69	927.79
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	—	—
FA and AF Estimation*	g	—	—
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001
Asbestos comments	-	Nil	Nil

Asbestos ID - soils						
Our Reference	UNITS	373762-1	373762-2	373762-3	373762-4	373762-5
Your Reference		BH1	BH2	BH3	BH4	BH5
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
Sample mass tested	g	Approx. 40g	Approx. 65g	Approx. 60g	Approx. 60g	Approx. 35g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Asbestos comments	-	Nil	Nil	Nil	Nil	Nil
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils					
Our Reference	UNITS	373762-6	373762-9	373762-10	373762-12
Your Reference		BH6	BH7	BH8	BH9
Depth		0-0.1	0.1-0.2	0-0.1	0-0.1
Date Sampled		18/02/2025	21/02/2025	18/02/2025	18/02/2025
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	27/02/2025	27/02/2025	27/02/2025	27/02/2025
Sample mass tested	g	Approx. 70g	Approx. 50g	Approx. 70g	Approx. 55g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Asbestos comments	-	Nil	Nil	Nil	Nil
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Misc Inorg - Soil			
Our Reference		373762-6	373762-11
Your Reference	UNITS	BH6	BH8
Depth		0-0.1	0.2-0.3
Date Sampled		18/02/2025	18/02/2025
Type of sample		Soil	Soil
Date prepared	-	24/02/2025	24/02/2025
Date analysed	-	27/02/2025	27/02/2025
pH 1:5 soil:water	pH Units	6.7	5.9

CEC			
Our Reference		373762-6	373762-11
Your Reference	UNITS	BH6	BH8
Depth		0-0.1	0.2-0.3
Date Sampled		18/02/2025	18/02/2025
Type of sample		Soil	Soil
Date prepared	-	28/02/2025	28/02/2025
Date analysed	-	28/02/2025	28/02/2025
Exchangeable Ca	meq/100g	8.3	1.3
Exchangeable K	meq/100g	<0.1	<0.1
Exchangeable Mg	meq/100g	0.7	0.7
Exchangeable Na	meq/100g	<0.1	<0.1
Cation Exchange Capacity	meq/100g	9.0	2.1

PFAS in Soils Short					
Our Reference		373762-1	373762-6	373762-12	373762-15
Your Reference	UNITS	BH1	BH6	BH9	BH11
Depth		0-0.1	0-0.1	0-0.1	0-0.2
Date Sampled		18/02/2025	18/02/2025	18/02/2025	21/02/2025
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	27/02/2025	25/02/2025	25/02/2025	25/02/2025
Date analysed	-	27/02/2025	25/02/2025	25/02/2025	25/02/2025
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.2	1.5	2.6	1.8
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.3	<0.1	0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2
Surrogate ¹³ C ₈ PFOS	%	6.0	103	103	104
Surrogate ¹³ C ₂ PFOA	%	92	103	100	104
Extracted ISTD ¹³ C ₃ PFBS	%	95	102	96	98
Extracted ISTD ¹⁸ O ₂ PFHxS	%	105	98	93	99
Extracted ISTD ¹³ C ₄ PFOS	%	118	96	91	98
Extracted ISTD ¹³ C ₄ PFOA	%	92	99	103	104
Extracted ISTD ¹³ C ₂ 6:2FTS	%	96	165	151	151
Extracted ISTD ¹³ C ₂ 8:2FTS	%	79	179	149	162
Total Positive PFHxS & PFOS	µg/kg	0.2	1.5	2.6	1.8
Total Positive PFOS & PFOA	µg/kg	0.2	1.8	2.6	2.0
Total Positive PFAS	µg/kg	0.2	1.8	2.6	2.0

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. NOTE#1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF relative to the sample mass tested) NOTE#2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "---" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES. Total Phosphate determined stoichiometrically 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.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
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.
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.

Method ID	Methodology Summary
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)-BTX 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)-BTX 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.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	373762-8
Date extracted	-			25/02/2025	1	25/02/2025	25/02/2025		25/02/2025	25/02/2025
Date analysed	-			28/02/2025	1	27/02/2025	27/02/2025		27/02/2025	28/02/2025
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	102	90
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	102	90
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	107	75
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	109	79
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	102	104
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	96	97
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	106	105
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	96	1	95	98	3	94	85

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	15	25/02/2025	25/02/2025		[NT]	[NT]
Date analysed	-			[NT]	15	28/02/2025	28/02/2025		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	15	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	15	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	15	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	15	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	15	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	15	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	15	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	15	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	15	88	89	1	[NT]	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	373762-8
Date extracted	-			25/02/2025	1	25/02/2025	25/02/2025		25/02/2025	25/02/2025
Date analysed	-			27/02/2025	1	27/02/2025	27/02/2025		27/02/2025	27/02/2025
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	1	<50	<50	0	99	87
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	1	<100	<100	0	93	92
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	1	190	230	19	100	#
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	1	<50	<50	0	99	87
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	1	180	210	15	93	92
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	1	180	240	29	100	#
Surrogate o-Terphenyl	%		Org-020	108	1	112	114	2	70	78

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	15	25/02/2025	25/02/2025		[NT]	[NT]
Date analysed	-			[NT]	15	27/02/2025	27/02/2025		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	15	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	15	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	15	110	150	31	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	15	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	15	<100	120	18	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	15	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	15	106	108	2	[NT]	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	373762-8
Date extracted	-			25/02/2025	1	25/02/2025	25/02/2025		25/02/2025	25/02/2025
Date analysed	-			26/02/2025	1	26/02/2025	26/02/2025		26/02/2025	26/02/2025
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	82	80
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	80
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	78
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	78
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	80
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	80
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	98
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	74	78
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	63	1	73	73	0	80	78

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	15	25/02/2025	25/02/2025		[NT]	[NT]
Date analysed	-			[NT]	15	26/02/2025	26/02/2025		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	15	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	15	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	15	71	69	3	[NT]	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	373762-8
Date extracted	-			25/02/2025	1	25/02/2025	25/02/2025		25/02/2025	25/02/2025
Date analysed	-			26/02/2025	1	26/02/2025	26/02/2025		26/02/2025	26/02/2025
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	86	88
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	82
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	78
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	88
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	88	86
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	82
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	88
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	84
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	94
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	86	86
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	74	1	84	88	5	95	100

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	15	25/02/2025	25/02/2025		[NT]	[NT]
Date analysed	-			[NT]	15	26/02/2025	26/02/2025		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	15	88	84	5	[NT]	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	373762-8
Date extracted	-			25/02/2025	1	25/02/2025	25/02/2025		25/02/2025	25/02/2025
Date analysed	-			26/02/2025	1	26/02/2025	26/02/2025		26/02/2025	26/02/2025
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	101
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	86
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	120
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	104
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	96
Fenthion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	110
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	104
Phosalone	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	74	1	84	88	5	95	100

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	15	25/02/2025	25/02/2025		[NT]	[NT]
Date analysed	-			[NT]	15	26/02/2025	26/02/2025		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Fenthion	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Phosalone	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	15	88	84	5	[NT]	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	373762-8
Date extracted	-			25/02/2025	1	25/02/2025	25/02/2025		25/02/2025	25/02/2025
Date analysed	-			26/02/2025	1	26/02/2025	26/02/2025		26/02/2025	26/02/2025
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	84	80
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	65	1	75	78	4	83	83

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	15	25/02/2025	25/02/2025		[NT]	[NT]
Date analysed	-			[NT]	15	26/02/2025	26/02/2025		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	15	74	74	0	[NT]	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	373762-8
Date prepared	-			25/02/2025	1	25/02/2025	25/02/2025		25/02/2025	25/02/2025
Date analysed	-			26/02/2025	1	26/02/2025	26/02/2025		26/02/2025	26/02/2025
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	112	108
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	109	100
Chromium	mg/kg	1	Metals-020	<1	1	4	3	29	107	103
Copper	mg/kg	1	Metals-020	<1	1	5	4	22	104	104
Lead	mg/kg	1	Metals-020	<1	1	11	9	20	108	107
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	102	118
Nickel	mg/kg	1	Metals-020	<1	1	3	<1	100	106	101
Zinc	mg/kg	1	Metals-020	<1	1	22	11	67	110	107

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	15	25/02/2025	25/02/2025		[NT]	[NT]
Date analysed	-			[NT]	15	26/02/2025	26/02/2025		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	15	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	15	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	15	9	8	12	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	15	19	12	45	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	15	16	15	6	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	15	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	15	16	15	6	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	15	52	70	30	[NT]	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			27/02/2025	[NT]	[NT]	[NT]	[NT]	27/02/2025	[NT]
Date analysed	-			27/02/2025	[NT]	[NT]	[NT]	[NT]	27/02/2025	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			24/02/2025	[NT]	[NT]	[NT]	[NT]	24/02/2025	[NT]
Date analysed	-			27/02/2025	[NT]	[NT]	[NT]	[NT]	27/02/2025	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			28/02/2025	[NT]	[NT]	[NT]	[NT]	28/02/2025	[NT]
Date analysed	-			28/02/2025	[NT]	[NT]	[NT]	[NT]	28/02/2025	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	81	[NT]

QUALITY CONTROL: PFAS in Soils Short					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			25/02/2025	[NT]	[NT]	[NT]	[NT]	25/02/2025	[NT]
Date analysed	-			25/02/2025	[NT]	[NT]	[NT]	[NT]	25/02/2025	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
8:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate ¹³ C ₈ PFOS	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate ¹³ C ₂ PFOA	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD ¹³ C ₃ PFBS	%		Org-029	108	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD ¹⁸ O ₂ PFHxS	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD ¹³ C ₄ PFOS	%		Org-029	108	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD ¹³ C ₄ PFOA	%		Org-029	108	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD ¹³ C ₂ 6:2FTS	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD ¹³ C ₂ 8:2FTS	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	108	[NT]

Result Definitions

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

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

TRH Soil C10-C40 NEPM - # Percent recovery for the matrix spike is not possible to report as the high concentration of analytes in sample 373762-8ms have caused interference.

Asbestos-ID in soil: NEPM

This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Acid Extractable Metals in Soil:

- The laboratory RPD acceptance criteria has been exceeded for 373762-1 for Zn. Therefore a triplicate result has been issued as laboratory sample number 373762-18.
- The laboratory RPD acceptance criteria has been exceeded for 373762-15 for Cu. Therefore a triplicate result has been issued as laboratory sample number 373762-19.

MISC_INORG_DRY: pH

Sample #6 was out of the recommended holding time for this analysis.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos according to ASB-001 asbestos subsampling procedure. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab/MPL recommends supplying 40-60g or 500ml of sample in its own container.

Note: Samples 373762-1-6, 9, 10 ,12 were sub-sampled from bags provided by the client.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Joel James-Hall

Sample Login Details

Your reference	233059.01 - North Ryde
Envirolab Reference	373762
Date Sample Received	21/02/2025
Date Instructions Received	24/02/2025
Date Results Expected to be Reported	28/02/2025

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	17 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	6
Cooling Method	Ice
Sampling Date Provided	YES

Comments

No NEPM bag received for BH10 (0-0.1), changed to ID
 Sample BH10 0-0.1 NR

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Asbestos ID - soils NEPM	Asbestos ID - soils	Misc Inorg - Soil	CEC	PFAS in Soils Short
BH1-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓
BH2-0-0.1	✓	✓	✓				✓			✓			
BH3-0-0.1	✓	✓	✓				✓			✓			
BH4-0-0.1	✓	✓	✓				✓			✓			
BH5-0-0.1	✓	✓	✓				✓			✓			
BH6-0-0.1	✓	✓	✓				✓			✓	✓	✓	✓
BH6-0.1-0.2	✓	✓	✓				✓						
BH7-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH7-0.1-0.2	✓	✓	✓				✓			✓			
BH8-0-0.1	✓	✓	✓				✓			✓			
BH8-0.2-0.3	✓	✓	✓				✓				✓	✓	
BH9-0-0.1	✓	✓	✓				✓			✓			✓
BH9-0.1-0.2	✓	✓	✓				✓						
BH10-0.1-0.2	✓	✓	✓				✓						
BH11-0-0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
BD1/20250218	✓	✓	✓				✓						
BD1/20250221	✓	✓	✓				✓						

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.

Project No: 233059.01	Suburb: North Ryde	To: Envirolab Services
Project Manager: Joel James-Hall	Order Number:	Sampler: NW
Email: joel.james-hall@douglaspartners.com.au		Attn: Sample Receipt
Turnaround time: ☒ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day		(02) 9910 6200 samlereceipt@envirolab.com

Prior Storage: ☒ Fridge ☐ Freezer ☒ Esky ☐ Shelf
 Do samples contain 'potential' HBM? ☐ No ☐ Yes (If YES, then handle, transport and store in accordance with FPM HAZID)

Lab ID	Sample ID			Date Sampled	Sample Type	Container Type	Analytes											Notes/ Preservation/ Additional Requirements
	Location / Other ID	Depth From	Depth To		S - soil W - water M - Material	G - glass P - plastic	Combo 8an	combo 3a	Combo 3	PFAS (short suite)	pH, CEC							
1	BH1	0	0.1	18/02/25	S	G,P	X				X							
2	BH2	0	0.1	18/02/25	S	G,P		X										
3	BH3	0	0.1	18/02/25	S	G,P		X										
4	BH4	0	0.1	18/02/25	S	G,P		X										
5	BH5	0	0.1	18/02/25	S	G,P		X										
6	BH6	0	0.1	18/02/25	S	G,P		X			X	X						
7	BH6	0.1	0.2	18/02/25	S	G,P			X									
8	BH7	0	0.1	21/02/25	S	G,P	X											
9	BH7	0.1	0.2	21/02/25	S	G,P		X										
10	BH8	0	0.1	18/02/25	S	G,P		X										
11	BH8	0.2	0.3	18/02/25	S	G,P			X		X							
12	BH9	0	0.1	18/02/25	S	G,P		X			X							
13	BH9	0.1	0.2	18/02/25	S	G,P			X									
NR	BH10	0	0.1	21/02/25	S	G,P		X										

ENVIROLAB

GROUP

Job No: 373762

Date Received: 21/02/25

Time Received: 14:50

Received By: DLP

Temp: 20°C Ambient

Cooling: Ice/Icepack

Security: Intact/Broken/None

6/24°C

Envirolab Services

12 Ashley St

Chatswood NSW 2067

Ph: (02) 9910 6200

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

 Job No: 373762
 Date Received: 21/02/25
 Time Received: 1450
 Received By: Danni Luff
 Temp: Cool Ambient
 Cooling: Ice/Icepack
 Security: Intact/Broken/None

Metals to analyse:		LAB RECEIPT	
Number of samples in container:		Lab Ref. No: 373762	
Send results to: Douglas Partners Pty Ltd		Received by: Danni Luff	
Address: 96 Hermitage Road, West Ryde NSW 211		Date & Time: 21/02/25 1450	
Relinquished by:		Signed: Danni Luff	
Phone: (02) 9809 0666			
Date:		Signed:	

[illegible]

CERTIFICATE OF ANALYSIS 374632

Client Details

Client	Douglas Partners Pty Ltd
Attention	Joel James-Hall
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>233059.01, North Ryde</u>
Number of Samples	5 Water, 4 Soil
Date samples received	03/03/2025
Date completed instructions received	04/03/2025

Analysis Details

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

Samples were analysed as received from the client. 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.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	11/03/2025
Date of Issue	11/03/2025
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Analyst: Nyovan Moonean
 Authorised by Asbestos Approved Signatory: Lucy Zhu

Authorised By

Nancy Zhang, Laboratory Manager

Results Approved By

Diego Bigolin, Inorganics Supervisor
 Dragana Tomas, Senior Chemist
 Giovanni Agosti, Group Technical Manager
 Lucy Zhu, Asbestos Supervisor
 Phalak Inthakesone, Organics Development Manager, Sydney
 Steven Luong, Senior Chemist
 Timothy Toll, Senior Chemist

vTRH(C6-C10)/BTEXN in Water

Our Reference		374632-1	374632-2	374632-3	374632-8	374632-9
Your Reference	UNITS	101A	106	BD1/20250303	Trip Spike	Trip Blank
Depth		-	-	-	-	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	09/03/2025	09/03/2025	09/03/2025	09/03/2025	09/03/2025
Date analysed	-	10/03/2025	10/03/2025	10/03/2025	10/03/2025	10/03/2025
TRH C ₆ - C ₉	µg/L	<10	<10	<10	[NA]	<10
TRH C ₆ - C ₁₀	µg/L	<10	<10	<10	[NA]	<10
TRH C ₆ - C ₁₀ less BTEX (F1)	µg/L	<10	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	<1	110%	<1
Toluene	µg/L	<1	<1	<1	109%	<1
Ethylbenzene	µg/L	<1	<1	<1	112%	<1
m+p-xylene	µg/L	<2	<2	<2	114%	<2
o-xylene	µg/L	<1	<1	<1	115%	<1
Naphthalene	µg/L	<1	<1	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	102	100	103	100	102
Surrogate Toluene-d8	%	101	100	101	100	101
Surrogate 4-Bromofluorobenzene	%	98	98	100	100	98

svTRH (C10-C40) in Water				
Our Reference		374632-1	374632-2	374632-3
Your Reference	UNITS	101A	106	BD1/20250303
Depth		-	-	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Water	Water	Water
Date extracted	-	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	06/03/2025	06/03/2025	06/03/2025
TRH C ₁₀ - C ₁₄	µg/L	58	170	110
TRH C ₁₅ - C ₂₈	µg/L	<100	<100	<100
TRH C ₂₉ - C ₃₆	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	60	170	110
TRH >C ₁₀ - C ₁₆	µg/L	67	180	120
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	67	180	120
TRH >C ₁₆ - C ₃₄	µg/L	<100	<100	<100
TRH >C ₃₄ - C ₄₀	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	70	180	120
Surrogate o-Terphenyl	%	100	106	94

PAHs in Water				
Our Reference		374632-1	374632-2	374632-3
Your Reference	UNITS	101A	106	BD1/20250303
Depth		-	-	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Water	Water	Water
Date extracted	-	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	10/03/2025	10/03/2025	05/03/2025
Naphthalene	µg/L	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	<0.1	<0.1
Surrogate <i>p</i> -Terphenyl-d14	%	109	110	107

OCPs in Water - Trace Level			
Our Reference		374632-1	374632-2
Your Reference	UNITS	101A	106
Depth		-	-
Date Sampled		03/03/2025	03/03/2025
Type of sample		Water	Water
Date extracted	-	05/03/2025	05/03/2025
Date analysed	-	10/03/2025	10/03/2025
alpha-BHC	µg/L	<0.001	<0.001
HCB	µg/L	<0.001	<0.001
beta-BHC	µg/L	<0.001	<0.001
gamma-BHC	µg/L	<0.001	<0.001
Heptachlor	µg/L	<0.001	<0.001
delta-BHC	µg/L	<0.001	<0.001
Aldrin	µg/L	<0.001	<0.001
Heptachlor Epoxide	µg/L	<0.001	<0.001
gamma-Chlordane	µg/L	<0.001	<0.001
alpha-Chlordane	µg/L	<0.001	<0.001
Endosulfan I	µg/L	<0.002	<0.002
pp-DDE	µg/L	<0.001	<0.001
Dieldrin	µg/L	<0.001	<0.001
Endrin	µg/L	<0.001	<0.001
Endosulfan II	µg/L	<0.002	<0.002
pp-DDD	µg/L	<0.001	<0.001
Endrin Aldehyde	µg/L	<0.001	<0.001
pp-DDT	µg/L	<0.001	<0.001
Endosulfan Sulphate	µg/L	<0.001	<0.001
Methoxychlor	µg/L	<0.001	<0.001
Surrogate 4-Chloro-3-NBTF	%	116	111

OP in water LL ANZECCF/ADWG			
Our Reference		374632-1	374632-2
Your Reference	UNITS	101A	106
Depth		-	-
Date Sampled		03/03/2025	03/03/2025
Type of sample		Water	Water
Date extracted	-	05/03/2025	05/03/2025
Date analysed	-	10/03/2025	10/03/2025
Dichlorvos	µg/L	<0.05	<0.05
Mevinphos	µg/L	<0.05	<0.05
Phorate	µg/L	<0.05	<0.05
Dimethoate	µg/L	<0.1	<0.1
Diazinon	µg/L	<0.01	<0.01
Disulfoton	µg/L	<0.05	<0.05
Chlorpyrifos-methyl	µg/L	<0.05	<0.05
Parathion-Methyl	µg/L	<0.05	<0.05
Ronnel	µg/L	<0.05	<0.05
Fenitrothion	µg/L	<0.05	<0.05
Malathion	µg/L	<0.05	<0.05
Chlorpyrifos	µg/L	<0.009	<0.009
Fenthion	µg/L	<0.05	<0.05
Parathion	µg/L	<0.004	<0.004
Bromophos ethyl	µg/L	<0.05	<0.05
Methidathion	µg/L	<0.05	<0.05
Fenamiphos	µg/L	<0.05	<0.05
Ethion	µg/L	<0.05	<0.05
Phosalone	µg/L	<0.05	<0.05
Azinphos-methyl (Guthion)	µg/L	<0.02	<0.02
Coumaphos	µg/L	<0.05	<0.05
Surrogate 4-Chloro-3-NBTF	%	116	111

PCBs in Water - Trace Level			
Our Reference		374632-1	374632-2
Your Reference	UNITS	101A	106
Depth		-	-
Date Sampled		03/03/2025	03/03/2025
Type of sample		Water	Water
Date extracted	-	05/03/2025	05/03/2025
Date analysed	-	10/03/2025	10/03/2025
Aroclor 1016	µg/L	<0.01	<0.01
Aroclor 1221	µg/L	<0.01	<0.01
Aroclor 1232	µg/L	<0.01	<0.01
Aroclor 1242	µg/L	<0.01	<0.01
Aroclor 1248	µg/L	<0.01	<0.01
Aroclor 1254	µg/L	<0.01	<0.01
Aroclor 1260	µg/L	<0.01	<0.01
Surrogate 2-Fluorobiphenyl	%	97	95

Total Phenolics in Water			
Our Reference	UNITS	374632-1	374632-2
Your Reference		101A	106
Depth		-	-
Date Sampled		03/03/2025	03/03/2025
Type of sample		Water	Water
Date extracted	-	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05

HM in water - dissolved				
Our Reference		374632-1	374632-2	374632-3
Your Reference	UNITS	101A	106	BD1/20250303
Depth		-	-	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Water	Water	Water
Date prepared	-	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025	05/03/2025
Arsenic-Dissolved	µg/L	<1	1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	2	<1	2
Copper-Dissolved	µg/L	4	<1	3
Lead-Dissolved	µg/L	12	<1	11
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	5	9	4
Zinc-Dissolved	µg/L	56	27	55

vTRH(C6-C10)/BTEXN in Soil					
Our Reference		374632-4	374632-5	374632-6	374632-7
Your Reference	UNITS	BH13	BH14	BH15	BD1/20250303
Depth		0-0.1	0-0.1	0-0.1	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	07/03/2025	07/03/2025	07/03/2025	07/03/2025
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25
vTRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	105	102	86	88

svTRH (C10-C40) in Soil					
Our Reference		374632-4	374632-5	374632-6	374632-7
Your Reference	UNITS	BH13	BH14	BH15	BD1/20250303
Depth		0-0.1	0-0.1	0-0.1	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	06/03/2025	06/03/2025	06/03/2025	06/03/2025
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	92	81	80

PAHs in Soil					
Our Reference		374632-4	374632-5	374632-6	374632-7
Your Reference	UNITS	BH13	BH14	BH15	BD1/20250303
Depth		0-0.1	0-0.1	0-0.1	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	101	105	99	101

Organochlorine Pesticides in soil				
Our Reference		374632-4	374632-5	374632-6
Your Reference	UNITS	BH13	BH14	BH15
Depth		0-0.1	0-0.1	0-0.1
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil
Date extracted	-	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025	05/03/2025
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-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
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	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 +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	109	114	109

Organophosphorus Pesticides in Soil				
Our Reference		374632-4	374632-5	374632-6
Your Reference	UNITS	BH13	BH14	BH15
Depth		0-0.1	0-0.1	0-0.1
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil
Date extracted	-	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025	05/03/2025
Dichlorvos	mg/kg	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	109	114	109

PCBs in Soil				
Our Reference		374632-4	374632-5	374632-6
Your Reference	UNITS	BH13	BH14	BH15
Depth		0-0.1	0-0.1	0-0.1
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil
Date extracted	-	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025	05/03/2025
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	93	97	96

Misc Soil - Inorg				
Our Reference		374632-4	374632-5	374632-6
Your Reference	UNITS	BH13	BH14	BH15
Depth		0-0.1	0-0.1	0-0.1
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil
Date prepared	-	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025	05/03/2025
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

Acid Extractable metals in soil					
Our Reference		374632-4	374632-5	374632-6	374632-7
Your Reference	UNITS	BH13	BH14	BH15	BD1/20250303
Depth		0-0.1	0-0.1	0-0.1	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Arsenic	mg/kg	<4	<4	<4	<4
Cadmium	mg/kg	0.6	<0.4	<0.4	1
Chromium	mg/kg	9	4	11	11
Copper	mg/kg	11	4	7	18
Lead	mg/kg	51	20	19	88
Mercury	mg/kg	<0.1	<0.1	<0.1	0.2
Nickel	mg/kg	9	3	4	15
Zinc	mg/kg	120	34	37	190

Moisture					
Our Reference		374632-4	374632-5	374632-6	374632-7
Your Reference	UNITS	BH13	BH14	BH15	BD1/20250303
Depth		0-0.1	0-0.1	0-0.1	-
Date Sampled		03/03/2025	03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Date analysed	-	06/03/2025	06/03/2025	06/03/2025	06/03/2025
Moisture	%	5.8	2.1	6.1	6.0

Asbestos ID - soils NEPM				
Our Reference		374632-4	374632-5	374632-6
Your Reference	UNITS	BH13	BH14	BH15
Depth		0-0.1	0-0.1	0-0.1
Date Sampled		03/03/2025	03/03/2025	03/03/2025
Type of sample		Soil	Soil	Soil
Date analysed	-	10/03/2025	10/03/2025	10/03/2025
Sample mass tested	g	564.48	757.98	720.88
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	—	—	—
FA and AF Estimation*	g	—	—	—
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001
Asbestos comments	-	Nil	Nil	Nil

PFAS in Soils Short		
Our Reference		374632-5
Your Reference	UNITS	BH14
Depth		0-0.1
Date Sampled		03/03/2025
Type of sample		Soil
Date prepared	-	05/03/2025
Date analysed	-	05/03/2025
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.2
Perfluorooctanoic acid PFOA	µg/kg	0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.2
Surrogate ¹³ C ₈ PFOS	%	98
Surrogate ¹³ C ₂ PFOA	%	99
Extracted ISTD ¹³ C ₃ PFBS	%	98
Extracted ISTD ¹⁸ O ₂ PFHxS	%	102
Extracted ISTD ¹³ C ₄ PFOS	%	98
Extracted ISTD ¹³ C ₄ PFOA	%	101
Extracted ISTD ¹³ C ₂ 6:2FTS	%	97
Extracted ISTD ¹³ C ₂ 8:2FTS	%	109
Total Positive PFHxS & PFOS	µg/kg	0.2
Total Positive PFOS & PFOA	µg/kg	0.3
Total Positive PFAS	µg/kg	0.3

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. NOTE#1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF relative to the sample mass tested) NOTE#2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES. Total Phosphate determined stoichiometrically 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.

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-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.
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.
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/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.

Method ID	Methodology Summary
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	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.
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)-BTX 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)-BTX 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.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			09/03/2025	2	09/03/2025	10/03/2025		09/03/2025	[NT]
Date analysed	-			10/03/2025	2	10/03/2025	11/03/2025		10/03/2025	[NT]
TRH C ₆ - C ₉	µg/L	10	Org-023	<10	2	<10	<10	0	101	[NT]
TRH C ₆ - C ₁₀	µg/L	10	Org-023	<10	2	<10	<10	0	101	[NT]
Benzene	µg/L	1	Org-023	<1	2	<1	<1	0	104	[NT]
Toluene	µg/L	1	Org-023	<1	2	<1	<1	0	102	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	2	<1	<1	0	99	[NT]
m+p-xylene	µg/L	2	Org-023	<2	2	<2	<2	0	99	[NT]
o-xylene	µg/L	1	Org-023	<1	2	<1	<1	0	98	[NT]
Naphthalene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	2	100	99	1	102	[NT]
Surrogate Toluene-d8	%		Org-023	101	2	100	99	1	102	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	100	2	98	98	0	102	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Date analysed	-			06/03/2025	[NT]	[NT]	[NT]	[NT]	06/03/2025	[NT]
TRH C ₁₀ - C ₁₄	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	132	[NT]
TRH C ₁₅ - C ₂₈	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	137	[NT]
TRH C ₂₉ - C ₃₆	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
TRH >C ₁₀ - C ₁₆	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	132	[NT]
TRH >C ₁₆ - C ₃₄	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	137	[NT]
TRH >C ₃₄ - C ₄₀	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
Surrogate o-Terphenyl	%		Org-020	100	[NT]	[NT]	[NT]	[NT]	136	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Naphthalene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	77	[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]	65	[NT]
Fluorene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	80	[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]	105	[NT]
Pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	89	[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]	99	[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]	69	[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	98	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: OCPs in Water - Trace Level					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Date analysed	-			10/03/2025	[NT]	[NT]	[NT]	[NT]	10/03/2025	[NT]
alpha-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	96	[NT]
HCB	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	88	[NT]
gamma-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	85	[NT]
delta-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	87	[NT]
Heptachlor Epoxide	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	113	[NT]
gamma-Chlordane	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.002	Org-022/025	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	93	[NT]
Dieldrin	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	102	[NT]
Endrin	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	108	[NT]
Endosulfan II	µg/L	0.002	Org-022/025	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Endrin Aldehyde	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Methoxychlor	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	87	[NT]	[NT]	[NT]	[NT]	87	[NT]

QUALITY CONTROL: OP in water LL ANZECCF/ADWG						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Date analysed	-			10/03/2025	[NT]	[NT]	[NT]	[NT]	10/03/2025	[NT]
Dichlorvos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	90	[NT]
Mevinphos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.01	Org-022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-Methyl	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	86	[NT]
Fenitrothion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	84	[NT]
Malathion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	105	[NT]
Chlorpyrifos	µg/L	0.009	Org-022/025	<0.009	[NT]	[NT]	[NT]	[NT]	102	[NT]
Fenthion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion	µg/L	0.004	Org-022/025	<0.004	[NT]	[NT]	[NT]	[NT]	87	[NT]
Bromophos ethyl	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	87	[NT]
Phosalone	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos-methyl (Guthion)	µg/L	0.02	Org-022/025	<0.02	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	87	[NT]	[NT]	[NT]	[NT]	86	[NT]

Client Reference: 233059.01, North Ryde

QUALITY CONTROL: PCBs in Water - Trace Level					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Date analysed	-			10/03/2025	[NT]	[NT]	[NT]	[NT]	10/03/2025	[NT]
Aroclor 1016	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	96	[NT]
Aroclor 1260	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	110	[NT]	[NT]	[NT]	[NT]	79	[NT]

QUALITY CONTROL: Total Phenolics in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	374632-1
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	[NT]	[NT]	[NT]	[NT]	96	93

Client Reference: 233059.01, North Ryde

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	374632-2
Date prepared	-			05/03/2025	1	05/03/2025	05/03/2025		05/03/2025	05/03/2025
Date analysed	-			05/03/2025	1	05/03/2025	05/03/2025		05/03/2025	05/03/2025
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	106	97
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	102	101
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	105	102
Copper-Dissolved	µg/L	1	Metals-022	<1	1	4	4	0	102	96
Lead-Dissolved	µg/L	1	Metals-022	<1	1	12	12	0	94	80
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	81
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	5	5	0	102	105
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	56	59	5	99	125

Client Reference: 233059.01, North Ryde

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	374632-5
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			07/03/2025	[NT]	[NT]	[NT]	[NT]	07/03/2025	07/03/2025
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	111	135
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	111	135
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	116	138
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	101	139
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	134
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	115	140
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	115	125
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	92	[NT]	[NT]	[NT]	[NT]	94	114

Client Reference: 233059.01, North Ryde

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	374632-5
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			06/03/2025	[NT]	[NT]	[NT]	[NT]	06/03/2025	06/03/2025
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	85
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	81	82
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	90
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	85
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	81	82
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	90
Surrogate o-Terphenyl	%		Org-020	94	[NT]	[NT]	[NT]	[NT]	122	92

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	374632-5
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	82
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]	98	90
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	80
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	80
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]	88	78
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	80
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]	84	72
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]	110	94
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	102	[NT]	[NT]	[NT]	[NT]	106	99

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	374632-5
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	98	88
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]	98	88
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]	92	88
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]	86	78
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	106	98
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]	96	80
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	106	96
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	88
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]	106	98
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]	110	106
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	110	[NT]	[NT]	[NT]	[NT]	114	108

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	374632-5
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	110
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	92
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	130	118
Malathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	130	120
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	100
Fenthion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	112	106
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	110
Phosalone	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	110	[NT]	[NT]	[NT]	[NT]	114	108

Client Reference: 233059.01, North Ryde

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	374632-5
Date extracted	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
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]	97	80
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	95	[NT]	[NT]	[NT]	[NT]	99	94

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	[NT]	[NT]	[NT]	[NT]	98	[NT]

Client Reference: 233059.01, North Ryde

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	374632-5
Date prepared	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	108	113
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	98	104
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	98	105
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	93	100
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	99	105
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	102	104
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	99	103
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	107

QUALITY CONTROL: PFAS in Soils Short					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	374632-5
Date prepared	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Date analysed	-			05/03/2025	[NT]	[NT]	[NT]	[NT]	05/03/2025	05/03/2025
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	95
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	97
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	99
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	96
6:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	96	94
8:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	96	95
Surrogate ¹³ C ₈ PFOS	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	98	101
Surrogate ¹³ C ₂ PFOA	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	100	99
Extracted ISTD ¹³ C ₃ PFBS	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	99	93
Extracted ISTD ¹⁸ O ₂ PFHxS	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	103	98
Extracted ISTD ¹³ C ₄ PFOS	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	103	98
Extracted ISTD ¹³ C ₄ PFOA	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	101	97
Extracted ISTD ¹³ C ₂ 6:2FTS	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	100	96
Extracted ISTD ¹³ C ₂ 8:2FTS	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	109	109

Result Definitions

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

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

Asbestos-ID in soil: NEPM

This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Joel James-Hall

Sample Login Details

Your reference	233059.01, North Ryde
Envirolab Reference	374632
Date Sample Received	03/03/2025
Date Instructions Received	04/03/2025
Date Results Expected to be Reported	11/03/2025

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Water, 4 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Samples #10 and #11 - Received extra samples, confirmed with client to disregard samples.

Please direct any queries to:

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

Analysis Underway, details on the following page:



Sample ID	VTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	OCs in Water - Trace Level	OP in water LL ANZECCF/ADWG	PCBs in Water - Trace Level	Total Phenolics in Water	HM in water - dissolved	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Misc Soil - Inorg	Acid Extractable metals in soil	Asbestos ID - soils NEPM	PFAS in Soils Short
101A	✓	✓	✓	✓	✓	✓	✓	✓										
106	✓	✓	✓	✓	✓	✓	✓	✓										
BD1/20250303	✓	✓	✓					✓										
BH13-0-0.1									✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH14-0-0.1									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH15-0-0.1									✓	✓	✓	✓	✓	✓	✓	✓	✓	
BD1/20250303									✓	✓	✓					✓		
Trip Spike	✓																	
Trip Blank	✓																	

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.

Project No: 233059.01	Suburb: North Ryde	To: Envirolab Services
Project Manager: Joel James-Hall	Order Number:	Sampler: NW
Email: joel.james-hall@douglaspartners.com.au	Attn: Sample Receipt	
Turnaround time: ☒ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day	(02) 9910 6200 samlereceipt@envirolab.com	

Prior Storage: ☒ Fridge ☐ Freezer ☒ Esky ☐ Shelf

Do samples contain 'potential' HBM? ☐ No ☐ Yes (If YES, then handle, transport and store in accordance with FPM HAZID)

Lab ID	Sample ID			Date Sampled	Sample Type	Container Type	Analytes										Notes/ Preservation/ Additional Requirements
	Location / Other ID	Depth From	Depth To		S - soil W - water M - Material	G - glass P - plastic	Combo8L	Combo 3L	Combo8_an	PFAS (short suite)	Combo 3	BTEX					
1	101A	-	-	3/03/25	W	G,P	x										trace level, OCP, OPP, PCB
2	106	-	-	3/03/25	W	G,P	x										trace level, OCP, OPP, PCB
3	BD1/20250303	-	-	3/03/25	W	G,P		x									
4	BH13	0	0.1	3/03/25	S	G,P			x								
5	BH14	0	0.1	3/03/25	S	G,P			x	x							
6	BH15	0	0.1	3/03/25	S	G,P			x								
7	BD1/20250303	-	-	3/03/25	S	G,P					x						
8	Trip spike	-	-	3/03/25	W	G						x					
9	Trip blank	-	-	3/03/25	W	G						x					
10	Trip blank				S												
11	Trip spike				S												

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

Job No: 374632
 Date Received: 3/3/25
 Time Received: 1815
 Received By: ST
 Temp: Cool Ambient
 Cooling: Icepack
 Security: Intact/Broken/None

Metals to analyse:		LAB RECEIPT	
Number of samples in container:	Transported to laboratory by:	Lab Ref. No: 374632	
Send results to: Douglas Partners Pty Ltd		Received by: Shawn Tok	
Address:	Phone:	Date & Time: 3/3/25 1815	
Relinquished by:	Date:	Signed: [Signature]	

CERTIFICATE OF ANALYSIS 373762-A

Client Details

Client	Douglas Partners Pty Ltd
Attention	Nathan Woodward
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>233059.01 - North Ryde</u>
Number of Samples	Additional analysis 1 sample
Date samples received	21/02/2025
Date completed instructions received	17/03/2025

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. 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.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	20/03/2025
Date of Issue	20/03/2025
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Dragana Tomas, Senior Chemist
Timothy Toll, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

svTRH (C10-C40) in Soil NEPM Silica gel		
Our Reference	UNITS	373762-A-5
Your Reference		BH5
Depth		0-0.1
Date Sampled		18/02/2025
Type of sample		Soil
Date extracted	-	17/03/2025
Date analysed	-	19/03/2025
TRH (Silica) C ₁₀ - C ₁₄	mg/kg	<50
TRH (Silica) C ₁₅ - C ₂₈	mg/kg	<100
TRH (Silica) C ₂₉ - C ₃₆	mg/kg	<100
TRH (Silica) >C ₁₀ -C ₁₆	mg/kg	<50
TRH (Silica) >C ₁₆ -C ₃₄	mg/kg	<100
TRH (Silica) >C ₃₄ -C ₄₀	mg/kg	<100
Surrogate 1-Chlorooctadecane	%	98

Method ID	Methodology Summary
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Client Reference: 233059.01 - North Ryde

QUALITY CONTROL: svTRH (C10-C40) in Soil NEPM Silica gel					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			17/03/2025	5	17/03/2025	17/03/2025		17/03/2025	[NT]
Date analysed	-			19/03/2025	5	19/03/2025	19/03/2025		19/03/2025	[NT]
TRH (Silica) C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	5	<50	<50	0	97	[NT]
TRH (Silica) C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	5	<100	<100	0	90	[NT]
TRH (Silica) C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	5	<100	120	18	112	[NT]
TRH (Silica) >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	5	<50	<50	0	97	[NT]
TRH (Silica) >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	5	<100	120	18	90	[NT]
TRH (Silica) >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	5	<100	100	0	112	[NT]
Surrogate 1-Chlorooctadecane	%		Org-020	107	5	98	119	19	121	[NT]

Result Definitions

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

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

Samples were out of the recommended holding time for this analysis.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Nathan Woodward

Sample Login Details

Your reference	233059.01 - North Ryde
Envirolab Reference	373762-A
Date Sample Received	21/02/2025
Date Instructions Received	17/03/2025
Date Results Expected to be Reported	20/03/2025

Sample Condition

Samples received in appropriate condition for analysis	Holding time exceedance
No. of Samples Provided	Additional analysis 1 sample
Turnaround Time Requested	3 days
Temperature on Receipt (°C)	6
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Please contact the laboratory within 24 hours if you wish to cancel the aforementioned testing. Otherwise testing will proceed as per the COC and hence invoiced accordingly.

Please direct any queries to:

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

Analysis Underway, details on the following page:



Sample ID	svTRH (C10-C40) in Soil NEPM Silica gel	svTRH (C10-C40) in Soil Pre Clean Up	On Hold
BH1-0-0.1			✓
BH2-0-0.1			✓
BH3-0-0.1			✓
BH4-0-0.1			✓
BH5-0-0.1	✓	✓	
BH6-0-0.1			✓
BH6-0.1-0.2			✓
BH7-0-0.1			✓
BH7-0.1-0.2			✓
BH8-0-0.1			✓
BH8-0.2-0.3			✓
BH9-0-0.1			✓
BH9-0.1-0.2			✓
BH10-0.1-0.2			✓
BH11-0-0.2			✓
BD1/20250218			✓
BD1/20250221			✓
BH1 - [TRIPLICATE]-0-0.1			✓
BH11 - [TRIPLICATE]-0-0.2			✓

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.

Anna Bui

From: Nathan Woodward <Nathan.Woodward@douglaspartners.com.au>
Sent: Monday, 17 March 2025 2:11 PM
To: Envirolab Sydney Sample Receipt; Nancy Zhang
Cc: Simon Song; Joel James-Hall
Subject: Additional Analysis

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Hi all,

Could we please order additional analysis on the sample below on 3 day turnaround time please:

§ - BH5/0-0.1m – silica gel clean up

The DP job number is 233059.01 and the Envirolab report number is 373762-R00

Kind regards

Nathan Woodward | Environmental Scientist

☎ 02 9809 0666 📞 0459 268 880 📧 Nathan.Woodward@douglaspartners.com.au

🌐 www.douglaspartners.com.au 📍 96 Hermitage Road, West Ryde
NSW 2114 | Wallumedegal Country
PO Box 472, West Ryde, NSW 1685



GROUNDED
EXPERTISE

[Click here to learn about our awards and achievements.](#)

ELU REF: 373762-A

MT: 3 DAY

DUE: 20/3/25

AB-

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Nathan Woodward

Sample Login Details

Your reference	233059.01, North Ryde
Envirolab Reference	374632-A
Date Sample Received	03/03/2025
Date Instructions Received	18/03/2025
Date Results Expected to be Reported	25/03/2025

Sample Condition

Samples received in appropriate condition for analysis	Holding time exceedance
No. of Samples Provided	Additional analysis
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Please contact the laboratory within 24 hours if you wish to cancel the aforementioned testing. Otherwise testing will proceed as per the COC and hence invoiced accordingly.

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	pH	Electrical Conductivity	Chloride, Cl	Sulphate, SO4	On Hold
101A	✓	✓	✓	✓	
106	✓	✓	✓	✓	
BD1/20250303					✓
BH13-0-0.1					✓
BH14-0-0.1					✓
BH15-0-0.1					✓
BD1/20250303					✓
Trip Spike					✓
Trip Blank					✓

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.

Appendix L

Quality Assurance and Quality Control

1. Field and laboratory data quality assurance and quality control

The field and laboratory data quality assurance and quality control (QA/QC) procedures and results are summarised in the following Table 1. Reference should be made to the field work methodology and the laboratory results / certificates of analysis for further details. The relative percentage difference (RPD) results, along with the other field QC samples are included at the end of this appendix.

Table 1: Field and laboratory quality control

Item	Evaluation / acceptance criteria	Compliance
Analytical laboratories used	NATA accreditation	C
Holding times	Various based on type of analysis	C
Intra-laboratory replicates	10% of primary samples; <30% RPD	C PC
Trip spikes	1 per sampling event; 60-140% recovery	PC
Trip blanks	1 per sampling event; <PQL	PC
Laboratory / reagent blanks	1 per batch; <PQL	C
Laboratory duplicate	1 per lab batch; as laboratory certificate	PC
Matrix spikes	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	PC
Surrogate spikes	All organics analysis; 70-130% recovery (inorganics); 60-140% recovery (organics)	PC
Control samples	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	PC
Standard operating procedures (SOP)	Adopting SOP for all aspects of the sampling field work	C

Notes:

C = compliance; PC = partial compliance; NC = non-compliance

Further comments regarding partial compliances are outlined in the sections below:

1.1 Replicate samples

The RPD results were all within the acceptable range, with the exception of those indicated in Table QA1 for soil and QA2 for groundwater (results in bold). The exceedances are not, however, considered to be of concern given that:

- The actual differences in the concentrations of the replicate pairs where RPD exceedances occurred were typically low;
- Most of the recorded concentrations were relatively close to the PQL;

- The replicate pairs were collected from fill soils which by its nature are heterogeneous; and
- The majority of RPD results from a replicate pair were within the acceptable limits.

1.2 Trip spikes and blanks

Soil trip spikes and trip blanks were not analysed as part of this investigation given the majority of the fill had been removed from site prior to this investigation and the risk of volatile contamination in soil was assessed to be relatively low.

A trip spike and blank were analysed for the groundwater sampling.

1.3 Laboratory holding times

Laboratory analysis was conducted within recommended holding times with the following two exceptions. It is noted that holding times are recommendations only, and samples were refrigerated appropriately prior to analysis to minimise degradation of contaminants.

- pH in soil sample BH6/0-0.1. This is not considered a significant non-conformance given:
 - o pH analysis was conducted to provide assessment of general physical properties of the soil strata for the purpose of assessing potential ecological risks;
 - o the pH result is considered similar to that of another sample from the same batch;
 - o Douglas notes that the other sample from the same batch was sampled and analysed on the same dates but no non-conformance for holding time was noted for that sample (BH8/0.2-0.3)
- TPH silica gel clean-up in soil sample (BH5/0-0.1). This is not considered a significant non-conformance given:
 - o The highest concentrations in the original analyses (TRH) were for TRH fractions F3 and F4 (long chain hydrocarbons) which are less volatile and therefore significant contaminant loss due to volatilisation would not be expected. Fraction F2 (C10-C16) is noted to be semi-volatile;
 - o Field observations were consistent with the recorded TRH being natural organic matter, which is not considered to be volatile; and
 - o Testing was conducted to further assess a marginal exceedance of ecological screening levels from TRH fraction F2. Further statistical assessment would otherwise be considered to justify a similar conclusion that the initial result was not significant, ie, all other TRH F2 results in soil were less than the limit of reporting.

Overall, the two holding time exceedance comments in the laboratory reports are not considered to significant change the conclusions of the investigation.

1.4 Laboratory comments (other)

Other minor comments were provided by the laboratory (report 373762) regarding internal laboratory standards outside of the expected acceptance range for PFAS. As a result, the PQL for these analytes was raised. Laboratory comments note that this may not have affected the target analyte results. Overall based on the PFAS concentrations detected in the soil samples (and the magnitude of the results) this is not considered a significant non-conformance.

Laboratory duplicate RPD results were exceeded for two samples (for zinc and copper), as a result respective triplicate samples were analysed by the laboratory, which overall is not considered to impact the quality of the results.

A number of samples were sub-sampled for asbestos identification in soil. Otherwise, no other non-conformance was noted for this type of asbestos analysis and therefore is still considered suitable for the current assessment.

1.5 Conclusions

In summary, the QC data is determined to be of sufficient quality to be considered acceptable for the assessment.

2. Data quality indicators

The reliability of field procedures and analytical results was assessed against the following data quality indicators (DQI) as outlined in NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013):

- Completeness: a measure of the amount of usable data from a data collection activity;
- Comparability: the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness: the confidence (qualitative) of data representativeness of media present on-site;
- Precision: a measure of variability or reproducibility of data; and
- Accuracy: a measure of closeness of the data to the 'true' value.

The results of the assessment are summarised in Table 2.

Table 2: Data quality indicators

Data quality indicator	Method(s) of achievement
Completeness	Systematic and selected target locations sampled.
	Preparation of borehole logs, sample location plan and chain of custody records.
	Preparation of field groundwater sampling sheets.
	Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody.
	Samples analysed for contaminants of potential concern (CoPC) identified in the conceptual site model (CSM).
Completeness	Completion of chain of custody documentation.
	NATA accredited laboratory results certificates provided by the laboratory.
	Generally satisfactory frequency and results for field and laboratory quality control (QC) samples as discussed in Section 1.

Data quality indicator	Method(s) of achievement
Comparability	Using generally appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project.
	Experienced sampler used.
	Use of NATA registered laboratories, with test methods the same or similar between laboratories.
	Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled.
	Sample numbers recovered and analysed are considered to be representative of the target media and complying with DQO.
	Samples were extracted and analysed within holding times, minor non-conformances are not considered to have impacted the representativeness of the analysis.
	Samples were analysed in accordance with the chain of custody.
Precision	Field staff followed standard operating procedures.
	Acceptable RPD between original samples and replicates.
	Overall satisfactory results for all other field and laboratory QC samples.
Accuracy	Field staff followed standard operating procedures.
	Overall satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQI have generally been complied with.

3. Conclusion

Based on the results of the field QA and field and laboratory QC, and evaluation against the DQI it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

4. References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

Table QA1: Relative Percentage Difference Results – Soil Sampling

Lab Report No	Sample ID	Depth	Sample Date	Sample Type	Units	Priority metals								Priority PAH			
						Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	^b Naphthalene	Benzo(a)pyrene (B(a)P)	Benzo(a)pyrene TEQ (B(a)P TEQ)	Total PAH
373762	BH6	0.1 - 0.2 m	18/02/25	Soil	mg/kg	<4	<0.4	4	1	11	<0.1	<1	7	<1	<0.05	<0.5	<0.05
373762	BD1/20250218	0 m	18/02/25	Soil	mg/kg	<4	<0.4	4	3	21	<0.1	<1	13	<1	<0.05	<0.5	<0.05
			Difference		mg/kg	0	0	0	2	10	0	0	6	0	0	0	0
			RPD		%	0%	0%	0%	100%	63%	0%	0%	60%	0%	0%	0%	0%

373762	BH10	0.1 - 0.2 m	21/02/25	Soil	mg/kg	<4	<0.4	24	11	18	0.3	20	160	<1	<0.05	<0.5	<0.05
373762	BD1/20250221	0 m	21/02/25	Soil	mg/kg	<4	<0.4	8	13	15	0.1	17	49	<1	<0.05	<0.5	<0.05
			Difference		mg/kg	0	0	16	2	3	0.2	3	111	0	0	0	0
			RPD		%	0%	0%	100%	17%	18%	100%	16%	106%	0%	0%	0%	0%

Table QA1: Relative Percentage Difference Results – Soil Sampling

Lab Report No	Sample ID	Depth	Sample Date	Sample Type	Units	Priority TRH						BTEX			
						TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes

[illegible][illegible]



Table QA2: Relative Percentage Difference Results – Water Sampling

Lab Report No	Sample ID	Sample Date	Sample Type	Units	Metals & Metalloids - Dissolved								TRH				BTEX			PAH		
					Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	F1 (C6-C10-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Naphthalene	Benzo(a)pyrene (BaP)	Sum of detected PAH
374632	101A	03/03/25	Water	mg/L	<0.001	<0.0001	0.002	0.004	0.012	<0.00005	0.005	0.056	<0.01	0.067	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.0001
374632	BD1/20250303	03/03/25	Water	mg/L	<0.001	<0.0001	0.002	0.003	0.011	<0.00005	0.004	0.055	<0.01	0.12	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.0001
		Difference		mg/L	0	0	0	0	0	0	0	0	0	0.05	0	0	0	0	0	0	0	0
		RPD		%	0%	0%	0%	29%	9%	0%	22%	2%	0%	57%	0%	0%	0%	0%	0%	0%	0%	0%

[illegible]



Table QA3: Trip Spike and Trip Blank Results - Water Sampling

Sample ID	Sample Date	Media Being Sampled	Sample Type	Units	Priority PAH	Priority TRH		TRH	BTEX				Lab Report No
					Naphthalene ^b	TRH C6 - C10	FI ((C6-C10)-BTEX)	TRH C6 - C9	Benzene	Toluene	Ethylbenzene	Total Xylenes	
Trip Blank	03/03/25	Water	Water	mg/L	<0.001	<0.01	<0.01	<0.01	<0.001	<0.001	<0.001	<0.001	374632

Sample ID	Sample Date	Media Being Sampled	Sample Type	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	Lab Report No
Trip Spike	03/03/25	Water	Water	0.11	0.109	0.112	0.115	0.114	374632