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Report on
Detailed Site Investigation (Contamination)

Surface & Civil Alignment Works (SCAW) Package for
Sydney Metro - Western Sydney Airport (SMWSA)
Area of Environmental Concern (AEC) 44, 1793
Elizabeth Drive, Badgerys Creek

Prepared for
CPB Contractors Pty Limited & United Infrastructure
Pty Limited Joint Venture (CPBUI JV)

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Executive Summary

Douglas Partners Pty Ltd (DP) has been engaged by CPB Contractors Pty Limited & United Infrastructure Pty Limited Joint Venture (CPBUI JV) to complete this detailed site investigation (contamination) (DSI) for the Sydney Metro - Western Sydney Airport (SMWSA) Surface and Civil Alignment Works (SCAW) package at Area of Environmental Concern (AEC) 44.

Technical Paper 8: Contamination, prepared as part of Sydney Metro - Western Sydney Airport, Environmental Impact Statement (EIS), documents areas of environmental concern identified for the Sydney Metro - Western Sydney Airport project. The objective of the DSI is to assess the suitability of the part of AEC 44 that will be disturbed by SCAW activities (the site) and to determine whether further investigation and / or management is required. The DSI is not for the entire AEC 44 area. The site is shown on Drawing AEC44-01, Appendix A.

It is understood that the site will be subject to a Site Audit by Melissa Porter, a NSW Environment Protection Authority (EPA) Site Auditor accredited under the Contaminated Land Management Act 1997.

Field work for the DSI included the collection of soil samples from test pits using an excavator and using a hand auger from 128 locations; installation of three groundwater wells; collection of two sediment samples from a creek; development and sampling of groundwater wells; and collection of a surface water sample. Selected soil, sediment and water samples were analysed at the laboratory for potential contaminants and parameters.

At test pits and hand auger boreholes, the soil profile was observed to comprise:

- Topsoil or fill comprising sandy silt or silty sand. Gravelly sand fill was also recorded at test pit AEC44TP58, between depths of 0.2 m and 0.3 m below ground level;
- Topsoil / fill was underlain by silty clay at the majority of soil sample locations to depths of between 0.4 m and 2.1 m bgl. At test pit AEC44TP61, topsoil was underlain by clay to a depth of 0.8 m. At test pits AEC44TP65 to AEC44TP70, fill was underlain by clayey silt to depths of between 0.4 m and 1.3 m. Clayey silt was underlain by silty clay at test pit AEC44TP65, AEC44TP67 and AEC44TP68, to depths of between 1.2 m and 1.3 m;
- Silty clay was underlain by sandy silt at test pits AEC44TP15, AEC44TP17, AEC44TP20, AEC44TP21, AEC44TP24 and AEC44TP24a to depths of between 1.5 m and 2 m bgl;
- Silty clay was underlain by sandy clay at test pits AEC44TP23, AEC44TP36, AEC44TP39 and AEC44TP42, to depths of between 1.4 m and 2 m bgl; and
- Silty clay was underlain by gravelly clay at test pits AE44TP121 to a depth of 1.2 m.

Test pit AEC44TP106 was discontinued in fill at a depth of 0.25 m to prevent damage to a pipe presumed to contain asbestos at this depth. Similarly, test pit AEC44TP110 was discontinued at a depth of 0.3 m to prevent damage to a pipe presumed to contain asbestos at this depth. A slight hydrocarbon odour was identified in the topsoil at test pit AEC44TP49 (depth 0-0.2 m).

Boreholes for groundwater monitoring wells were drilled through a surface layer of topsoil (0.15 m to 0.3 m thick), then silty clay to depths of between 3.5 m to 5.5 m, then siltstone to termination depths (between 4.5 m and 15 m). The groundwater monitoring well at AEC44BH01 was found to be dry. Groundwater levels at the groundwater monitoring well at AEC44BH02 were recorded at depths of 1.84 m and 1.66 m. Groundwater levels at AEC44BH03 were recorded at depths of 2.13 m and 0.13 m.

Sediment samples from the creek were observed to comprise dark brown sandy silt with trace rootlets. No signs of contamination were associated with the groundwater or surface water samples.

For the current investigation, all results for chemical contaminants in soil were within the Site Assessment Criteria (SAC).

For the previous investigation, results were within the SAC, although it is noted that fenitrothion and methyl parathion (OPP) were each recorded at concentrations of 0.4 mg/kg for the sample from SMGW-TP-B369, depth 0.1 m. It is noted that fenitrothion was not detected in any analysed soil sample from the current investigation which may suggest that the previously recorded concentration is anomalous. It is also noted that the recorded concentration methyl parathion is within the US EPA Regional Screening Level (TR=1E-06, HQ=1, May 2022) for residential soil (16 mg/kg).

Asbestos was not detected in any analysed soil sample, however, (presumed) asbestos pipe was identified in fill at AEC44TP106 and AEC44TP110. Pipes also presumed to contain asbestos were identified above-ground near the dams.

Results for sediment samples were within the SAC. No asbestos was detected in the sediment sample.

For groundwater samples, concentrations of contaminants were within the SAC except for the concentration of copper in the primary sample from AEC44BH02 (3 µg/L) which slightly exceeded the default guideline value (DGV) (1.4 µg/L). This concentration is considered likely to be representative of background groundwater concentrations for copper.

For the surface water sample, concentrations of contaminants were within the SAC except for the concentration of copper (4 µg/L) in both the primary sample and the replicate sample (BD2/20220915) which slightly exceeded the (DGV) (1.4 µg/L). As this is a low concentration and copper concentrations in fill/soil and sediment samples were low, this copper concentration in surface water is considered unlikely to be as a result of a contaminating source.

With respect to topsoil and fill, concentrations of chemical contaminants were within the CT1 criteria for General Solid Waste. With respect to PFAS, concentrations for the sample from SMGW-TP-B369, depth 0.1m, were within the SCC1 criteria, however, it is noted that it appears that TCLP (toxicity characteristic leaching procedure) was not conducted for comparison with TCLP1 criteria. Results for metals, TRH, BTEX, PAH and pH were within the associated criteria for Excavated Natural Material (ENM).

With respect to natural soil samples, concentrations of chemical contaminants were within what are considered to be background levels which is considered to be consistent with the definition of virgin excavated natural material (VENM).

Asbestos pipe is pre-classified in the waste classification guidelines as Special Waste (asbestos).

Analysis of soil samples, sediment samples and groundwater samples has not revealed the presence of soil or groundwater contamination. Based on the results of field observations and sampling, it is considered that the site can be made suitable for the future site use with the removal of the in-ground asbestos pipes that were identified near the dams and in the fill at test pits AEC44TP106 and AEC44TP110. Asbestos removal will need to be undertaken by an appropriately licensed asbestos removal contractor. An Occupational Hygienist should be engaged to provide advice for the removal works as well as conduct the subsequent clearance inspections. The asbestos removal works will need to be validated by an environmental consultant.

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Report on Detailed Site Investigation (Contamination)

Surface & Civil Alignment Works (SCAW) Package for Sydney Metro - Western Sydney Airport (SMWSA)

Area of Environmental Concern (AEC) 44, 1793 Elizabeth Drive, Badgerys Creek

1. Introduction

Douglas Partners Pty Ltd (DP) has been engaged by CPB Contractors Pty Limited & United Infrastructure Pty Limited Joint Venture (CPBUI JV) to complete this detailed site investigation (contamination) (DSI) for the Sydney Metro - Western Sydney Airport (SMWSA) Surface and Civil Alignment Works (SCAW) package at Area of Environmental Concern (AEC) 44.

Technical Paper 8: Contamination, prepared as part of *Sydney Metro - Western Sydney Airport, Environmental Impact Statement* (EIS), documents areas of environmental concern identified for the Sydney Metro - Western Sydney Airport project. The objective of the DSI is to assess the suitability of the part of AEC 44 that will be disturbed by SCAW activities (the site) and to determine whether further investigation and / or management is required. The DSI is not for the entire AEC 44 area. The site is shown on Drawing AEC44-01, Appendix A.

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

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,* 2020 (NSW EPA, 2020).

It is understood that the site will be subject to a Site Audit by Melissa Porter, a NSW Environment Protection Authority (EPA) Site Auditor accredited under the *Contaminated Land Management Act 1997*.

2. Site Identification and Proposed Development

Table 1 provides a summary of information for site identification. The site covers an area of the SCAW package which is within AEC 44 as shown in Drawing AEC44-01, Appendix A.

Table 1: Site Identification Information

Item	Details
Site Address (from SIX Maps)	Elizabeth Drive, Badgerys Creek 1793 Elizabeth Drive, Badgerys Creek
Legal Description (from SIX Maps)	(Part of) Lot 2, Deposited Plan 1274964; (Part of) Lot 73, Deposited Plan 1277011; and (Part of) Lot 74, Deposited Plan 1277011.
Approximate area of AEC 44	23.5 ha
Approximate site area (within AEC 44)	11.6 ha
Zone (from ePlanning Spatial Viewer)	ENT: Enterprise ENZ: Environment and Recreation (at east of the site) Not Zoned along proposed rail line.
Local Government Area	Penrith City Council

The SCAW package relates to the proposed construction of approximately 10 km of rail alignment between Orchard Hills and the Western Sydney International (future) airport consisting of a combination of viaducts and surface rail. A surface rail line is proposed to be constructed at the site (at the west). Areas alongside the proposed rail alignment will be used by contractors (including at the site) or for staging and maintenance for the Metro.

Cardno, *Human Health and Ecological Risk Assessment, Spoil Re-use Sydney Metro and Western Sydney Airport*, 29 June 2021 (80021888 SMSWA HHERARev3-Issued.docx) (Cardno, 2021e) (HHERA) provides (simple) conceptual site models for different general future land uses for the overall SMWSA project. The two general future land uses associated with the SCAW component of the project are considered to be:

- The rail corridor which will include the rail line, embankments / noise barriers, a stabling yard and maintenance facility and Luddenham station; and
- Passive open space. These are areas immediately adjacent to the rail corridor that may be used for bike / commuter paths. It is assumed that there is an absence of buildings in areas of passive open space.

It is assumed that the site will comprise both of the above-listed land uses.

Development of the site will include stripping of topsoil across the site area and cut and fill works. At the proposed rail line, cut will be to a maximum depth of 2 m and filling will raise levels by a maximum of 3 m. Stripped and excavated soil from the site will be subject to reuse elsewhere within the greater SCAW area. Soil may be imported from off-site.

It is understood that the creek at the east of the site will either be filled and/or have a stormwater pipe constructed so that an access road can be established at that part of the site. Given that establishment of a road at this location is programmed to be early in the SCAW project, it is assumed that sediment from the creek will not be reused as creek/pond sediment elsewhere for the project.

3. Scope of Work

The scope of work for the DSI, was generally based on DP, *Sampling and Analysis Quality Plan (SAQP), Surface & Civil Alignment Works (SCAW) Package for Sydney Metro - Western Sydney Airport (SMWSA) Area of Environmental Concern (AEC) 44, 1793 Elizabeth Drive, Badgerys Creek,* August 2022, (204814.01.SAQP.004.DftA), included the following:

- Collect soil samples from test pits using an excavator and from using a hand auger;
- Using a drill rig, install three groundwater monitoring wells;
- Collect sediment samples from the creek at two locations;
- Develop the three groundwater monitoring wells and then return to site to collect groundwater samples;
- Collect a surface water sample;
- Analyse selected soil samples for potential contaminants and soil parameters;
- Analyse water samples for potential contaminants and water parameters; and
- Preparation of this DSI including an assessment of analytical and field results.

It is noted that the site boundary has changed since preparation of the SAQP, however, the general sampling approach was similar and is discussed in this DSI.

4. Site Condition and Environment Information

Table 2 provides a summary of information relating to the site condition and environment.

Table 2: Site Condition and Environment Information

Item	Details
Geology	For the majority of the site, the site is underlain by Bringelly Shale comprising shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff for the majority of the site. For the eastern part of the site, the shale is overlain by alluvial sediments comprising sand, silt and clay (Penrith 1:100,000 Geology Sheet).
Soil landscape	The majority of the site is at the Blacktown soil landscape which comprises residual soils. The eastern part of the site is at the South Creek soil landscape which comprises alluvial soils (Penrith 1:100,000 Soils Landscape Sheet).
Topography	The site is at approximately 52 m relative to Australia Height Datum (AHD). Slopes at and around the site are generally down to the south and east (NSW 2 m contour map).
Salinity	The site is at an area of moderate to high salinity potential (Department of Infrastructure Planning and Natural Resources, *Salinity Potential in Western Sydney Map*).
Acid sulfate soils	The site is not within an area or close to an area associated with a risk of acid sulfate soils (NSW Acid Sulfate Soil Risk map).

Item	Details
Surface water bodies	A creek crosses the site at the east. Two large dams are located adjacent to the south of the site and feed the creek. Badgerys Creek is located approximately 150 m to the east of the site.
Groundwater flow direction and discharge	Based on topography, shallow groundwater (if any) is expected to flow generally to the east, although also to the south at the north-eastern part of the site. Groundwater is expected to discharge at Badgerys Creek, although it may also discharge into the creek at the site and the adjacent dams.
Registered groundwater bores	A registered groundwater bore (GW112171) is located approximately 350 m to the northeast of the site, on the opposite side of Badgerys Creek. In 1991, the bore was installed to a depth of 32 m for monitoring purposes (Water NSW).
Site use and features	Rural use. Land at the site is grass-covered and appears to have been used for grazing.
Surrounding land use	Rural comprising mainly grazier land with minor buildings, sheds, animal shelters/pens and dams. This includes residential houses with small sheds and animal pens/shelters approximately 100 m to the northwest of the site.
Information from historical aerial photographs	The land at and surrounding the site appears to have been grazier land since 1955 (EIS).
NSW EPA records	There were no NSW EPA regulated sites (under the *Contaminated Land Management Act 1997*) within 1 km of the site (EIS). There were no sites notified to the NSW EPA (under the *Contaminated Land Management Act 1997*) within 1 km of the site (EIS). The Kemps Creek Resource Recovery Park and Landfill is located approximately 350 m to the northeast of the site and is licensed (EP: 12889) for composting, recovery or general waste and waste storage; as well as (EPL 4068) for non-thermal treatment of hazardous waste and other waste. The facility is located on the opposite side of Badgerys Creek. Leachate, groundwater, subsurface gas and air quality monitoring is undertaken around the perimeter of the landfill under the licence arrangements (NSW EPA website). The location of the Kemps Creek Resource Recovery Park and Landfill with respect to the site is shown in Drawing AEC44-2, Appendix A. There were no NSW EPA PFAS investigation sites within 2 km of the site (EIS).

During investigation works, a series of pipes presumed to contain asbestos were observed above-ground, close to the dams. The approximate locations of these pipes are shown in Drawing AEC44-01, Appendix A.

5. Existing Contamination Data

For the previous investigation reported in Cardno, *Contamination Assessment Report - Phase D/E, Sydney Metro Western Sydney Airport*, 26 November 2021 (80021888_CDO-RPT-019_RevB) (Cardo, 2021d), a soil sample point (test pit SMGW-TP-B369) was located at the site. The test pit log is provided in Appendix C. In summary, clayey sand fill was encountered to a depth of 0.2 m and was underlain by sandy clay fill to a depth of 0.8 m, then silty clay to a depth of 1.5 m. Table 3 provides a summary of the laboratory analysis undertaken.

Table 3: Soil Sample Testing

Sample Location	Sample Depth (m) (Replicate Identification)	Fill / Natural Soil	Laboratory Testing Suite
SMGW-TP-B369	0.1	Fill	Asbestos; TRH (total recoverable hydrocarbons); benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN); volatile organics; tetraethyl lead; polynuclear aromatic hydrocarbons (PAH); organochlorine pesticides (OCP); organophosphorus pesticides (OPP); halogenated phenols; non-halogenated phenols; (8) metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc); per- and polyfluoroalkyl substances (PFAS).
	0.1 (QA300_160821)	Fill	TRH; BTEXN; volatile organics; PAH; halogenated phenols; non-halogenated phenols; (8) metals; PFAS.
	0.1 (QA400_160821)	Fill	Volatile organic compounds (VOC); TRH; BTEXN; PAH; total phenolics; (8) metals; PFAS.
	1	Natural	TRH; BTEXN; volatile organics; pH; PAH; halogenated phenols; non-halogenated phenols; (8) metals; PFAS.
	1.5	Natural	TRH; BTEXN; volatile organics; pH; PAH; (8) metals; PFAS.

Results are summarised in Table C1, Appendix C. It is noted that (Cardo, 2021d) was a factual report and did not provide an assessment of the contamination results with respect to suitability to the proposed development. Given this, results are assessed and discussed in Section 11.

6. Potential Contamination Sources and Preliminary Conceptual Site Model

The potential source of contamination for AEC 44 was identified in the EIS to be: *potential use of fill around dams.* Associated contaminants of potential concern were identified in the EIS to be: heavy metals, TRH, semi-volatile organic compounds (SVOC), PCB, and asbestos. It is noted that specific heavy metals and SVOC were not provided in the EIS.

Table 4 summarises the potential source of contamination and what are considered to be the contaminants of potential concern for the DSI.

Table 4: Potential Source of Contamination and Contaminants of Potential Concern

Potential Source of Contamination	Contaminants of Potential Concern
Potential use of fill around dams	• Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) • Total recoverable hydrocarbons (TRH) • Benzene, toluene, ethylbenzene and xylenes (BTEX) • Polycyclic aromatic hydrocarbons (PAH)* • Organochlorine pesticides (OCP) • Organophosphorus pesticides (OPP) • Polychlorinated biphenyls (PCB) • Phenols • Asbestos • Volatile organic compounds (VOC) (for groundwater)

Note: *Based on a review of site history, analysis for a larger suite of SVOC was not considered warranted.

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 may have become 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). Table 5 provides the preliminary CSM which forms the basis of the investigation.

Table 5: Preliminary CSM

Potential Contamination Source	Potential Exposure Pathway	Potential Receptors
Contaminated ground from fill around dams	− Ingestion and direct contact − Inhalation of dust − Inhalation of vapours	− Construction workers (for the proposed development) − Future site workers including maintenance workers (post-development); − Pedestrians and commuters
	− Inhalation of dust − Inhalation of vapours	− Adjacent site users
	− Surface run-off − Leaching of contaminants into groundwater and lateral migration of groundwater	− Surface water bodies

Potential Contamination Source	Potential Exposure Pathway	Potential Receptors
	− Leaching of contaminants into groundwater	− Groundwater
	− Ingestion, inhalation and direct contact	− Terrestrial ecosystems
	− Direct contact	− In ground structures

Although *Table B2: Activities associated with PFAS contamination more broadly* of Appendix B of HEPA*, PFAS National Environmental Management Plan* (NEMP) (HEPA, 2020) lists '*Agriculture: Potentially used as an adjuvant or active ingredient in fertilisers and pesticides….*', it is considered that investigation for PFAS is not warranted given that crops did not appear to be established at the site, and, thus, there is a low probability that substantial fertiliser application has occurred. In addition, detected PFAS concentrations in samples from SMGW-TP-B369 were very low and indicative of general background conditions for soil in urban and rural areas (see Section 11).

7. Sampling and Groundwater Well Installation

7.1 Data Quality Objectives

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

7.2 Soil Sampling

Based on the CSM and data quality objectives (DQO), a broad grid sampling strategy was adopted to provide data across the site. A sample density of 11 soil sample points per hectare was adopted and was based on the minimum recommended sample density of 11 sample points per hectare for a 5 ha site in NSW EPA, *Contaminated Sites, Sampling Design Guidelines,* 1995 (NSW EPA, 1995). It is noted that field work commenced prior to the release of NSW EPA*, Sampling Design Part 1 – application, Contaminated Land Guidelines,* August 2022 (NSW EPA, 2022) which supersedes NSW EPA (1995), however, the current guidelines recommend the same density for a 5 ha site.

A total of 128 soil sample locations (AEC44TP01 to AEC44TP111, AECHA112, AEC44TP113, AEC44TP114, AEC44HA115 to AEC44HA120, AEC44TP121 to AEC44TP127 and AEC44TP24a) were designated for soil sample collection. In addition, test pits AEC44TP106A and AEC44TP110A were excavated next to AEC44TP106 and AEC44TP110, respectively, as pipes presumed to contain asbestos were encountered in fill at the AEC44TP106 and AEC44TP110 locations and these test pits were terminated at shallow depths to prevent damage to the pipes. AEC44TP24a was positioned where there was observed to be possible deeper fill.

Sampling from test pits and hand auger boreholes was carried out between 3 August 2022 and 2 September 2022.

It is noted that the number of sampling points is greater than that listed in the SAQP, however, a similar sample density was adopted. It is also noted that hand augers were used instead of an excavator at the last of the soil sample points given that an excavator was not available to access that part of the site at the time of sampling and that the probability of deep/significant fill was considered to be unlikely at the time of sampling.

Soil sampling was carried out in accordance with DP standard operating procedures. The general sampling and sample management procedures is as follows:

- Collect soil samples from excavator bucket returns or hand auger returns including at the surface / near surface and regular depth intervals (approximately every 0.5 m) and / or at changes of strata;
- Transfer samples in laboratory-prepared glass jars with Teflon lined lids by hand, capping immediately and minimising headspace within the sample jar;
- Collect replicate samples in zip-lock bags for screening using a photo-ionisation detector (PID);
- For fill/topsoil samples, collect ~500 ml samples in zip-lock bags (for asbestos analysis);
- Wear a new disposable nitrile glove for each sample point thereby minimising potential for cross-contamination;
- 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.

It is noted that as copious quantities of building rubble were not observed in fill, 10 L bulk samples were not collected for sieving/screening for asbestos assessment.

Sample locations are shown on Drawing AEC44-01, Appendix A.

7.3 Sediment Sampling

Two sample locations (AEC44SED01 and AEC44SED02) at the creek at the east of the site were designated for the collection of sediment samples. Samples were collected where the creek could be safely accessed. These were slightly different to the proposed locations in the SAQP, but were on either side of the creek (as per the proposed locations).

The general sediment sampling and sample management procedures are as follows:

- Collect sediment sample from an accessible point using a hand auger;
- Transfer samples in laboratory-prepared glass jars with Teflon lined lids by hand, capping immediately and minimising headspace within the sample jar;
- Collect ~500 ml samples for asbestos analysis;

- Wear a new disposable nitrile glove for each sample point thereby minimising potential for cross-contamination;
- 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

Sample locations are shown on Drawing AEC44-01, Appendix A.

7.4 Surface Water Sampling

As the creek at the east of the site was observed to be dry on 15 September 2022, a surface water sample (AEC44SW01) was collected from the eastern of the two dams, adjacent to the site. (In the SAQP, a surface water sample was proposed to be collected from the creek). The sample was taken from a part of the dam that could be safely accessed. The sampling method was as follows:

- Immerse the sample container below the surface with the opening pointing directly down to maintain a volume of air in the container, thereby avoiding the collection of any surface films;
- Once under the surface of the water, point the mouth of the sample container up stream so that gloved hands, sample container and / or sample collection device are downstream of the sample being collected;
- Decant the water sample into laboratory-prepared bottles, minimising headspace within the sample bottle and cap immediately;
- Place samples into a cooled, insulated and sealed container for transport to the laboratory; and
- Use chain of custody documentation.

The sample location is shown on Drawing AEC44-01, Appendix A.

7.5 Groundwater Monitoring Well Installation and Development

Boreholes for groundwater monitoring wells (AEC44BH01 to AEC44BH03) were drilled to depths of between 4.5 m and 15 m using a track-mounted drilling rig on 26 to 31 August 2022. AEC44BH01 was positioned at an (hydrogeological) up-gradient location at the west of the site. AEC44BH02 and AEC44BH03 were positioned at down-gradient locations at the east of the site. It is noted that AEC44BH02 and AEC44BH03 were positioned slightly to the east and AECBH01 was positioned slightly to the south of proposed sample locations in the SAQP. This positioning of the wells was done to prevent damage to the wells from machinery for the SCAW project and is not considered to affect the overall assessment for the DSI.

Monitoring wells were constructed 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, for AEC44BH01, grout to the ground surface.

The groundwater monitoring wells were developed on 30 to 31 August 2022 using a Twister (plastic) pump. It is noted, however, that AEC44BH01 was found to be dry.

Locations of the groundwater monitoring wells are shown on Drawing AEC44-01, Appendix A.

7.6 Groundwater Well Sampling

Groundwater sampling of monitoring wells was carried out on 15 September 2022. The sampling method adopted is as follows:

- Measure the static water level using an electronic interface probe;
- Lower the well-dedicated tubing into the well at a depth that is at the screened section of the well;
- Set up the peristatic pump to draw water at a low rate that produces laminar flow;
- Measure physical parameters by continuously passing the purged water through a flow cell;
- Following stabilisation of the field parameters using a water quality meter, collect samples in laboratory-prepared bottles minimising headspace within the sample bottle and cap immediately. Samples for metals analysis are filtered in the field using a 0.45 µm filter (prior to bottling of the sample). [It is noted that, according to laboratory certificate 305889, Appendix E, a filtered, preserved sample for dissolved metals for the sample from AEC44BH03 was not received by the laboratory, so an unpreserved sample was filtered through 0.45 µm filter at the lab];
- Place samples into a cooled, insulated and sealed container for transport to the laboratory; and
- Use chain of custody documentation.

Samples were collected from AEC44BH02 and AEC44BH03 but not AEC44BH01 as it was found to be dry.

8. Laboratory Analysis

8.1 Soil Samples from Test Pits

Fill or topsoil (primary) samples from each sample location were analysed at a NATA accredited laboratory for COPC comprising: metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRH, BTEX, PAH, OCP, OPP, PCB, total phenols and asbestos (in 500 ml of soil) as fill / topsoil was considered to have a greater risk of contamination compared to the observed natural soil. Natural soil samples from 18 sample locations (AEC44TP12, AEC44TP15, AEC44TP18, AEC44TP25, AEC44TP35, AEC44TP44, AEC44TP49, AEC44TP56, AEC44TP63, AEC44TP70, AEC44TP73, AEC44TP80, AEC44TP82, AEC44TP99, AEC44TP109, AEC44HA119, AEC44TP121 and AEC44TP126) and various depths beneath fill/topsoil were analysed for the same suite of COPC excluding asbestos to obtain some data for the natural profile across the site.

Laboratory certificates and chain of custody are provided in Appendix E.

8.2 Sediment Samples

The two sediment samples (AEC44SED01 and AEC44SED02) from the creek at the east of the site were analysed at a NATA accredited laboratory for the COPC including metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRH, BTEX, PAH, OCP, OPP, PCB, total phenols and asbestos (in 500 ml of soil).

8.3 Surface Water Sample

The surface water sample was analysed for COPC including VOC, metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRH, BTEX, PAH, OCP, OPP, PCB, speciated phenols. The sample was also analysed for hardness.

8.4 Groundwater Samples

Groundwater samples were analysed for COPC including VOC, dissolved metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRH, BTEX, PAH, OCP, OPP, PCB, speciated phenols. The samples were also analysed for hardness. (Samples were also analysed for pH, electrical conductivity, sulfate and chloride for geotechnical purposes and have not been reported herein).

9. Site Assessment Criteria

Tier 1 Site Assessment Criteria (SAC) for the assessment of soils, informed by the CSM, at the site are listed in Appendix F.

10. Field Work Results

10.1 Test Pits and Hand Augers

The test pit logs and hand auger logs for this assessment are included in Appendix G and should be reference for detailed soil descriptions. In summary:

- Either topsoil or fill comprising sandy silt or silty sand was encountered at all soil sample locations, between 0.1 m and 0.3 m thick. Gravelly sand fill was also recorded at AEC44TP58, between depths of 0.2 m and 0.3 m below ground level (bgl);
- Topsoil / fill was underlain by silty clay at the majority of soil sample locations to depths of between 0.4 m and 2.1 m bgl. At AEC44TP61, topsoil was underlain by clay to a depth of 0.8 m. At AEC44TP65 to AEC44TP70, fill was underlain by clayey silt to depths of between 0.4 m and 1.3 m. Clayey silt was underlain by silty clay at AEC44TP65, AEC44TP67 and AEC44TP68, to depths of between 1.2 m and 1.3 m;
- Silty clay was underlain by sandy silt at AEC44TP15, AEC44TP17, AEC44TP20, AEC44TP21, AEC44TP24 and AEC44TP24a to depths of between 1.5 m and 2 m bgl;

- Silty clay was underlain by sandy clay at AEC44TP23, AEC44TP36, AEC44TP39 and AEC44TP42, to depths of between 1.4 m and 2 m bgl; and
- Silty clay was underlain by gravelly clay at AE44TP121 to a depth of 1.2 m.

AEC44TP106 was discontinued in fill at a depth of 0.25 m to prevent damage to a pipe presumed to contain asbestos at this depth. Similarly, AEC44TP110 was discontinued at a depth of 0.3 m to prevent damage to a pipe presumed to contain asbestos at this depth.

PID results are presented in the test pit and borehole logs. PID results were less than 5 ppm, indicating a low potential for the presence of volatile contaminants. The PID calibration certificates are presented in Appendix H.

A slight hydrocarbon odour was identified in the topsoil at AEC44TP49 (depth 0-0.2 m).

No free groundwater was observed at the majority of test pits and hand auger boreholes. Free groundwater was observed at AEC44TP15 (depth 1.9 m), AEC44TP18 (depth 1.5 m), AEC44TP20 (depth 1.5 m), AEC44TP21 (depth 1.5 m), AEC44TP25 (depth 1.0 m), AEC44TP70 (depth 1.3 m), AEC44TP72 (depth 0.8 m), AEC44TP75 (depth 0.6 m), AEC44TP121 (depth 0.6 m), AEC44HA112 (depth 0.3 m) and AEC44TP127 (depth 0.8 m). It should be noted that groundwater levels are affected by climatic conditions and soil permeability and will therefore vary with time.

10.2 Sediment Samples

Sediment samples, from the top 0.1 m of sediment in the creek, were observed to comprise dark brown sandy silt with trace rootlets. No signs of contamination were associated with the sediment samples.

10.3 Surface Water Sample

The surface water sample (AEC44SW01) from the eastern dam was observed to be slightly turbid, grey and have no odour. It is noted that the adjacent dam to the west had been drained.

10.4 Groundwater Boreholes

The borehole logs for this assessment are included in Appendix G. Boreholes for groundwater monitoring wells were drilled through a surface layer of topsoil (0.15 m to 0.3 m thick), then silty clay to depths of between 3.5 m and 5.5 m, then siltstone to termination depths (between 4.5 m and 15 m). No signs of contamination were noted whilst drilling.

Groundwater seepage was observed whist drilling at a depth of 1.5 m at AEC44BH02 and at a depth of 1.5 m at AEC44BH03. Groundwater was not observed whilst drilling at AEC44BH03. It should be noted that groundwater levels are affected by climatic conditions and soil permeability and will therefore vary with time.

10.5 Groundwater Well Development and Sampling

Groundwater levels are summarised in Table 6. AEC44BH01 was found to be dry on 30 August 2022 and on 15 September 2022.

Table 6: Groundwater Levels

Borehole	Prior to Well Development		Prior to Well Sampling	
	Groundwater Depth (m bgl)	Groundwater Level (m AHD)	Groundwater Depth (m bgl)	Groundwater Level (m AHD)
AEC44BH02	1.84 (30/8/2022)	44.26	1.66 (15/9/22)	44.44
AEC44BH03	2.31 (31/8/2022)	44.49	0.13 (15/9/22)	46.67

The water from the development of AEC44BH02 was observed to be brown and have no odour. The water from the development of AEC44BH03 was observed to be orange-brown and cloudy and have no odour.

No phase separated hydrocarbons were identified in any of the wells from use of the interface dipmeter prior to sampling. The water sampled from AEC44BH02 was observed to be grey, clear and have no odour. The water sampled from AEC44BH03 was observed to be clear, colourless and have no odour.

The groundwater field sheets and water quality meter calibration record are provided in Appendix H.

11. Discussion of Laboratory Analytical Results

11.1 Soil Contaminants

Analytical results for soil samples for the current investigation are summarised in Table A1, Appendix I, against the most conservative (Tier 1) SAC (see Appendix F). Analytical results for the previous investigation sample location that is within the site boundary is shown on Table C1, Appendix C.

For the current investigation, all results for chemical contaminants were within the SAC.

For the previous investigation, results were within the SAC, although it is noted that fenitrothion and methyl parathion (OPP) were each recorded at concentrations of 0.4 mg/kg for the sample from SMGW-TP-B369, depth 0.1 m. It is noted that fenitrothion was not detected in any analysed soil sample from the current investigation which may suggest that the previously recorded concentration is anomalous. It is also noted that the recorded concentration methyl parathion is within the US EPA Regional Screening Level (RSL) (TR=1E-06, HQ=1, May 2022) for residential soil (16 mg/kg).

Asbestos was not detected in any analysed soil sample, however, (presumed) asbestos pipe was identified in fill at AEC44TP106 and AEC44TP110. Pipes also presumed to contain asbestos were identified above-ground near the dams.

11.2 Sediment Contaminants

Analytical results for sediment samples for the current investigation are summarised in Table A1, Appendix I. Results were within the SAC. No asbestos was detected in the sediment sample.

11.3 Groundwater Samples

Analytical results for groundwater samples are summarised in Table A2, Appendix I.

Concentrations of contaminants were within the SAC except for the concentration of copper in the primary sample from AEC44BH02 (3 µg/L) which slightly exceeded the default guideline value (DGV) (1.4 µg/L). This concentration is considered likely to be representative of background groundwater concentrations for copper. It is noted that the concentration in the replicate sample BD1/20220915 (<1 µg/L) was within the DGV.

It is noted that concentrations of PAH, TRH, VOC, OCP, OPP, phenols and PCB were within the PQL.

11.4 Surface Water Sample

Analytical results for the surface water sample (AEC44SW01) are summarised in Table A2, Appendix I.

Concentrations of contaminants were within the SAC except for the concentration of copper (4 µg/L) in both the primary sample and the replicate sample (BD2/20220915) which slightly exceeded the DGV (1.4 µg/L). As this is a low concentration and copper concentrations in fill/soil and sediment samples were low, this copper concentration in surface water is considered unlikely to be as a result of a contaminating source.

11.5 Preliminary Waste Classification Comments

Table A3, Appendix I, presents the analytical results for the current investigation against criteria from NSW EPA, *Waste Classification Guidelines*, 2014 (NSW EPA, 2014) and NSW EPA, *The excavated natural material order 2014.* Table C1, Appendix C presents the analytical results for the previous investigation against the same criteria as well as NSW EPA, *Addendum to the Waste Classification Guidelines (2014) - Part 1: classifying waste,* 2016 (NSW EPA, 2016).

With respect to topsoil and fill, concentrations of chemical contaminants were within the CT1 criteria for General Solid Waste. With respect to PFAS, concentrations for the sample from SMGW-TP-B369, depth 0.1 m, were within the SCC1 criteria, however, it is noted that it appears that TCLP (toxicity characteristic leaching procedure) was not conducted for comparison with TCLP1 criteria. If fill sourced from SMGW-TP-B369 is to be disposed offsite, TCLP analysis for PFAS should be undertaken for waste classification to assess against criteria in NSW EPA (2016). Results for metals, TRH, BTEX, PAH and pH were within the associated criteria for Excavated Natural Material (ENM).

With respect to natural soil samples, concentrations of chemical contaminants were within what are considered to be background levels which is considered to be consistent with the definition of virgin excavated natural material (VENM), as defined in *Protection of the Environment Operations Act 1997*. (It is noted that concentrations of nickel were identified above the CT1 criterion for General Solid Waste in natural soil samples from AEC44TP15 and AEC44TP18, however, these concentrations are considered likely to be of natural occurrence, particularly given that nickel concentrations in overlying fill were within the CT1 criterion and there is no known contamination source for nickel).

Asbestos pipe is pre-classified in the waste classification guidelines as Special Waste (asbestos).

11.6 Data Quality Assurance and Quality Control

The data quality assurance and quality control (QA / QC) results are included in Appendix J. 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.

12. Conclusion

Analysis of soil samples, sediment samples and groundwater samples has not revealed the presence of soil or groundwater contamination. Based on the results of field observations and sampling, it is considered that the site is suitable for the future site use provided that the asbestos pipes identified near the dams and in the fill at AEC44TP106 and AEC44TP110 are included in an asbestos register for the site and are properly maintained. However, it is understood that removal of the in-ground asbestos pipes is required to achieve the final ground levels. Therefore, removal of the asbestos pipes will need to be undertaken by an appropriately licensed asbestos removal contractor. An Occupational Hygienist should be engaged to provide advice for the removal works as well as conduct the subsequent clearance inspections. The asbestos removal works will also need to be validated by an environmental consultant. The Site Auditor will need to review the validation report. There is the possibility that other pipes containing asbestos could be identified during excavation works, so an unexpected finds protocol (with asbestos finds protocol) should be established and implemented for excavation works.

13. Limitations

Douglas Partners (DP) has prepared this report (or services) for the SCAW package for SMWSA. The work was carried out under a Service Contract. This report is provided for the exclusive use of CPBUI JV 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 DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP 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 DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP 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.

Asbestos has not been detected in laboratory analysis of soil samples. 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, 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 hazardous building materials (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.

The assessment of atypical safety hazards arising from this advice is restricted to the (environmental) 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.

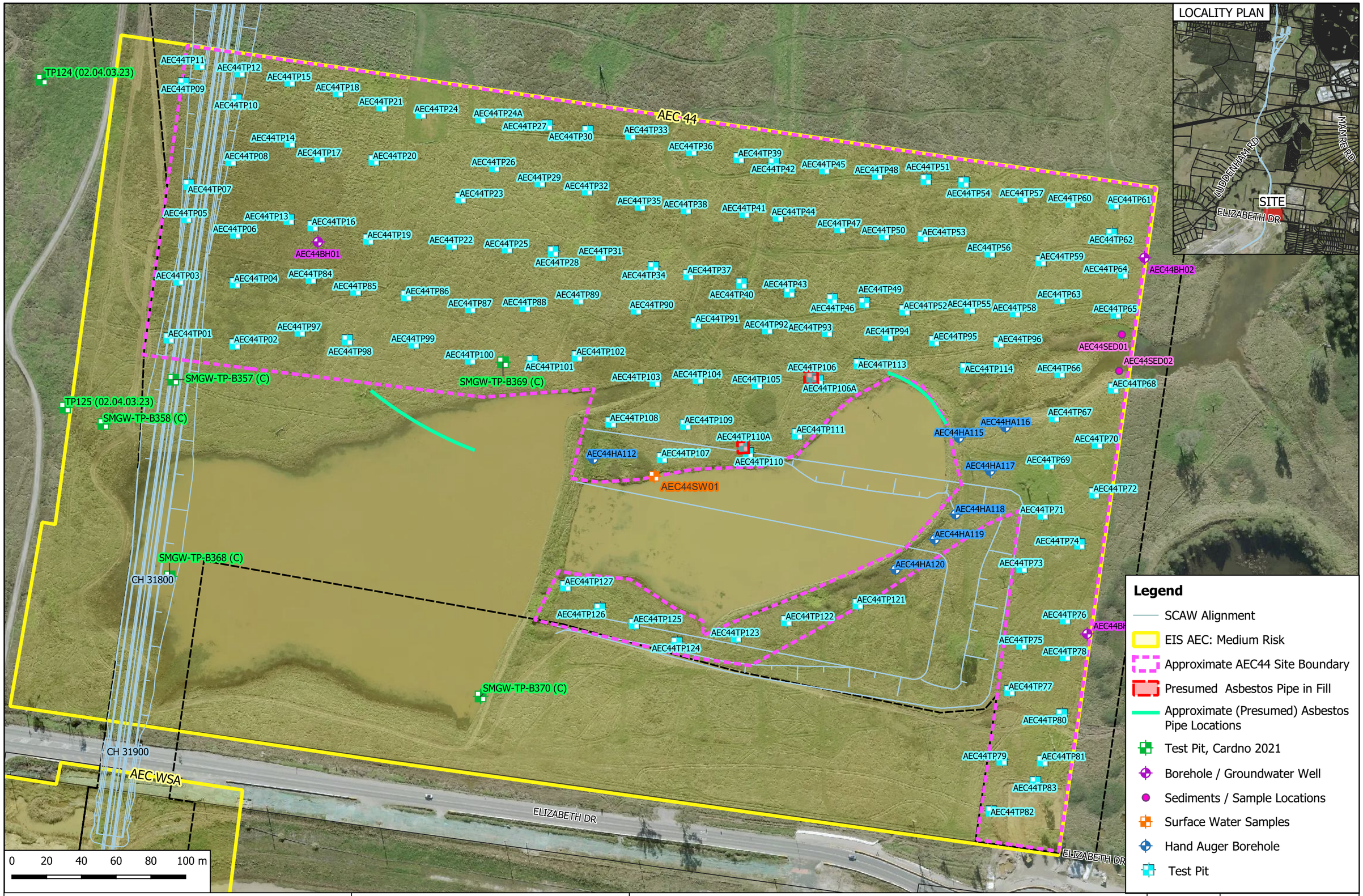
This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, 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 DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Douglas Partners Pty Ltd

Appendix A

Drawing



Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT:	CPBUI JV		
OFFICE:	Sydney	DRAWN BY:	MG
SCALE:	1:2000 @ A3	DATE:	13/10/2022

TITLE: **AEC44 Test Location Plan**
Sydney Metro Western Sydney Airport - SCAW
Elizabeth Drive, Badgerys Creek

N

PROJECT No:	204814.01
DRAWING No:	AEC44-01
REVISION:	Rev 2



Douglas Partners Geotechnics / Environment / Groundwater	**Location of Kemps Creek Recovery Park and Landfill** **Sydney Metro Western Sydney Airport-SCAW, Elizabeth Drive, Badgerys Creek**	PROJECT: 204814.01
		DWG No: AEC44-02
		REV: 0
	CLIENT: CPBUI JV	DATE: 12-Oct-22

Appendix B

About this Report

About this Report

Douglas Partners

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.

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.

Appendix C

Previous Investigation Results

Table C1: Summary of Previous Analytical Results

	BTEX						MAH										TRH					CRC Care TPH Fractions						
	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total MAH	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C6-C10	C10-C16	C16-C34	C34-C40	C10 - C40 (Sum of total)	F1: C6-C10 less BTEX	F2: >C10-C16 less NAPHTHALENE
	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.1	0.1	0.1	0.2	0.1	0.3	0.5	0.5	0.5	0.5	1	1	1	1	0.5	1	20	20	50	50	50	20	50	100	100	100	20	50
NSW 2014 Excavated Natural Material (Absolute Max)	0.5	65	25			15															500							
NSW 2014 General Solid Waste CT1 (No Leaching)	10	288	600			1000									60		650				10000							
NSW EPA PFAS Waste Class Addendum 2016 - SCC1																												
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	40	1152	2400			4000									240		2600				40000							
NSW EPA PFAS Waste Class Addendum 2016 - SCC2																												
NSW TCLP1 Criteria																												
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)	65	105	105			45																	120	1300	5600		180	120
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)	95	135	135			95																	170	2500	6600		215	170
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses																												
NEPM 2013 HIL, Recreational C																												
PFAS NEMP 2.0 Table 2 Health Public open space																												
NEPM 2013 HIL, Commercial/Industrial D																												
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay																												
0-1m	4	NL	NL			NL																				310	NL	
1-2m	6	NL	NL			NL																				480	NL	
2-4m	9	NL	NL			NL																				NL	NL	
>4m	20	NL	NL			NL																				NL	NL	
PFAS NEMP 2.0 Table 2 Industrial/Commercial																												
NEPM 2013 Management Limits, Open Space, Fine Soil																						800	1000	3500	10000			
NEPM 2013 Management Limits, C/I, Fine Soil																						800	1000	3500	10000			
Field ID	**Alternative Name**	**Sample Date**	**Easting**	**Northing**	**Depth**	**Report number**																						
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.5	-	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.5	-	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	<0.2	<0.5	<1	<2	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<25	<50	<100	<100	-	<25	<50	<100	<100	<50	<25	<50
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.5	-	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.5	-	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

	Metals								Organo Metals	Asbestos				
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Tetraethyl lead	Asbestos Results	Moisture	Moisture Content (dried @ 103°C	pH (aqueous extract)	Other organochlorine pesticides
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Comment	%	%	pH_Units	mg/kg
EQL	2	0.4	5	5	5	0.1	5	5	5		0.1	1	0.1	0.1
NSW 2014 Excavated Natural Material (Absolute Max)	40	1	150	200	100	1	60	300						
NSW 2014 General Solid Waste CT1 (No Leaching)	100	20	100		100	4	40							
NSW EPA PFAS Waste Class Addendum 2016 - SCC1														
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	400	80	400		400	16	160							
NSW EPA PFAS Waste Class Addendum 2016 - SCC2														
NSW TCLP1 Criteria														
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)	100		190	180	1100		110	420						
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)	160		320	250	1800		190	610						
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses														
NEPM 2013 HIL, Recreational C	300	90		17000	600	80	1200	30000						
PFAS NEMP 2.0 Table 2 Health Public open space														
NEPM 2013 HIL, Commercial/Industrial D	3000	900		240000	1500	730	6000	400000						
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay														
0-1m														
1-2m														
2-4m														
>4m														
PFAS NEMP 2.0 Table 2 Industrial/Commercial														
NEPM 2013 Management Limits, Open Space, Fine Soil														
NEPM 2013 Management Limits, C/I, Fine Soil														
Field ID	**Alternative Name**	**Sample Date**	**Easting**	**Northing**	**Depth**	**Report number**								
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	7.7	<0.4	14	28	28	<0.1	19	51	<5	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected	-	17	-	<0.1
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	7.3	<0.4	14	26	26	<0.1	18	69	-	-	-	16	-	-
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	7	<0.4	11	26	23	<0.1	15	45	-	-	17	-	-	-
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	5.5	<0.4	12	43	22	<0.1	25	82	-	-	-	14	8.3	-
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	2.2	<0.4	6.5	40	13	<0.1	7.1	37	-	-	-	12	8.7	-

Considered likely to be a false positive

Paired QA Samples

	Organochlorine Pesticides																					
	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene
	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
EQL	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
NSW 2014 Excavated Natural Material (Absolute Max)																					
NSW 2014 General Solid Waste CT1 (No Leaching)												60	60	60							
NSW EPA PFAS Waste Class Addendum 2016 - SCC1																					
NSW 2014 Restricted Solid Waste CT2 (No Leaching)												240	240	240							
NSW EPA PFAS Waste Class Addendum 2016 - SCC2																					
NSW TCLP1 Criteria																					
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)									180												
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)									640												
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses																					
NEPM 2013 HIL, Recreational C				10		70				400					20				10		10
PFAS NEMP 2.0 Table 2 Health Public open space																					
NEPM 2013 HIL, Commercial/Industrial D				45		530				3600					100				50		80
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay																					
0-1m																					
1-2m																					
2-4m																					
>4m																					
PFAS NEMP 2.0 Table 2 Industrial/Commercial																					
NEPM 2013 Management Limits, Open Space, Fine Soil																					
NEPM 2013 Management Limits, C/I, Fine Soil																					

Field ID	Alternative Name	Sample Date	Easting	Northing	Depth	Report number																	
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

			Organophosphorous Pesticides																													
	Methoxychlor	Toxaphene	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Phorate	Pyrazophos	Ronnel	Terbufos
	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.05	0.1	0.2	0.2	0.2	0.2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2
NSW 2014 Excavated Natural Material (Absolute Max)																																
NSW 2014 General Solid Waste CT1 (No Leaching)						4																										
NSW EPA PFAS Waste Class Addendum 2016 - SCC1																																
NSW 2014 Restricted Solid Waste CT2 (No Leaching)						16																										
NSW EPA PFAS Waste Class Addendum 2016 - SCC2																																
NSW TCLP1 Criteria																																
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)																																
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)																																
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses																																
NEPM 2013 HIL, Recreational C	400	30				250																										
PFAS NEMP 2.0 Table 2 Health Public open space																																
NEPM 2013 HIL, Commercial/Industrial D	2500	160				2000																										
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay																																
0-1m																																
1-2m																																
2-4m																																
>4m																																
PFAS NEMP 2.0 Table 2 Industrial/Commercial																																
NEPM 2013 Management Limits, Open Space, Fine Soil																																
NEPM 2013 Management Limits, C/I, Fine Soil																																
Field ID	**Alternative Name**	**Sample Date**	**Easting**	**Northing**	**Depth**	**Report number**																										
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.05	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

			Herbicides	Insecticides	Pesticides		PAH				
	Trichloronate	Tetrachlorvinphos	Dinoseb	Tokuthion	Parathion	Pirimiphos-methyl	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.2	0.2	20	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5
NSW 2014 Excavated Natural Material (Absolute Max)											
NSW 2014 General Solid Waste CT1 (No Leaching)											
NSW EPA PFAS Waste Class Addendum 2016 - SCC1											
NSW 2014 Restricted Solid Waste CT2 (No Leaching)											
NSW EPA PFAS Waste Class Addendum 2016 - SCC2											
NSW TCLP1 Criteria											
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)							170				
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)							370				
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses											
NEPM 2013 HIL, Recreational C											
PFAS NEMP 2.0 Table 2 Health Public open space											
NEPM 2013 HIL, Commercial/Industrial D											
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay											
0-1m							NL				
1-2m							NL				
2-4m							NL				
>4m							NL				
PFAS NEMP 2.0 Table 2 Industrial/Commercial											
NEPM 2013 Management Limits, Open Space, Fine Soil											
NEPM 2013 Management Limits, C/I, Fine Soil											

Field ID	Alternative Name	Sample Date	Easting	Northing	Depth	Report number											
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.2	<0.2	<20	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	-	-	<20	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	-	-	<20	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

	PAH																Phenols													
	Anthracene	Fluoranthene	Pyrene	Benz(a)anthracene	Chrysene	Benzo(k)fluoranthene	Benzo(b+j)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Benzo(a)pyrene TEQ (Zero LOR)	Benzo(a)pyrene TEQ (Half LOR)_(	Benzo(a)pyrene TEQ (Full LOR)	PAHs (Sum of total)	Phenolics Total	Phenols (non-halogenated) IWRG	Phenols(halogenated) IWRG621	2,4-dimethylphenol	2,4-dinitrophenol	2-methylphenol	2-nitrophenol	3-&4-methylphenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-nitrophenol	Cresol (Total)	Phenol	Arochlor 1016
	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	20	1	0.5	5	0.2	1	0.4	5	20	1	5	0.5	0.5	0.1
NSW 2014 Excavated Natural Material (Absolute Max)								1							40															
NSW 2014 General Solid Waste CT1 (No Leaching)								0.8							200		288				4000							4000		
NSW EPA PFAS Waste Class Addendum 2016 - SCC1																														
NSW 2014 Restricted Solid Waste CT2 (No Leaching)								3.2									1152				16000							16000		
NSW EPA PFAS Waste Class Addendum 2016 - SCC2																														
NSW TCLP1 Criteria																														
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)								0.7																						
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)								1.4																						
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses																														
NEPM 2013 HIL, Recreational C													3		300													4000	40000	
PFAS NEMP 2.0 Table 2 Health Public open space																														
NEPM 2013 HIL, Commercial/Industrial D													40		4000													25000	240000	
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay																														
0-1m																														
1-2m																														
2-4m																														
>4m																														
PFAS NEMP 2.0 Table 2 Industrial/Commercial																														
NEPM 2013 Management Limits, Open Space, Fine Soil																														
NEPM 2013 Management Limits, C/I, Fine Soil																														

Field ID	Alternative Name	Sample Date	Easting	Northing	Depth	Report number																										
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	<20	<1	<0.5	<5	<0.2	<1	<0.4	<5	<20	<1	<5	<0.5	<0.5	<0.1
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	<20	<5	<0.5	<5	<0.2	<1	<0.4	<5	<20	<1	<5	<0.5	<0.5	-
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	<20	<1	<0.5	<5	<0.2	<1	<0.4	<5	<20	<1	<5	<0.5	<0.5	-
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

	Polychlorinated Biphenyls						
	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 Excavated Natural Material (Absolute Max)							
NSW 2014 General Solid Waste CT1 (No Leaching)							<50
NSW EPA PFAS Waste Class Addendum 2016 - SCC1							
NSW 2014 Restricted Solid Waste CT2 (No Leaching)							<50
NSW EPA PFAS Waste Class Addendum 2016 - SCC2							
NSW TCLP1 Criteria							
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)							
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)							
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses							
NEPM 2013 HIL, Recreational C							1
PFAS NEMP 2.0 Table 2 Health Public open space							
NEPM 2013 HIL, Commercial/Industrial D							7
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay							
0-1m							
1-2m							
2-4m							
>4m							
PFAS NEMP 2.0 Table 2 Industrial/Commercial							
NEPM 2013 Management Limits, Open Space, Fine Soil							
NEPM 2013 Management Limits, C/I, Fine Soil							

Field ID	Alternative Name	Sample Date	Easting	Northing	Depth	Report number							
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	-	-	-	-	-	-	-
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	-	-	-	-	-	-	-
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	-	-	-	-	-	-	-
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	-	-	-	-	-	-	-
	Considered likely to be a false positive												
	Paired QA Samples												

Table C1: Summary of Previous Analytical Results

	Perfluorocarbons																			
	2-(N-methylperfluoro-1-octane s	8:2 Fluorotelomer sulfonate	N-Ethyl perfluorooctane sulfonar	N-Ethyl perfluorooctane sulfonar	N-Methyl perfluorooctane sulfon	Perfluorobutane sulfonic acid (PF	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDo	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FC	Perfluorotetradecanoic acid (PFT	Perfluorotridecanoic acid (PFTrD	Perfluoroundecanoic acid (PFUnI	10:2 Fluorotelomer sulfonic acid	4:2 Fluorotelomer sulfonic acid (4	N-Ethyl perfluorooctane sulfonar	N-Methyl perfluorooctane sulfon	Perfluorobutanoic acid (PFBA)
	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
EQL	0.0005	0.0001	0.0005	0.0005	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0005	0.0005
NSW 2014 Excavated Natural Material (Absolute Max)																				
NSW 2014 General Solid Waste CT1 (No Leaching)																				
NSW EPA PFAS Waste Class Addendum 2016 - SCC1																				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																				
NSW EPA PFAS Waste Class Addendum 2016 - SCC2																				
NSW TCLP1 Criteria																				
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)																				
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)																				
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses																				
NEPM 2013 HIL, Recreational C																				
PFAS NEMP 2.0 Table 2 Health Public open space																				
NEPM 2013 HIL, Commercial/Industrial D																				
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay																				
0-1m																				
1-2m																				
2-4m																				
>4m																				
PFAS NEMP 2.0 Table 2 Industrial/Commercial																				
NEPM 2013 Management Limits, Open Space, Fine Soil																				
NEPM 2013 Management Limits, C/I, Fine Soil																				

Field ID	Alternative Name	Sample Date	Easting	Northing	Depth	Report number															
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	<0.001	<0.0002	<0.001	<0.005	<0.001	<0.0001	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.001	<0.005	<0.0005	<0.0005	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

											Organic			
	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Sum of PFAS	Perfluorodecanesulfonic acid (PFDS)	Sum of PFHxS and PFOS	6:2 Fluorotelomer Sulfonate (6:2 FTS)	Perfluorooctanoate (PFOA)	Perfluorononanesulfonic acid (PFNS)	Perfluoropropanesulfonic acid (PFPrS)	Sum of US EPA PFAS (PFOS + PFOA)	Sum of enHealth PFAS (PFHxS + PFOS)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	UG/KG	UG/KG	UG/KG	UG/KG
EQL	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0001	0.0001	0.0005	0.0001	0.1	0.1	0.1	0.1
NSW 2014 Excavated Natural Material (Absolute Max)														
NSW 2014 General Solid Waste CT1 (No Leaching)														
NSW EPA PFAS Waste Class Addendum 2016 - SCC1		1.8	1.8							18				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)														
NSW EPA PFAS Waste Class Addendum 2016 - SCC2		7.2	7.2							72				
NSW TCLP1 Criteria														
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)														
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)														
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses			0.01											
NEPM 2013 HIL, Recreational C														
PFAS NEMP 2.0 Table 2 Health Public open space		1	1					1		10				
NEPM 2013 HIL, Commercial/Industrial D									900					
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay														
0-1m														
1-2m														
2-4m														
>4m														
PFAS NEMP 2.0 Table 2 Industrial/Commercial		20	20					20		50				
NEPM 2013 Management Limits, Open Space, Fine Soil														
NEPM 2013 Management Limits, C/I, Fine Soil														

Field ID	Alternative Name	Sample Date	Easting	Northing	Depth	Report number												
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0005	<0.0001	0.0001	<0.0005	<0.0001	<0.1	<0.1	0.1	0.1
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0005	<0.0001	0.0001	<0.0005	<0.0001	<0.1	<0.1	0.1	0.1
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	-	-	<0.1	-
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0005	<0.0001	<0.1	<0.1	<0.1	<0.1
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0005	<0.0001	<0.1	<0.1	<0.1	<0.1

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

	SVOCs	Chlorinated Hydrocarbons																														
	EPN	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene
	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.2	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5
NSW 2014 Excavated Natural Material (Absolute Max)																																
NSW 2014 General Solid Waste CT1 (No Leaching)		200	600	26	24		14				10							10			120					172		10	14	
NSW EPA PFAS Waste Class Addendum 2016 - SCC1																																
NSW 2014 Restricted Solid Waste CT2 (No Leaching)		800	2400	104	96		56				40							40			480					688		40	56	
NSW EPA PFAS Waste Class Addendum 2016 - SCC2																																
NSW TCLP1 Criteria																																
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)																																
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)																																
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses																																
NEPM 2013 HIL, Recreational C																																
PFAS NEMP 2.0 Table 2 Health Public open space																																
NEPM 2013 HIL, Commercial/Industrial D																																
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay																																
0-1m																																
1-2m																																
2-4m																																
>4m																																
PFAS NEMP 2.0 Table 2 Industrial/Commercial																																
NEPM 2013 Management Limits, Open Space, Fine Soil																																
NEPM 2013 Management Limits, C/I, Fine Soil																																

Field ID	Alternative Name	Sample Date	Easting	Northing	Depth	Report number																										
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

			Halogenated Hydrocarbons																	
	trans-1,3-dichloropropene	Vinyl chloride	Chlorinated hydrocarbons IWRG	Other chlorinated hydrocarbons	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dibromoethane	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Bromomethane	Chlorobenzene	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane
	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
EQL	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NSW 2014 Excavated Natural Material (Absolute Max)																		
NSW 2014 General Solid Waste CT1 (No Leaching)		4						86		150					2000			
NSW EPA PFAS Waste Class Addendum 2016 - SCC1																		
NSW 2014 Restricted Solid Waste CT2 (No Leaching)		16						344		600					8000			
NSW EPA PFAS Waste Class Addendum 2016 - SCC2																		
NSW TCLP1 Criteria																		
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)																		
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)																		
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses																		
NEPM 2013 HIL, Recreational C																		
PFAS NEMP 2.0 Table 2 Health Public open space																		
NEPM 2013 HIL, Commercial/Industrial D																		
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay																		
0-1m																		
1-2m																		
2-4m																		
>4m																		
PFAS NEMP 2.0 Table 2 Industrial/Commercial																		
NEPM 2013 Management Limits, Open Space, Fine Soil																		
NEPM 2013 Management Limits, C/I, Fine Soil																		
Field ID	**Alternative Name**	**Sample Date**	**Easting**	**Northing**	**Depth**	**Report number**														
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Considered likely to be a false positive

Paired QA Samples

Table C1: Summary of Previous Analytical Results

	Halogenated Phenols							Solvents								ES_EPA8100
	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol	tetrachlorophenols	Methyl Ethyl Ketone	4-Methyl-2-pentanone	Acetone	Allyl chloride	Carbon disulfide	Cyclohexane	Vic EPA IWRG 621 OCP (Total)*	Total PAH (NEPM/WHO 16)
	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
EQL	1	1	0.5	0.5	0.5	1	10	0.5	0.5	0.5	0.5	0.5	1	0.1	0.05
NSW 2014 Excavated Natural Material (Absolute Max)															
NSW 2014 General Solid Waste CT1 (No Leaching)	8000	40						4000							
NSW EPA PFAS Waste Class Addendum 2016 - SCC1															
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	32000	160						16000							
NSW EPA PFAS Waste Class Addendum 2016 - SCC2															
NSW TCLP1 Criteria															
NEPM 2013 EIL/ESL UR/POS, Site Specific (Clay)															
NEPM 2013 EIL/ESL Comm./Ind., Site Specific (Clay)															
PFAS NEMP 2.0 Table 3 Ecological Indirect Exposure - All Land Uses															
NEPM 2013 HIL, Recreational C						120									
PFAS NEMP 2.0 Table 2 Health Public open space															
NEPM 2013 HIL, Commercial/Industrial D						660									
NEPM 2013 Soil HSL Commercial/Industrial D, for Vapour Intrusion, Clay															
0-1m															
1-2m															
2-4m															
>4m															
PFAS NEMP 2.0 Table 2 Industrial/Commercial															
NEPM 2013 Management Limits, Open Space, Fine Soil															
NEPM 2013 Management Limits, C/I, Fine Soil															
Field ID	**Alternative Name**	**Sample Date**	**Easting**	**Northing**	**Depth**	**Report number**									
TP-B369_0.1	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<1	<1	<0.5	<0.5	<0.5	<1	<10	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.1	-
QA300_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	818675	<1	<1	<0.5	<0.5	<0.5	<5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
QA400_160821	SMGW-TP-B369_0.1	16/08/2021	291601.69	6249912.939	0.1	276396	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.05
TP-B369_1	SMGW-TP-B369_1	16/08/2021	291601.69	6249912.939	1	818675	<1	<1	<0.5	<0.5	<0.5	<1	<10	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP-B369_1.5	SMGW-TP-B369_1.5	16/08/2021	291601.69	6249912.939	1.5	818675	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-

Considered likely to be a false positive

Paired QA Samples

EXCAVATION - GEOLOGICAL LOG

PIT NO : SMGW-TP-B369 REV 0
FILE / JOB NO : 80021888
SHEET : 1 OF 1

PROJECT : SMWSA GI
LOCATION : USYD

POSITION : E: 291601.690, N: 6249912.939 (56 MGA2020) | SURFACE ELEVATION : 54.213 (AHD)

EQUIPMENT TYPE : 8t Excavator | METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/8/21 | LOGGED BY : TH | CHECKED BY : PW

EXCAVATION DIMENSIONS : 3.00 m LONG 1.00 m WIDE

DRILLING | MATERIAL

VE / PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	DCP TEST (AS 1289.6.3.2-1997) Blows/100 mm 5 10 15 20 25	STRUCTURE & Other Observations
E	STABLE	Not Encountered	0.50m B 1.00m	0.0 0.5 1.0 1.5		CL CL-Cl Cl Cl-CH	FILL: CLAYEY SAND: brown, fine to medium grained sand, low plasticity clay, trace silt, trace fine grained gravel, with rootlets 0.20m SANDY CLAY: brown to pale brown, low plasticity, fine to medium grained sand, with silt, trace rootlets 0.50m SILTY CLAY: pale brown to pale grey, low to medium plasticity, trace fine grained gravel 0.80m SILTY CLAY: pale brown to brown, mottled yellow orange, medium plasticity, with fine to medium grained sand, trace fine to medium grained, sub-angular, ironstone gravel 1.30m SILTY CLAY: pale grey, mottled yellow brown, medium to high plasticity, with interbedded siltstone bands 1.50m EXCAVATION SMGW-TP-B369 REV 0 TERMINATED AT 1.50 m Target depth	M	St St to VSt VSt to H H		7 3 4 5 5 8 12 10	TOPSOIL 0.00: All ES PID<10 ppm POSSIBLE ALLUVIUM 1.00: Non-calcareous POSSIBLE RESIDUAL SOIL 1.50: Non-calcareous

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

CARDNO NSW/ACT PTY LTD

Cardno

File: 80021888 SMGW-TP-B369 REV 0 1 OF 1

RMS LIB 40.3 EXTERNAL M6E REV1.3.GLB Log RTA EXCAVATION 80021888 SMWSA GI GINT LOGS FINAL.GPJ <<DrawingFile>> 11/Oct/2021 13:48 10.0.000 Cardno M6E

Appendix D

Data Quality Objectives

Data Quality Objectives
DSI for AEC 44, 1793 Elizabeth Drive, Badgerys Creek
SCAW Package for SMWSA

As shown in the table below, the DSI has been devised broadly in accordance with the seven-step data quality objective (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).

Step	Summary
1: State the problem	The problem to be addressed is that the extent and nature of potential contamination at the site is unknown and it is unclear whether the site is suitable for the proposed uses. The objective of the DSI is to determine the contamination status of the site with respect to the proposed land use and, if contamination is confirmed, to make recommendations for further investigations and / or remediation to render the site suitable for the proposed uses. In addition, soil from the site may potentially be reused elsewhere within SCAW and the data obtained in the DSI, therefore, may also be used for this purpose. A preliminary conceptual site model (CSM) has been prepared for the proposed development. The proposed project team consists of experienced environmental engineers and scientists.
2: Identify the decisions / goal of the study	The site history has identified possible contaminating previous uses which are identified in the preliminary CSM. The SAC for potential contaminants are provided in the DSI. 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 and whether (or not) further assessment and / or remediation will be derived.
3: Identify the information inputs	Inputs to the investigation will be the results of analysis of samples to measure the concentrations of potential contaminants at the site using NATA accredited laboratories and methods, where possible. The SAC for each of the potential contaminants are provided in the RAP. A photoionization detector (PID) is used on-site to screen soils for volatile contaminants. PID readings will be used to inform sample selection for laboratory analysis.
4: Define the study boundaries	The site is identified in the DSI. The lateral boundaries of the investigation area are shown on Drawing 1, Appendix A.

Step	Summary
5: Develop the analytical approach (or decision rule)	The decision rule is to compare all analytical results with SAC. Initial comparisons will be with individual results then, where required and if possible, 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. 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, 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, RPDs should generally be below 30%; for field blanks and rinsates, results should be at or less than the limits of reporting (NEPC, 2013).
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 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 human health and environmental SAC and as such, 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.
7: Optimise the design for obtaining data	As the purpose of the sampling program is to assess for potential contamination across 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 the DSI. Adequately experienced environmental scientists/engineers are chosen to conduct field work and sample analysis interpretation.

Appendix E

Laboratory Certificates and Chain of Custody

Appendix F

Site Assessment Criteria

Site Assessment Criteria for Soil for AEC44

Surface & Civil Alignment Works (SCAW) Package for Sydney Metro - Western Sydney Airport (SMWSA)

1.0 Introduction

It is understood that the two general future land uses associated at the site will comprise:

- The rail corridor. The rail corridor will include the rail line, embankments / noise barriers, a stabling yard and maintenance facility and stations; and
- Passive open space. These are areas immediately adjacent to the rail corridor that may be used for bike / commuter paths. It is assumed that there is an absence of buildings in areas of passive open space.

The following references were consulted for deriving 'Tier 1' SAC for soil for the two above-listed land uses:

- 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); and
- HEPA, *PFAS National Environmental Management Plan* (NEMP) (HEPA, 2020).

2.0 Human Health-based Criteria

Human health-based SAC for soil and the associated future land uses are listed in Tables 1 to 5. Tier 1 criteria comprise:

- Health Investigation Levels (HIL) for a broad range of metals and organics (Table 1). HIL are applicable for assessing human health risk via all relevant pathways of exposure;
- Health Screening Levels (HSL) for vapour intrusion for selected petroleum hydrocarbons and fractions (Tables 2 and 3). These are applicable for assessing human health via the inhalation pathway. HSL are dependent on soil type and depth. HSL D are applicable to soil / areas to be covered by buildings (e.g., stations, offices and enclosed sheds);
- HSL for direct contact for selected petroleum hydrocarbons and fractions (Table 4). These are applicable for assessing human health via the direct contact pathway;
- Health investigation levels (HIL) for per- and poly-fluoroalkyl substances (PFAS) (Table 5). At the time of preparing this document, screening values were available only for perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS); and
- Health screening levels for asbestos (Table 6).

For HSL for vapour intrusion, HSL for silt and clay soils are shown as these are the predominant soil types at the site.

Table 1: Health Investigation Levels (Tier 1) from NEPM

Contaminant	HIL C for Passive Open Space (mg/kg)	HIL D for Rail Corridor (mg/kg)
Metals and Inorganics		
Arsenic	300	3000
Cadmium	90	900
Chromium (VI)	300	3600
Copper	17 000	240 000
Lead	600	1500
Mercury (inorganic)	80	730
Nickel	1200	6000
Zinc	30 000	400 000
Polycyclic Aromatic Hydrocarbons (PAH)		
Benzo(a)pyrene TEQ	3	40
Total PAH	300	4000
Phenols		
Phenol	40 000	240 000
Pentachlorophenol	120	660
Cresols	4000	25 000
Organochlorine Pesticides (OCP)		
DDT+DDE+DDD	400	3600
Aldrin and dieldrin	10	45
Chlordane	70	530
Endosulfan	340	2000
Endrin	20	100
Heptachlor	10	50
HCB	10	80
Methoxychlor	400	2500
Toxaphene	30	160
Organophosphorus Pesticides (OPP)		
Chlorpyrifos	250	2000
Polychlorinated Biphenyls (PCB)		
PCB	1	7

Table 2: Health Screening Levels (Tier 1) for Vapour Intrusion for Passive Open Space from NEPM

Contaminant	HSL C (mg/kg)	HSL C (mg/kg)	HSL C (mg/kg)	HSL C (mg/kg)
SILT	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	NL	NL	NL	NL
Toluene	NL	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	NL	NL	NL	NL
Naphthalene	NL	NL	NL	NL
TPH C6-C10 less BTEX	NL	NL	NL	NL
TPH >C10-C16 less naphthalene	NL	NL	NL	NL
CLAY	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	NL	NL	NL	NL
Toluene	NL	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	NL	NL	NL	NL
Naphthalene	NL	NL	NL	NL
TPH C6-C10 less BTEX	NL	NL	NL	NL
TPH >C10-C16 less naphthalene	NL	NL	NL	NL

Notes: TPH is total petroleum hydrocarbons

The soil saturation concentration (Csat) 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 Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would results 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'

Table 3: Health Screening Levels (Tier 1) for Vapour Intrusion for Rail Corridor from NEPM

Contaminant	HSL D (mg/kg)	HSL D (mg/kg)	HSL D (mg/kg)	HSL D (mg/kg)
SILT	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	4	4	6	10
Toluene	NL	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	NL	NL	NL	NL
Naphthalene	NL	NL	NL	NL
TPH C6-C10 less BTEX	250	360	590	NL
TPH >C10-C16 less naphthalene	NL	NL	NL	NL

Contaminant	HSL D (mg/kg)	HSL D (mg/kg)	HSL D (mg/kg)	HSL D (mg/kg)
CLAY	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	4	6	9	20
Toluene	NL	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	NL	NL	NL	NL
Naphthalene	NL	NL	NL	NL
TPH C6-C10 less BTEX	310	480	NL	NL
TPH >C10-C16 less naphthalene	NL	NL	NL	NL

Notes: TPH is total petroleum hydrocarbons

The soil saturation concentration (Csat) 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 Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would results 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'

Table 4: Health Screening Levels (Tier 1) for Direct Contact from CRC CARE (2011)

Contaminant	HSL C for Passive Open Space (mg/kg)	HSL D for Rail Corridor (mg/kg)
Benzene	120	430
Toluene	18 000	99 000
Ethylbenzene	5300	27 000
Xylenes	15 000	81 000
Naphthalene	1900	11 000
TPH C6-C10 less BTEX	5100	26 000
TPH >C10-C16 less naphthalene	3800	20 000
TPH >C16-C34	5300	27 000
TPH >C34-C40	7400	38 000

Notes: TPH is total petroleum hydrocarbons.

Table 5: Health Investigation Levels (Tier 1) for PFAS from NEMP

Contaminant	HIL C for Passive Open Space (mg/kg)	HIL D for Rail Corridor (mg/kg)
PFOS and PFHxS *	1	20
PFOA	10	50

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

Table 6: Health Screening Levels (Tier 1) for Asbestos from NEPM

Form of Asbestos	Health Screening Level C for Passive Open Space	Health Screening Level D for Rail Corridor
Bonded asbestos containing materials (ACM)	0.02%	0.05%
Fibrous asbestos (FA) and asbestos fines (AF) (friable asbestos)	0.001%	0.001%
All forms of asbestos	No visible asbestos for surface soil	No visible asbestos for surface soil

Notes: FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).
AF includes free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.
Surface soils defined as top 10 cm.

3.0 Ecological Criteria

Ecological SAC for soil and the associated future use are listed are listed in Tables 7 to 9. Tier 1 criteria comprise:

- Ecological Investigation Levels (EIL) for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene (Table 7). These are derived using the interactive (excel) calculation spreadsheet on the NEPM toolbox website and are used to assess contamination with respect to terrestrial ecosystems. Site specific inputs (including soil parameters) are required to calculate EIL. EIL typically apply to the top 2 m of soil; and
- Ecological Screening Levels (ESL) for selected petroleum hydrocarbon compounds and fractions, and benzo(a)pyrene, and are used to assess contamination with respect to terrestrial ecosystems (Table 8). ESL are dependent on soil type and typically apply to the top 2 m of soil.
- Ecological Soil Guideline Values (EGV) for PFAS (Table 9). At the time of preparing this document, screening values were available only for PFOS and PFOA.

EIL were determined using the NEPC Ecological Investigation Level Spreadsheet based on the following inputs:

- A pH of 6.36 which is the average pH for analysed soil samples in this investigation (see laboratory certificates) and the previous results for test pit SMGW-TP-B369;
- A Cation Exchange Capacity (CEC) of 8.25 meq/100g which is the average CEC for analysed soil samples (see laboratory certificates);
- Contamination is assumed to be ‘aged’ based on site history;
- A (default) organic carbon content value of 1 % has been used as a default value;
- A clay content of 1% has been used as a conservative value given the soil profile encountered during the investigation; and
- The state is NSW and the traffic volume is ‘low’.

Although gravel and sand soils (coarse soil) were encountered, predominantly silt and clay soils were encountered during the investigation and, so, ESL for fine soils have been adopted.

Table 7: Ecological Investigation Levels (Tier 1) from NEPM toolbox

Contaminant	Public Open Space EIL for Passive Open Space (mg/kg)	Commercial and Industrial EIL for Rail Corridor (mg/kg)
Metals		
Arsenic	100	160
Copper	180	250
Nickel	110	190
Chromium III	190	320
Lead	1100	1800
Zinc	420	610
PAH		
Naphthalene	170	370
OCP		
DDT	180	640

Table 8: Ecological Screening Levels (Tier 1) from NEPM

Contaminant	Soil Type	Public Open Space ESL for Passive Open Space (mg/kg)	Commercial and Industrial ESL for Rail Corridor (mg/kg)
Benzene	Fine	65	95
Toluene	Fine	105	135
Ethylbenzene	Fine	105	135
Xylenes	Fine	45	95
TPH C6-C10 less BTEX	Coarse/ Fine	180*	215*
TPH >C10-C16	Coarse/ Fine	120*	170*
TPH >C16-C34	Fine	1300	2500
TPH >C34-C40	Fine	5600	6600
Benzo(a)pyrene	Coarse / Fine	0.7	1.4

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

Table 9: Ecological Soil Guideline Values (Tier 1) from NEMP for all Land Uses

Contaminant	Direct Exposure (mg/kg)	Indirect Exposure (mg/kg)
PFOS	1	0.01
PFOA	10	NC

Notes: NC no criterion
Direct exposure ecological soil guideline applies specifically to protection of organisms that live within, or in close contact with soil, such as earthworms and plants.
The indirect exposure ecological soil guideline accounts for the various pathways through which organisms can be exposed whether or not they are in direct contact with PFAS contaminated soil (i.e. exposure through the food chain). For intensively developed sites with no secondary consumers and minimal potential for indirect ecological exposure, a higher criterion of up to 0.14 mg/kg may be appropriate.

4.0 Management Limits

In addition to appropriate consideration and application of the human health and ecological criteria, 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.

Management limits are shown in Table 8. Although gravel and sand soils (coarse soil) were encountered, predominantly silt and clay soils were encountered during the investigation and, so, management limits for fine soils have been adopted.

Table 8: Management Limits for TPH from NEPM (mg/kg)

Contaminant	Soil Type	Public Open Space Management Limits for Passive Open Space (mg/kg)	Commercial and Industrial Management Limit for Rail Corridor (mg/kg)
TPH C6-C10	Fine	800	800
TRH >C10-C16	Fine	1000	1000
TPH >C16-C34	Fine	3500	5000
TPH >C34-C40	Fine	10 000	10 000

Site Assessment Criteria for Groundwater for AEC44

Surface & Civil Alignment Works (SCAW) Package for Sydney Metro - Western Sydney Airport (SMWSA)

1.0 Introduction

The following references were consulted for deriving 'Tier 1' SAC for groundwater:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).
- 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, NRMMC *Australian Drinking Water Guidelines 6 2011, Version 3.8, 2022* (NHMRC, NRMMC, 2022).
- ANZECC *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC, 2000).
- HEPA PFAS *National Environmental Management Plan* (NEMP) (HEPA, 2020).

2.0 Ecological Criteria

SAC for the protection of aquatic freshwater ecosystems which may receive groundwater from the site include:

- Default guideline values (DGV) recommended for the protection of slightly to moderately disturbed freshwater ecosystems (or otherwise for an unknown level of protection) from ANZG (2018) (Table 1).

It is noted that livestock at surrounding farmland could potentially be a receptor to discharged groundwater (as surface water) that was sourced from the site, however, water quality guidelines for livestock in ANZECC (2000) are generally less conservative than the DGV and have not been listed herein.

Table 1: Default Guideline Values for Protection of Aquatic Ecosystems from ANZG (2018)

Contaminant	Fresh Water DGV (µg/L)
Metals	
Arsenic (III)	24
Arsenic (V)	13
Cadmium	5.3 *

Contaminant	Fresh Water DGV (µg/L)
Chromium (III)	68 *
Chromium (VI)	1.0
Copper	1.4
Lead	368 *
Mercury (inorganic)	0.06
Nickel	253*
Zinc	184*
Aromatic Hydrocarbons (including BTEX)	
Benzene	950
Ethylbenzene	80
Toluene	180
m-Xylene	75
o-Xylene	350
p-Xylene	200
Isopropylbenzene	30
PAH	
Anthracene	0.01
Benzo(a)pyrene	0.1
Fluoranthene	1
Naphthalene	16
Phenanthrene	0.6
Phenols	
2,4-dinitrophenol	45
2,4-dimethylphenol	2
4-nitrophenol	58
Phenol	320
2,3,4,6-tetrachlorophenol	10
2,3,5,6-tetrachlorophenol	0.2
2,4,6-trichlorophenol	3
2,4-dichlorophenol	120
2,6-dichlorophenol	34
2-chlorophenol	340
Pentachlorophenol	3.6
OCP	
Aldrin	0.001
Chlordane	0.03

Contaminant	Fresh Water DGV (µg/L)
DDT	0.006
Dicofol	0.5
Dieldrin	0.01
Endosulfan	0.03
Endrin	0.01
Heptachlor	0.01
Lindane	0.2
Methoxychlor	0.005
Mirex	0.04
Toxaphene	0.1
Hexachlorobenzene	0.05
OPP	
Azinphos methyl	0.01
Chlorpyrifos	0.01
Diazinon	0.01
Dimethoate	0.15
Fenitrothion	0.2
Malathion	0.05
Parathion	0.004
PCB	
Aroclor 1242	0.3
Aroclor 1254	0.01
Other Organics	
1,1,2-trichloroethane	6500
1,1-dichloroethene	700
1,2-dichloroethane	1900
1,2-dichloropropane	900
1,3-dichloropropane	1100
Carbon tetrachloride	240
Chloroform	370
Tetrachloroethene	70
Vinyl chloride	100
1,2,3-trichlorobenzene	3
1,2,4-trichlorobenzene	85
1,2-dichlorobenzene	160
1,3-dichlorobenzene	260

Contaminant	Fresh Water DGV (µg/L)
1,4-dichlorobenzene	60
Chlorobenzene	55
1,1,1-Trichloroethane	270
Trichloroethene	330
1,1,2,2-Tetrachloroethane	400
Carbon disulfide	20

Notes: * Modified for hardness 1200 mgCaCO3/L

3.0 Human Health and Aesthetic Criteria

Human health-based SAC include:

- Health Screening Levels (HSL) for vapour intrusion for selected petroleum hydrocarbons and fractions (Tables 2 and 3). These are applicable for assessing human health via the inhalation pathway. HSL are shown for clay, given that clay is the predominant soil type. HSL D are applicable for areas to be covered by buildings (e.g., stations, offices and enclosed sheds);
- Health-based guidelines for recreational waters (Table 4). These are health-based criteria from NHMRC, NRMMC (2022) multiplied by 10 (to account for lower human consumption of recreational waters compared to drinking water); and
- Recreational water quality guideline values (Table 5) from NEMP.

Given that groundwater in the area is not used for drinking or domestic purposes (according to groundwater bore registered with Water NSW), health-based drinking water guidelines have not been adopted as SAC.

For the consideration of aesthetics of recreational waters, aesthetic guideline values from NHMRC, NRMMC (2022) have been included in Table 4.

Table 2: Groundwater Health Screening Levels for Vapour Intrusion from NEPM for Passive Open Space

Contaminant	HSL C (µg/L)	HSL C (µg/L)	HSL C (µg/L)
CLAY	**2 m to <4 m**	**4 m to <8 m**	**8 m+**
Benzene	NL	NL	NL
Toluene	NL	NL	NL
Ethylbenzene	NL	NL	NL
Xylenes	NL	NL	NL
Naphthalene	NL	NL	NL
TPH C6-C10 minus BTEX	NL	NL	NL
TPH >C10-C16 minus naphthalene	NL	NL	NL

Notes: 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'.

Table 3: Groundwater Health Screening Levels for Vapour Intrusion from NEPM for Rail Corridor

Contaminant	HSL D (µg/L)	HSL D (µg/L)	HSL D (µg/L)
CLAY	**2 m to <4 m**	**4 m to <8 m**	**8 m+**
Benzene	30 000	30 000	35 000
Toluene	NL	NL	NL
Ethylbenzene	NL	NL	NL
Xylenes	NL	NL	NL
Naphthalene	NL	NL	NL
TPH C6-C10 minus BTEX	NL	NL	NL
TPH >C10-C16 minus naphthalene	NL	NL	NL

Notes: 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'.

Table 4: Guidelines for Protection of Recreational Waters from NHMRC (2008) and NHMRC, NRMMC (2022)

Contaminant	Health-based Guideline Value (µg/L)	Aesthetic Guideline Value (µg/L)
Metals		
Arsenic	100	-
Cadmium	20	-

Contaminant	Health-based Guideline Value (µg/L)	Aesthetic Guideline Value (µg/L)
Chromium (VI)	500	-
Copper	20 000	1000
Lead	100	-
Mercury	10	-
Nickel	200	-
Zinc	-	3000
BTEX		
Benzene	10	-
Toluene	8000	25
Ethylbenzene	3000	3
Xylene (total)	6000	20
PAH		
Benzo(a)pyrene	0.1	-
OCP		
Aldrin + Dieldrin	3	-
Chlordane	20	-
DDT	90	-
Endosulfan	200	-
Lindane	100	-
Heptachlor	3	-
Methoxychlor	3000	
OPP		
Azinphos methyl	300	-
Bromophos-ethyl	100	-
Chlorfenvinphos	20	-
Chlorpyrifos	100	-
Diazinon	40	-
Dichlorvos	50	-
Dimethoate	70	-
Disulfoton	40	-
Ethion	40	-
Ethoprophos (Ethoprop)	10	-
Fenitrothion	70	-
Fensulfothion	100	-
Fenthion	70	-

Contaminant	Health-based Guideline Value (µg/L)	Aesthetic Guideline Value (µg/L)
Malathion	700	-
Methyl parathion	7	-
Mevinphos (Phosdrin)	50	-
Monocrotophos	20	-
Omethoate	10	-
Pyrazophos	200	-
Terbufos	9	-
Tetrachlorvinphos	1000	-
Parathion	200	-
Pirimiphos-methyl	900	-
Halogenated Phenols		
2,4,6-trichlorophenol	200	2
2,4-dichlorophenol	2000	0.3
2-chlorophenol	3000	0.1
Pentachlorophenol	100	-
Other Organics		
1,1-dichloroethene	300	-
1,2-dichloroethane	30	-
Carbon tetrachloride	30	-
Hexachlorobutadiene	7	-
Tetrachloroethene	500	-
Vinyl chloride	3	-
1,2-dichlorobenzene	15 000	1
1,3-dichlorobenzene	-	20
1,4-dichlorobenzene	400	0.3
Chlorobenzene	3000	10
Styrene	300	4
Trihalomethanes	2500	-
1,2,3-Trichlorobenzenes (total)	300	5
1,3-Dichloropropene	1000	-
1,2-Dichloroethene	600	-
Dichloromethane (methylene chloride)	40	-

Table 5: Recreational Water Quality Guideline Values From NEMP

Contaminant	Recreational Water Quality Guideline Values (µg/L)
Sum of PFOS and PFHxS	2
PFOA	10

Douglas Partners Pty Ltd

Appendix G

Test Pit Logs and Borehole Logs

EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP01
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291409.1, N: 6249926.4 (56 MGA2020)	SURFACE ELEVATION : 55.70 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed		0.20m							
			0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL	St - VSt	×	RESIDUAL SOIL 0.40: HP =210 kPa 0.40: PID=0.1
			0.80m ES 0.90m	0.70m		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel	w<PL		×	0.80: HP =160 kPa 0.80: PID=0.1
				0.90m			EXCAVATION AEC44TP01 TERMINATED AT 0.90 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

Re

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP02
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291447.0, N: 6249923.0 (56 MGA2020)	SURFACE ELEVATION : 55.80 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
			0.30m	0.20m							
		Not Observed	ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		X	RESIDUAL SOIL 0.30: HP =230 kPa 0.30: PID=0.1
			0.60m	0.45m							
			ES 0.70m	0.5			Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt	X	0.60: HP =160 kPa 0.60: PID=0.2
						CI-CH		w<PL			
				1.00m			EXCAVATION AEC44TP02 TERMINATED AT 1.00 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



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PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP03
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291414.5, N: 6249959.8 (56 MGA2020)	SURFACE ELEVATION : 57.00 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL					
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.3
				0.20m							
			0.30m ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		X	RESIDUAL SOIL 0.30: HP =280 kPa 0.30: PID=0.3
		Not Observed		0.5							
				0.50m			Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt		
			0.70m ES 0.80m			CI-CH		w<PL		X	0.70: HP =160 kPa 0.70: PID=0.1
				1.00m							
				1.0			EXCAVATION AEC44TP03 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP04
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291447.1, N: 6249958.1 (56 MGA2020)	SURFACE ELEVATION : 57.20 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
				0.20m							
			0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey, with decomposed wood	w~PL			Field Replicate BD1/220803 taken at 0.0-0.1m depth
		Not Observed	ES 0.50m	0.5							RESIDUAL SOIL 0.40: HP =190 kPa 0.40: PID=0.3
				0.50m			Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt		
			0.90m			CI-CH		w~PL			0.90: HP =170 kPa 0.90: PID=0.3
			ES 1.00m	1.0							
				1.20m			EXCAVATION AEC44TP04 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP05
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291419.0, N: 6249995.7 (56 MGA2020)	SURFACE ELEVATION : 58.30 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL					
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	0.10m ES 0.20m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.10: PID=0.1
		Not Observed	0.50m ES 0.60m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey 0.60m	w~PL	St - VSt	0.50: HP =250 kPa	RESIDUAL SOIL 0.50: PID=0.2
			0.80m ES 0.90m	1.0		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel 1.00m	w~PL		0.80: HP =260 kPa	0.80: PID=0.1
				1.0			EXCAVATION AEC44TP05 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

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PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP06
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291447.3, N: 6249986.6 (56 MGA2020)	SURFACE ELEVATION : 58.30 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.5
				0.20m							
		Not Observed	0.40m ES 0.50m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL			Field Replicate BD2/220803 taken at 0.0-0.1m depth RESIDUAL SOIL
				0.50m							
				0.5			Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt		0.50: HP =200 kPa 0.50: PID=0.3
			0.80m ES 0.90m			CI-CH		w<PL			0.80: HP =240 kPa 0.80: PID=0.3
				1.00m							
				1.0			EXCAVATION AEC44TP06 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE, E, F, H, VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP07
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291420.4, N: 6250014.6 (56 MGA2020)	SURFACE ELEVATION : 59.20 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.6
							0.20m				
			0.40m				Silty CLAY: medium to high plasticity, red-brown mottled grey				RESIDUAL SOIL
		Not Observed	ES 0.50m	0.5		CI-CH		w~PL		X	0.40: HP =240 kPa 0.40: PID=0.3
							0.60m				
							Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt		
						CI-CH		w~PL			
			1.00m ES 1.10m	1.0						X	1.00: HP =170 kPa 1.00: PID=0.4
							1.10m EXCAVATION AEC44TP07 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP08
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291444.6, N: 6250028.5 (56 MGA2020)	SURFACE ELEVATION : 59.80 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey 0.60m	w~PL	St - VSt	200	RESIDUAL SOIL 0.40: HP =190 kPa 0.40: PID=0.2
			1.00m ES 1.10m	1.0		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel 1.10m	w<PL		200	1.00: HP =210 kPa 1.00: PID=0.2
							EXCAVATION AEC44TP08 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP09
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291417.5, N: 6250073.1 (56 MGA2020)	SURFACE ELEVATION : 61.60 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.3
				0.20m							
			0.30m ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		X	Field Replicate BD4/220803 taken at 0.0-0.1m depth
		Not Observed		0.50m							RESIDUAL SOIL 0.30: HP =160 kPa 0.30: PID=0.2
			0.70m ES 0.80m	0.5		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel	w~PL	St - VSt	X	0.70: HP =180 kPa 0.70: PID=0.3
				1.00m							
				1.0			EXCAVATION AEC44TP09 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Ref

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP10
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291448.0, N: 6250063.7 (56 MGA2020)	SURFACE ELEVATION : 61.20 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.2
							0.20m				
			0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		X	RESIDUAL SOIL 0.40: HP =150 kPa 0.40: PID=0.1
		Not Observed	ES 0.50m	0.5			0.50m				
							Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt		
						CI-CH		w<PL			
			1.00m ES 1.10m	1.0			1.10m			X	1.00: HP =180 kPa
							EXCAVATION AEC44TP10 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP11
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291426.8, N: 6250083.8 (56 MGA2020)	SURFACE ELEVATION : 62.00 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.2
				0.20m							
		Not Observed	0.40m ES 0.50m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		× 0.40: HP =170 kPa	RESIDUAL SOIL 0.40: PID=0.2
				0.5							
			0.70m ES 0.80m	0.50m			Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel	w~PL	St - VSt	× 0.70: HP =200 kPa	0.70: PID=0.3
				1.00m			EXCAVATION AEC44TP11 TERMINATED AT 1.00 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP12
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291449.7, N: 6250079.5 (56 MGA2020)	SURFACE ELEVATION : 61.80 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.2
			0.30m	0.20m							
		Not Observed	ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		X	RESIDUAL SOIL 0.40: HP =160 kPa 0.40: PID=0.2
			0.70m	0.5			Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt		
			ES 0.80m			CI-CH		w~PL		X	0.70: HP =170 kPa 0.70: PID=0.2
				1.00m			EXCAVATION AEC44TP12 TERMINATED AT 1.00 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

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PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP13
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291478.1, N: 6249994.6 (56 MGA2020)	SURFACE ELEVATION : 58.70 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 03/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0
				0.20m							
			0.30m				Silty CLAY: medium to high plasticity, red-brown mottled grey				RESIDUAL SOIL
		Not Observed	ES 0.40m			CI-CH		w~PL		×	0.40: HP =150 kPa 0.40: PID=0
				0.50m							
			0.70m	0.5			Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel		St - VSt		
			ES 0.80m			CI-CH		w~PL		×	0.70: HP =200 kPa 0.70: PID=0.1
				1.00m							
				1.0			EXCAVATION AEC44TP13 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



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PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP14
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291478.7, N: 6250039.0 (56 MGA2020)	SURFACE ELEVATION : 60.50 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic, Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	0.40m ES 0.50m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		X	Field Replicate BD1/220804 taken at 0-0.1m depth RESIDUAL SOIL 0.40: HP =160 kPa 0.40: PID=0.1
			0.70m ES 0.80m	0.50m		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, with subangular ironstone gravel, trace fine to medium, subangular ironstone gravel	w~PL	St	X	0.70: HP =170 kPa 0.70: PID=0.2
				1.00m			EXCAVATION AEC44TP14 TERMINATED AT 1.00 m Target depth				
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP15
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291478.6, N: 6250074.2 (56 MGA2020)	SURFACE ELEVATION : 61.70 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
				0.20m							
			0.40m ES 0.50m			CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace rootlets	w<PL			RESIDUAL SOIL 0.40: HP =140 kPa 0.40: PID=0.1
			0.70m ES 0.80m	0.5		CI-CH	Silty CLAY: medium to high plasticity, pale brown-yellow	w<PL	St		0.70: HP =170 kPa 0.70: PID=0.3
				1.00m							
			1.30m ES 1.40m	1.0		CL-CI	Sandy CLAY: low to medium plasticity, brown-yellow, with fine to coarse, subangular shale gravel	w<PL			1.30: PID=0.1
			1.50m ES 1.60m	1.5					VSt - H		1.50: PID=0.1
		04/08/22				CL-CI	Sandy CLAY: low to medium plasticity, grey mottled yellow-orange, with fine to coarse sandstone gravel	w~PL			
				2.00m			EXCAVATION AEC44TP15 TERMINATED AT 2.00 m Target depth				
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP16
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291491.8, N: 6249990.8 (56 MGA2020)	SURFACE ELEVATION : 58.20 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic; Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	0.10m ES 0.20m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL
			0.30m ES 0.40m				0.20m				
		Not Observed				CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL			RESIDUAL SOIL
				0.5			0.50m				
			0.70m ES 0.80m			CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel	w~PL	St - VSt		
				1.0			1.00m				
							EXCAVATION AEC44TP16 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : **AEC44TP17**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291495.9, N: 6250030.5 (56 MGA2020)	SURFACE ELEVATION : 60.20 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION / E / F / H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
				0.20m							
			0.50m ES 0.60m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL	St - VSt	×	RESIDUAL SOIL 0.50: HP =170 kPa 0.50: PID=0.1
				0.70m			Sandy CLAY: low to medium plasticity, yellow-brown mottled grey, fine to medium sand, with fine to medium sandstone gravel and ironstone gravel				
			1.50m ES 1.60m	1.0		CL-CI		w<PL	VSt - H		1.50: PID=0.1
		04/08/22		1.5							
				2.0			2.00m EXCAVATION AEC44TP17 TERMINATED AT 2.00 m Target depth				
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : **AEC44TP18**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291506.5, N: 6250068.1 (56 MGA2020)	SURFACE ELEVATION : 61.50 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		N/A		0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets 0.20m	Damp	-		TOPSOIL 0.00: PID=0.1
			0.50m ES 0.60m	0.5		CI-CH	Silty CLAY: medium to high plasticity, brown-red 0.70m	w<PL	St - VSt	200	RESIDUAL SOIL 0.50: HP =210 kPa 0.50: PID=0.2
			1.00m ES 1.10m	1.0		CI-CH	Silty CLAY: medium to high plasticity, pale brown mottled red, with shale gravel 1.20m	w<PL	VSt	200	1.00: HP =270 kPa 1.00: PID=0.1
			1.30m ES 1.40m			CL	Silty CLAY: low plasticity, grey-brown-orange, with shale gravel and ironstone gravel 1.50m	w<PL	H		WEATHERED MATERIAL 1.30: PID=0.1
		04/08/22		1.5			EXCAVATION AEC44TP18 TERMINATED AT 1.50 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP19
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291523.8, N: 6249983.2 (56 MGA2020)	SURFACE ELEVATION : 57.70 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic; Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL
				0.20m							
			0.30m ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		X	RESIDUAL SOIL 0.30: HP =120 kPa
		Not Observed		0.50m							
			0.70m ES 0.80m	0.5		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium, subangular ironstone gravel	w~PL	St	X	0.70: HP =150 kPa
				1.00m							
				1.0			EXCAVATION AEC44TP19 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP20
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291527.0, N: 6250028.7 (56 MGA2020)	SURFACE ELEVATION : 60.10 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
				0.20m							
			0.50m ES 0.60m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL	St	×	RESIDUAL SOIL 0.50: HP =150 kPa 0.50: PID=0.1
				0.80m							
				1.0		CL-CI	Sandy CLAY: low to medium plasticity, pale brown-grey, fine sand, with angular shale gravel	w<PL	VSt - H		WEATHERED MATERIAL
			1.30m ES 1.40m								1.30: PID=0.1
		04/08/22 ▽		1.5			EXCAVATION AEC44TP20 TERMINATED AT 1.50 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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File: AEC44TP20 RevA 1 OF 1

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP21
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291531.5, N: 6250059.9 (56 MGA2020)	SURFACE ELEVATION : 61.40 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
							0.20m Silty CLAY: medium to high plasticity, red-brown, trace rootlets				RESIDUAL SOIL
			0.60m ES 0.70m	0.5		CI-CH	At 0.6m: becoming pale brown-orange	w<PL	St - VSt	×	0.60: HP =210 kPa 0.60: PID=0.2
							0.90m Sandy CLAY: low to medium plasticity, pale brown-grey, with silt				
		04/08/22 ▽ 1.50m	ES 1.60m	1.0 1.5		CL-CI		w~PL	VSt - H		1.50: PID=0.2
							1.70m EXCAVATION AEC44TP21 TERMINATED AT 1.70 m Target depth				
				2.0 2.5 3.0 3.5 4.0 4.5 5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP22
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291571.9, N: 6249980.3 (56 MGA2020)	SURFACE ELEVATION : 58.00 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		SM	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: Field Replicate BD3 taken at 0-0.1m depth
			0.30m	0.20m							RESIDUAL SOIL
		Not Observed	ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL		×	0.30: HP =150 kPa
			0.70m	0.50m			Silty CLAY: low to medium plasticity, mottled grey-orange-brown, with ironstone gravel		St - VSt		
			ES 0.80m	0.5		CL-CI		w<PL		×	0.70: HP =200 kPa
				1.00m			EXCAVATION AEC44TP22 TERMINATED AT 1.00 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP23
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291576.9, N: 6250007.0 (56 MGA2020)	SURFACE ELEVATION : 59.20 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL
			0.30m	0.20m							RESIDUAL SOIL
			ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey	w~PL	St	X	0.30: HP =150 kPa
		Not Observed	0.70m	0.5			0.60m				
			ES 0.80m			CI	Sandy CLAY: medium plasticity, brown mottled grey-orange, fine to medium sand, with sandstone gravel and weathered ironstone bands	w~PL	St - VSt		
				1.0			1.40m				
							EXCAVATION AEC44TP23 TERMINATED AT 1.40 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : **AEC44TP24**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291554.0, N: 6250055.6 (56 MGA2020)	SURFACE ELEVATION : 61.30 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic, Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			0.10m FILL: silty SAND: grey, fine grained sand, with ironstone gravel	D			FILL
			0.20m				FILL: sandy SILT: dark brown, fine, with rootlets	Damp			
			ES 0.30m				0.30m				
			0.50m	0.5			Sandy SILT: medium to high plasticity, red-brown mottled grey				RESIDUAL SOIL
		Not Observed	ES 0.60m			CI-CH		w~PL	St - VSt		
				1.0			1.00m				
			1.20m				Sandy CLAY: low to medium plasticity, pale brown-grey mottled orange, fine sand, with sandstone gravel, with silt				WEATHERED MATERIAL
			ES 1.30m			CL-CI		w<PL	VSt - H		
				1.5			1.50m				
							EXCAVATION AEC44TP24 TERMINATED AT 1.50 m Target depth Test pit moved to potential area of concern				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP24a
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291588.5, N: 6250053.1 (56 MGA2020)	SURFACE ELEVATION : 60.80 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 04/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID=0.1
			0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey 0.60m	w~PL		×	RESIDUAL SOIL 0.40: HP =170 kPa 0.40: PID=0.1
		Not Observed	0.70m ES 0.80m	1.0		CI-CH	Silty CLAY: medium to high plasticity, pale brown mottled grey-orange 1.40m	w<PL	St - VSt	×	0.70: HP =220 kPa 0.70: PID=0.1
			1.50m ES 1.60m	1.5		CL-CI	Sandy CLAY: low to medium plasticity, brown mottled grey, fine sand, with silt 1.60m	D	H		WEATHERED MATERIAL 1.50: PID=0.2
				2.0			EXCAVATION AEC44TP24a TERMINATED AT 1.60 m Target depth Original AEC44TP24 location				
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP25
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291603.7, N: 6249978.1 (56 MGA2020)	SURFACE ELEVATION : 57.70 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	w>PL	F		TOPSOIL 0.00: PID<1
			0.40m ES 0.50m	0.5		CI-CH	0.30m Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL		×	RESIDUAL SOIL 0.40: HP =130 kPa 0.40: PID<1
			0.90m ES 1.00m	1.0		CH	0.60m Silty CLAY: high plasticity, pale grey mottled orange-brown, trace fine to medium ironstone gravel	w~PL	St	×	0.90: HP =150 kPa 0.90: PID<1
		10/08/22		1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0			1.10m EXCAVATION AEC44TP25 TERMINATED AT 1.10 m Target depth				



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP26
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291596.3, N: 6250025.1 (56 MGA2020)	SURFACE ELEVATION : 59.80 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID<1
				0.20m							
			0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL		×	Field Replicate BD120220809 taken at 0-0.1m depth RESIDUAL SOIL 0.40: HP =110 kPa 0.40: PID<1
		Not Observed	ES 0.50m	0.5							
				0.70m					St		
			0.90m			CH	Silty CLAY: high plasticity, pale grey mottled red-brown, trace fine to medium ironstone gravel	w~PL		×	0.90: HP =140 kPa 0.90: PID<1
			ES 1.00m	1.0							
				1.20m			EXCAVATION AEC44TP26 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP27
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291626.7, N: 6250048.7 (56 MGA2020)	SURFACE ELEVATION : 60.10 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
				0.20m							
			0.50m ES 0.60m	0.5		CI-CH	Silty CLAY: medium to high plasticity, pale brown mottled orange-yellow-grey, with ironstone gravel	w<PL	St		RESIDUAL SOIL 0.50: HP =150 kPa 0.50: PID=0.1
		Not Observed	1.50m ES 1.60m	1.0							
				1.5							
				1.60m							
			1.80m ES 1.90m	2.0		CL	Silty CLAY: low plasticity, mottled grey-orange, with subangular ironstone gravel	w<PL	VSt		1.80: HP =220 kPa 1.80: PID=0.2
				2.10m			EXCAVATION AEC44TP27 TERMINATED AT 2.10 m Target depth				
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP28
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291630.2, N: 6249976.2 (56 MGA2020)	SURFACE ELEVATION : 57.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
			0.30m				0.30m				Fieid Replicate BD3/20220810 taken at 0-0.1m depth
		Not Observed	ES 0.40m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown	w~PL	St - VSt		RESIDUAL SOIL 0.30: PID<1
			0.80m				0.70m				
			ES 0.90m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled pale brown, with fine to coarse siltstone gravel	w~PL			0.80: PID<1
				1.0			0.90m				
							EXCAVATION AEC44TP28 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Report

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP29
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291622.6, N: 6250016.2 (56 MGA2020)	SURFACE ELEVATION : 59.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, trace rootlets	w~PL	F		FILL 0.00: PID<1
							0.30m				
		Not Observed	0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown	w~PL	St	×	RESIDUAL SOIL 0.40: HP =190 kPa 0.40: PID<1
			0.80m ES 0.90m	1.0		CI-CH	0.70m Silty CLAY: medium to high plasticity, pale grey mottled red-brown, trace sandstone gravel	w~PL		×	0.80: HP =120 kPa 0.80: PID<1
							1.10m EXCAVATION AEC44TP29 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP30
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291650.1, N: 6250045.7 (56 MGA2020)	SURFACE ELEVATION : 59.60 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING					MATERIAL						
VE / PENETRATION / E / F / H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER kPa (100 / 200 / 300 / 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
			0.30m ES 0.40m				0.20m Silty CLAY: medium to high plasticity, orange-brown, trace rootlets			X	RESIDUAL SOIL 0.30: HP =210 kPa 0.30: PID=0.2
		Not Observed		0.5		CI-CH	0.50m	w<PL			
							Silty CLAY: low plasticity, mottled grey-orange		St - VSt		
			1.00m ES 1.10m	1.0		CL		w<PL		X	1.00: HP =150 kPa 1.00: PID=0.2
							1.30m EXCAVATION AEC44TP30 TERMINATED AT 1.30 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE / E / F / H / VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP31
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291657.8, N: 6249973.9 (56 MGA2020)	SURFACE ELEVATION : 57.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
		Not Observed	0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown 0.30m	w~PL	St - VSt	0.40: HP =190 kPa	RESIDUAL SOIL 0.40: HP =190 kPa 0.40: PID<1
			0.90m ES 1.00m	1.0		CH	Silty CLAY: high plasticity, pale orange-brown mottled grey, trace ironstone gravel 1.10m	w~PL		0.90: HP =120 kPa	0.90: HP =120 kPa 0.90: PID<1
				1.5			EXCAVATION AEC44TP31 TERMINATED AT 1.10 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP32
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291649.8, N: 6250011.4 (56 MGA2020)	SURFACE ELEVATION : 59.40 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID<1
			0.30m ES 0.40m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, red-brown	w~PL	St	X	RESIDUAL SOIL 0.30: HP =120 kPa 0.30: PID<1
		Not Observed		0.5							
			0.70m ES 0.80m	0.60m		CI-CH	Sandy CLAY: medium to high plasticity, pale grey mottled red-brown, trace fine to medium ironstone siltstone	w~PL	F	X	0.70: HP =50 kPa 0.70: PID<1
				1.0							
				1.20m			EXCAVATION AEC44TP32 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP33
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291674.7, N: 6250043.6 (56 MGA2020)	SURFACE ELEVATION : 59.00 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.20m	0.0			Sandy SILT: dark brown, fine sand, with rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	ES 0.60m	0.5		CI	Silty CLAY: medium plasticity, red-orange-brown, trace rootlets 0.60m	w<PL		0.40: HP =130 kPa	RESIDUAL SOIL 0.40: PID=0.1
			ES 1.40m	1.0		CL	Silty CLAY: low plasticity, pale brown mottled grey, with subangular ironstone gravel At 0.9m: becoming grey 1.40m	w<PL	St	0.70: HP =180 kPa	0.70: PID=0.1
				1.5			EXCAVATION AEC44TP33 TERMINATED AT 1.40 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP34
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291687.9, N: 6249967.2 (56 MGA2020)	SURFACE ELEVATION : 57.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL						
VE / PENETRATION / E / F / H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100 / 200 / 300 / 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets and fine to medium gravel	Damp	F		TOPSOIL 0.00: PID<1
			0.20m				0.20m				
			ES 0.30m			CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL			RESIDUAL SOIL 0.20: HP =180 kPa 0.20: PID<1
							0.40m				
		Not Observed		0.5			Silty CLAY: medium to high plasticity, pale brown mottled grey, trace siltstone gravel		St - VSt		
			0.70m ES 0.80m			CI-CH		w~PL			0.70: HP =190 kPa 0.70: PID<1
				1.0			1.30m				
							EXCAVATION AEC44TP34 TERMINATED AT 1.30 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE / E / F / H / VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP35
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291680.2, N: 6250002.8 (56 MGA2020)	SURFACE ELEVATION : 58.30 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
		Not Observed	0.40m ES 0.50m	0.30m		CI-CH	Silty CLAY: medium to high plasticity, red-brown	w~PL	St - VSt	×	RESIDUAL SOIL 0.40: HP =240 kPa 0.40: PID<1 Field Replicate BD2/20220809 taken at 0.4-0.5m depth
			0.80m ES 0.90m	0.50m 1.00m		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey, trace fine to medium ironstone gravel	w~PL		×	0.80: HP =120 kPa 0.80: PID<1
				1.0			EXCAVATION AEC44TP35 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP36
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291709.9, N: 6250034.2 (56 MGA2020)	SURFACE ELEVATION : 57.70 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.2
							0.20m				
			0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, brown-orange mottled red, trace rootlets	w<PL	St	X	RESIDUAL SOIL 0.40: HP =150 kPa 0.40: PID=0.1
							0.60m				
		Not Observed		1.0			Sandy CLAY: low plasticity, mottled brown-orange-grey, fine sand, with fine to coarse sandstone gravel and ironstone bands				
							At 1.1m: extremely weathered ironstone band				
			1.50m ES 1.60m	1.5		CL		w<PL	VSt	X	1.50: HP =240 kPa 1.50: PID=0.1
							2.00m				
				2.0			EXCAVATION AEC44TP36 TERMINATED AT 2.00 m Target depth				
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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File: AEC44TP36 RevA 1 OF 1

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP37
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291708.0, N: 6249962.9 (56 MGA2020)	SURFACE ELEVATION : 56.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	0.10m Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
		Not Observed	0.40m ES 0.50m 0.70m ES 0.80m	0.5		CL-CI	Silty CLAY: low to medium plasticity, red-brown, with fine to medium ironstone gravel At 0.6m: grading to red-brown mottled grey	w~PL	St - VSt		RESIDUAL SOIL 0.20: HP =250 kPa 0.20: PID<1 Field Replicate BD2/20220810 taken at 0.2-0.3m depth 0.70: HP =160 kPa 0.70: PID<1
				1.0			1.10m EXCAVATION AEC44TP37 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP38
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291706.8, N: 6250000.8 (56 MGA2020)	SURFACE ELEVATION : 57.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic; Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID<1
				0.20m							
			0.30m ES 0.40m				CLAY: high plasticity, pale yellow-brown			100 200 300 400	RESIDUAL SOIL 0.30: HP =130 kPa 0.30: PID<1
		Not Observed		0.5		CH		w~PL	St		
			0.80m ES 0.90m	0.80m		CI-CH	CLAY: medium to high plasticity, grey mottled orange	w~PL			0.80: HP =160 kPa 0.80: PID<1
				0.90m			EXCAVATION AEC44TP38 TERMINATED AT 0.90 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Report

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP39
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291737.2, N: 6250030.1 (56 MGA2020)	SURFACE ELEVATION : 56.00 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
			0.30m ES 0.40m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, brown-orange mottled red, trace rootlets	w<PL		X	RESIDUAL SOIL 0.30: HP =130 kPa 0.30: PID=0.1
		Not Observed		0.5			Sandy CLAY: low to medium plasticity, mottled grey-orange, fine sand, trace ironstone gravel		St		
			1.00m ES 1.10m	1.0		CL-CI		w<PL		X	1.00: HP =190 kPa 1.00: PID=0.1
				1.50m			EXCAVATION AEC44TP39 TERMINATED AT 1.50 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP40
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291738.7, N: 6249957.7 (56 MGA2020)	SURFACE ELEVATION : 54.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
			0.40m ES 0.50m	0.5		CI-CH	0.30m Silty CLAY: medium to high plasticity, orange-brown, trace fine to medium siltstone gravel	w~PL	St	X	RESIDUAL SOIL 0.40: HP =150 kPa 0.40: PID<1
		Not Observed	0.90m ES 1.00m	1.0		CH	0.80m Silty CLAY: high plasticity, pale grey mottled orange-brown, trace fine to medium siltstone gravel	w~PL	VSt	X	0.90: HP =250 kPa 0.90: PID<1
				1.5			1.40m EXCAVATION AEC44TP40 TERMINATED AT 1.40 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP41
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291740.4, N: 6249998.6 (56 MGA2020) | SURFACE ELEVATION : 55.10 (mAHD)
EQUIPMENT TYPE : 12 tonne Excavator | METHOD : 800mm bucket
DATE EXCAVATED : 09/08/22 | LOGGED BY : PJ | CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic, Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
		Not Observed	0.40m ES 0.50m	0.5		CI-CH	0.30m Silty CLAY: medium to high plasticity, red-brown; At 0.6m: grading to pale red-brown	w~PL	St	X	RESIDUAL SOIL 0.40: HP =120 kPa 0.40: PID<1
			0.90m ES 1.00m	1.0		CI-CH	0.80m Silty CLAY: medium to high plasticity, orange mottled grey, trace fine to medium siltstone	w~PL		X	0.90: HP =160 kPa 0.90: PID<1
				1.5			1.10m EXCAVATION AEC44TP41 TERMINATED AT 1.10 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP42
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291757.3, N: 6250027.0 (56 MGA2020)	SURFACE ELEVATION : 54.90 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
				0.20m							
			0.30m ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, brown-orange mottled red, trace rootlets	w<PL		X	RESIDUAL SOIL 0.30: HP =140 kPa 0.30: PID=0.2
				0.40m			Sandy CLAY: mottled orange-grey-brown, fine sand, trace sandstone gravel				
		Not Observed		0.5					St		
			1.00m ES 1.10m	1.0		CL		w<PL		X	1.00: HP =170 kPa 1.00: PID=0.1
				1.50m			At 1.4m: becoming grey				
				1.5			EXCAVATION AEC44TP42 TERMINATED AT 1.50 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP43
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291766.2, N: 6249952.7 (56 MGA2020)	SURFACE ELEVATION : 52.80 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
				0.20m							
			0.30m ES 0.40m				Silty CLAY: medium to high plasticity, orange-brown, trace fine to medium siltstone gravel			X	RESIDUAL SOIL 0.30: HP =140 kPa 0.30: PID<1
		Not Observed		0.5		CI-CH		w~PL	St		
			0.80m ES 0.90m	0.80m			Silty CLAY: high plasticity, pale grey mottled dark red-brown, trace ironstone gravel			X	0.80: HP =240 kPa 0.80: PID<1
				1.0		CH		w~PL	VSt		
				1.20m			EXCAVATION AEC44TP43 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



R

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP44
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291759.6, N: 6249996.5 (56 MGA2020)	SURFACE ELEVATION : 54.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: Field Replicate BD320220809 taken at 0-0.1m depth
				0.20m							
			0.30m ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone	w~PL	St	X	RESIDUAL SOIL 0.30: HP =110 kPa
		Not Observed		0.5							
			0.80m ES 0.90m	0.70m		CH	Silty CLAY: high plasticity, grey mottled orange	w~PL		X	0.80: HP =180 kPa
				1.00m			EXCAVATION AEC44TP44 TERMINATED AT 1.00 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



RO

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP45
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291786.3, N: 6250023.8 (56 MGA2020)	SURFACE ELEVATION : 53.30 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
				0.20m			Silty CLAY: medium plasticity, pale brown mottled grey, trace rootlets				Field Replicate BD1/220805 taken at 0-0.1m depth RESIDUAL SOIL
		Not Observed		0.5						×	0.50: HP =150 kPa
			0.70m ES 0.80m	1.0		CI		w~PL	St - VSt		0.70: PID=0.1
				1.40m			At 1.3m: becoming grey mottled yellow-brown			×	1.30: HP =200 kPa
				1.5			EXCAVATION AEC44TP45 TERMINATED AT 1.40 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP46
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291790.9, N: 6249948.7 (56 MGA2020)	SURFACE ELEVATION : 52.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
			0.30m ES 0.40m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, pale brown, trace fine to medium ironstone gravel	w~PL		X	RESIDUAL SOIL 0.30: HP =150 kPa 0.30: PID<1
		Not Observed		0.5			0.50m				
			0.80m ES 0.90m			CH	Silty CLAY: high plasticity, pale grey mottled orange-brown, trace fine to medium ironstone gravel	w~PL	St	X	Field Replicate BD1/20220810 taken at 0.3-0.4m depth 0.80: HP =150 kPa 0.80: PID<1
				1.0			1.10m				
							EXCAVATION AEC44TP46 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP47
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291795.2, N: 6249989.8 (56 MGA2020)	SURFACE ELEVATION : 52.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
			0.30m	0.20m							
		Not Observed	ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown	w~PL		210	RESIDUAL SOIL 0.30: HP =210 kPa 0.30: PID<1
			0.60m	0.5					St - VSt		
			ES 0.70m	0.50m		CH	Silty CLAY: high plasticity, pale grey mottled red, with fine to medium ironstone	w~PL		180	0.60: HP =180 kPa 0.60: PID<1
				0.90m			EXCAVATION AEC44TP47 TERMINATED AT 0.90 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Report

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP48
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291816.8, N: 6250020.6 (56 MGA2020)	SURFACE ELEVATION : 51.30 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (kPa) 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	0.30m ES 0.40m	0.5		CL-CI	Silty CLAY: low to medium plasticity, pale brown-yellow, trace rootlets 0.50m	w<PL	St - VSt	X	RESIDUAL SOIL 0.30: HP =200 kPa 0.30: PID=0.1
			0.70m ES 0.80m	1.0		CL	Silty CLAY: low plasticity, mottled orange-grey, with subangular shale gravel 1.10m	w<PL	VSt	X	0.70: HP =270 kPa 0.70: PID=0.1
				1.5			EXCAVATION AEC44TP48 TERMINATED AT 1.10 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP49
FILE / JOB NO : 204814.01
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291809.3, N: 6249946.8 (56 MGA2020)	SURFACE ELEVATION : 51.30 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 9/8/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets, wood, fine to medium gravel, slight hydrocarbon	Damp	F		TOPSOIL 0.00: PID<1
			0.30m	0.20m							RESIDUAL SOIL
			ES 0.40m				Silty CLAY: medium to high plasticity, pale orange-brown			×	0.30: HP =170 kPa 0.30: PID<1
		Not Observed		0.5		CI-CH		w~PL	St		
			0.80m				At 0.8m: grading pale grey mottled orange-brown			×	0.80: HP =120 kPa 0.80: PID<1
			ES 0.90m	1.0							
				1.10m			EXCAVATION AEC44TP49 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE, E, F, H, VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP50
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291820.8, N: 6249985.9 (56 MGA2020) | SURFACE ELEVATION : 51.30 (mAHD)
EQUIPMENT TYPE : 12 tonne Excavator | METHOD : 800mm bucket
DATE EXCAVATED : 09/08/22 | LOGGED BY : PJ | CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
							0.20m				RESIDUAL SOIL
			0.40m				Silty CLAY: medium to high plasticity, red-brown mottled grey				
		Not Observed	ES 0.50m	0.5		CI-CH		w~PL	VSt	X	0.40: HP =290 kPa 0.40: PID<1
							0.80m				
			0.90m				Silty CLAY: high plasticity, pale grey mottled red, with fine to medium ironstone				
			ES 1.00m	1.0		CH		w~PL		X	0.90: HP =230 kPa 0.90: PID<1
							1.20m				
							EXCAVATION AEC44TP50 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP51
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291844.9, N: 6250017.7 (56 MGA2020)	SURFACE ELEVATION : 49.70 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
			0.30m				0.20m				
		Not Observed	ES 0.40m			CL-CI	Silty CLAY: low to medium plasticity, brown-orange, trace rootlets	w~PL		X	RESIDUAL SOIL 0.30: HP =210 kPa 0.30: PID=0.1
			0.60m	0.5			0.40m Silty CLAY: medium plasticity, grey mottled brown-orange, trace ironstone gravel and sandstone gravel		St - VSt		
			ES 0.70m			CI		w~PL		X	0.60: HP =260 kPa 0.60: PID=0.1
				1.0			1.00m EXCAVATION AEC44TP51 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP52
FILE / JOB NO : 204814.01
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291832.5, N: 6249942.5 (56 MGA2020)	SURFACE ELEVATION : 50.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 9/8/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets and wood	Damp	F		TOPSOIL 0.00: PID<1
			0.30m				0.30m				
			ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled brown, trace fine to medium ironstone gravel	w~PL		X	RESIDUAL SOIL 0.30: HP =140 kPa 0.30: PID<1
		Not Observed		0.5			0.50m Silty CLAY: high plasticity, pale grey mottled orange-brown	w~PL	St		Field Replicate BD6/20220809 taken at 0.3-0.4m depth
			0.80m ES 0.90m			CH				X	0.80: HP =110 kPa 0.80: PID<1
				1.0			1.20m				
							EXCAVATION AEC44TP52 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP53
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291843.1, N: 6249984.8 (56 MGA2020)	SURFACE ELEVATION : 50.30 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID<1
		Not Observed	0.30m ES 0.40m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown 0.70m	w~PL	St	×	RESIDUAL SOIL 0.30: HP =160 kPa 0.30: PID<1 Field Replicate BD4/20220809 taken at 0.3-0.4m depth
			0.80m ES 0.90m	1.0		CH	Silty CLAY: high plasticity, pale grey mottled orange, trace fine to medium ironstone 1.10m	w~PL	St - VSt	×	0.80: HP =210 kPa 0.80: PID<1
				1.5			EXCAVATION AEC44TP53 TERMINATED AT 1.10 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP54
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291866.6, N: 6250016.0 (56 MGA2020)	SURFACE ELEVATION : 48.60 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID=0.1
			0.30m ES 0.40m			CL-CI	Silty CLAY: low to medium plasticity, brown-orange, trace rootlets 0.50m	w~PL		X	RESIDUAL SOIL 0.30: HP =180 kPa 0.30: PID=0.2
		Not Observed	0.70m ES 0.80m	0.5		CI	Silty CLAY: medium plasticity, grey mottled brown-orange, trace ironstone gravel and sandstone gravel	w~PL	St - VSt	X	0.70: HP =210 kPa 0.70: PID=0.1
				1.0			1.10m EXCAVATION AEC44TP54 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE, E, F, H, VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP55
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291870.1, N: 6249943.5 (56 MGA2020)	SURFACE ELEVATION : 48.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
							0.30m				
			0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL		×	RESIDUAL SOIL 0.40: HP =220 kPa 0.40: PID<1
		Not Observed					0.60m				
			0.80m ES 0.90m	1.0		CH	Silty CLAY: high plasticity, pale grey mottled red-brown	w~PL	St - VSt	×	0.80: HP =110 kPa 0.80: PID<1
							1.30m				
				1.5			EXCAVATION AEC44TP55 TERMINATED AT 1.30 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP56
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291881.5, N: 6249975.9 (56 MGA2020)	SURFACE ELEVATION : 48.60 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
VE / PENETRATION / E / F / H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100 / 200 / 300 / 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
							0.20m				RESIDUAL SOIL
			0.30m ES 0.40m				Silty CLAY: medium to high plasticity, dark red-brown, trace fine to medium ironstone gravel			X	0.30: HP =140 kPa 0.30: PID<1
		Not Observed		0.5		CI-CH		w~PL	St - VSt		
			0.80m ES 0.90m				At 0.8m: mottled grey			X	0.80: HP =260 kPa 0.80: PID<1
				1.0			1.20m				
							EXCAVATION AEC44TP56 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP57
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291900.3, N: 6250007.2 (56 MGA2020)	SURFACE ELEVATION : 47.50 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
							0.20m				
		Not Observed	0.50m ES 0.60m	0.5		CL	Silty CLAY: low plasticity, orange-brown, trace rootlets	w~PL	VSt	×	RESIDUAL SOIL 0.50: HP =250 kPa 0.50: PID=0.2
				1.0			At 0.7m: becoming orange-brown mottled grey			×	1.00: HP =300 kPa
							1.10m				
							EXCAVATION AEC44TP57 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP58
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291896.2, N: 6249941.3 (56 MGA2020)	SURFACE ELEVATION : 46.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0							FILL
			0.20m				FILL: sandy SILT: low plasticity, dark brown, fine sand, trace rootlets 0.20m	Damp	-		0.00: PID<1
			ES 0.30m				FILL: gravelly SAND: grey, fine to medium grained sand, fine gravel 0.30m	M			0.20: PID<1
		Not Observed	ES 0.40m	0.5		CL-Cl	Silty CLAY: low to medium plasticity, red-brown mottled grey, trace fine to medium ironstone gravel	w~PL	VSt	×	RESIDUAL SOIL 0.30: HP =260 kPa 0.30: PID<1
			0.80m ES 0.90m				0.90m			×	0.80: HP =300 kPa 0.80: PID<1
				1.0			EXCAVATION AEC44TP58 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

Ref

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP59
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291911.0, N: 6249970.8 (56 MGA2020)	SURFACE ELEVATION : 47.70 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E F H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100 200 300 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0							
			0.30m			ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets 0.30m	Damp	F		TOPSOIL 0.00: PID<1
			ES 0.40m			CI-CH	Silty CLAY: medium to high plasticity, trace fine to medium ironstone gravel 0.50m	w~PL		X	RESIDUAL SOIL 0.30: HP =230 kPa 0.30: PID<1
		Not Observed	0.60m ES 0.70m	0.5			Silty CLAY: high plasticity, red-brown mottled pale grey, trace fine to medium ironstone gravel			X	0.60: HP =170 kPa 0.60: PID<1
				1.0		CH		w~PL	St - VSt		
							1.40m EXCAVATION AEC44TP59 TERMINATED AT 1.40 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP60
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291928.0, N: 6250004.3 (56 MGA2020)	SURFACE ELEVATION : 46.80 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL					
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	0.50m ES 0.60m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, brown-orange, trace rootlets	w<PL	VSt	X	RESIDUAL SOIL 0.50: HP =250 kPa 0.50: PID=0.1
				0.90m			At 0.8m: becoming brown-orange mottled grey				
				1.0			EXCAVATION AEC44TP60 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Re

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP61
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291953.0, N: 6250003.5 (56 MGA2020)	SURFACE ELEVATION : 46.20 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	0.50m ES 0.60m	0.5		CL-CI	CLAY: low to medium plasticity, brown-orange, trace rootlets 0.80m	w<PL	St - VSt	×	RESIDUAL SOIL 0.50: HP =210 kPa 0.50: PID=0.2
							EXCAVATION AEC44TP61 TERMINATED AT 0.80 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

Re

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP62
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291951.8, N: 6249986.4 (56 MGA2020)	SURFACE ELEVATION : 46.50 (mAHD)	
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/08/22	LOGGED BY : JH	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION (VE / E / F / H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets 0.20m	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	0.50m ES 0.60m	0.5		CL	Silty CLAY: low plasticity, brown-orange, trace rootlets 0.80m	w<PL	St - VSt	X	Field Replicate BD2/220805 taken at 0-0.1m depth RESIDUAL SOIL 0.50: HP =180 kPa 0.50: PID=0.1
				1.0			EXCAVATION AEC44TP62 TERMINATED AT 0.80 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Re

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP63
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291921.9, N: 6249949.0 (56 MGA2020)	SURFACE ELEVATION : 46.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 09/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
VE E F H PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
		Not Observed	0.30m ES 0.40m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL	St - VSt	×	Field Replicate BD5/20220809 taken at 0-0.1m depth RESIDUAL SOIL 0.30: HP =170 kPa 0.30: PID<1
			0.80m ES 0.90m	0.70m		CH	Silty CLAY: high plasticity, pale grey mottled red-brown	w~PL		×	0.80: HP =190 kPa 0.80: PID<1
				0.90m 1.0			EXCAVATION AEC44TP63 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Report

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP64
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291958.0, N: 6249963.6 (56 MGA2020)	SURFACE ELEVATION : 46.10 (mAHD)
EQUIPMENT TYPE : 14 tonne Excavator	METHOD : 800mm bucket
DATE EXCAVATED : 05/08/22	LOGGED BY : JH CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE	

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, with rootlets	Damp	F		TOPSOIL 0.00: PID=0.1
		Not Observed	0.50m ES 0.60m	0.20m		CI	CLAY: medium plasticity, brown-orange, trace rootlets	w<PL	St	X	RESIDUAL SOIL 0.50: HP =170 kPa 0.50: PID=0.1
				1.00m			EXCAVATION AEC44TP64 TERMINATED AT 1.00 m Target depth				



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP65
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291954.2, N: 6249940.7 (56 MGA2020) | SURFACE ELEVATION : 46.00 (mAHD)
EQUIPMENT TYPE : 12 tonne Excavator | METHOD : 800mm bucket
DATE EXCAVATED : 11/08/22 | LOGGED BY : PJ | CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			0.10m FILL: sandy SILT: medium to high plasticity, dark brown, fine too medium sand, trace rootlets	w~PL	F		FILL 0.00: PID<1
			0.20m ES 0.30m			CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL		X	RESIDUAL SOIL 0.20: HP =110 kPa 0.20: PID<1
		Not Observed	0.60m ES 0.70m	0.5			0.40m Silty CLAY: medium to high plasticity, orange-brown, trace fine to medium ironstone gravel		F - St	X	0.60: HP =90 kPa 0.60: PID<1
				1.0		CI-CH		w~PL			
							1.20m EXCAVATION AEC44TP65 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP66
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291921.8, N: 6249906.5 (56 MGA2020)	SURFACE ELEVATION : 46.40 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL	-		FILL 0.00: PID<1
				0.20m							
			0.30m ES 0.40m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL	F - St	X	RESIDUAL SOIL 0.30: HP =90 kPa 0.30: PID<1 Field Replicate BD1/20220811 taken at 0.3-0.4m depth
		Not Observed	0.80m ES 0.90m	1.0					St	X	0.80: HP =150 kPa 0.80: PID<1
				1.10m			EXCAVATION AEC44TP66 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP67
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291918.7, N: 6249881.2 (56 MGA2020)	SURFACE ELEVATION : 46.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 12/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, trace rootlets	w~PL	-		FILL 0.00: PID<1
							0.20m				
			0.30m ES 0.40m				Silty CLAY: medium to high plasticity, red-brown, trace rootlets	w~PL		X	RESIDUAL SOIL 0.30: HP =110 kPa 0.30: PID<1
				0.5		CI-CH					
		Not Observed					0.60m Silty CLAY: medium to high plasticity, red-brown mottled orange-brown, with fine to medium ironstone gravel		F - St		
			0.80m ES 0.90m							X	0.80: HP =110 kPa 0.80: PID<1
				1.0		CI-CH		w~PL			
							1.30m EXCAVATION AEC44TP67 TERMINATED AT 1.30 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP68
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291952.7, N: 6249897.6 (56 MGA2020)	SURFACE ELEVATION : 46.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100 200 300 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			0.10m FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL	-		FILL 0.00: PID<1
			0.20m								
			ES 0.30m			CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL	St	X	RESIDUAL SOIL 0.20: HP =140 kPa 0.20: PID<1
		Not Observed		0.5			0.40m Silty CLAY: medium to high plasticity, orange-brown mottled grey, trace fine to medium ironstone gravel	w~PL	St - VSt	X	0.70: HP =200 kPa 0.70: PID<1
			0.70m ES 0.80m			CI-CH	0.90m				
				1.0			EXCAVATION AEC44TP68 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Report

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP69
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291915.7, N: 6249853.8 (56 MGA2020)	SURFACE ELEVATION : 47.30 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL	-		FILL 0.00: PID<1
							0.20m				
			0.30m ES 0.40m				Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			X	RESIDUAL SOIL 0.30: HP =140 kPa 0.30: PID<1
		Not Observed		0.5		CI-CH		w~PL	St		
			0.80m ES 0.90m	1.0						X	0.80: HP =120 kPa 0.80: PID<1
							1.10m EXCAVATION AEC44TP69 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP70
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291943.4, N: 6249865.9 (56 MGA2020)	SURFACE ELEVATION : 47.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			0.10m FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL	-		FILL 0.00: PID<1
			0.20m								Field Replicate BD2/20220811 taken at 0-0.1m
			ES 0.30m	0.5			Silty CLAY: medium to high plasticity, red-brown, with fine to medium ironstone gravel				RESIDUAL SOIL 0.20: HP =60 kPa 0.20: PID<1
			0.70m ES 0.80m	1.0		CI-CH		w~PL	F		0.70: HP =80 kPa 0.70: PID<1
		11/08/22					1.30m EXCAVATION AEC44TP70 TERMINATED AT 1.30 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP71
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291912.0, N: 6249825.1 (56 MGA2020)	SURFACE ELEVATION : 47.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, pale brown, fine to medium sand, trace rootlets	w~PL	-		FILL 0.00: PID<1
			0.30m ES 0.40m				0.20m Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel				RESIDUAL SOIL 0.30: HP =260 kPa 0.30: PID<1 Field Replicate BD5/20220810 taken at 0.3-0.4m depth
		Not Observed	0.80m ES 0.90m	0.5		CI-CH		w~PL	St - VSt		0.80: HP =170 kPa 0.80: PID<1
				1.0			1.30m EXCAVATION AEC44TP71 TERMINATED AT 1.30 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP72

FILE / JOB NO :

SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291941.7, N: 6249837.2 (56 MGA2020)	SURFACE ELEVATION : 47.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL					
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, grey, trace rootlets	w>PL	-		FILL 0.00: PID<1
							0.30m				
		Not Observed	0.40m ES 0.50m	0.5		CI-CH	Silty CLAY: medium to high plasticity, orange-brown, trace fine to medium ironstone gravel	w~PL	St - VSt	×	RESIDUAL SOIL 0.30: HP =290 kPa 0.30: PID<1
			0.90m ES 1.00m	1.0						×	0.80: HP =160 kPa 0.80: PID<1
							1.20m				
							EXCAVATION AEC44TP72 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

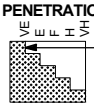
RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION



WATER



SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP73
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291900.0, N: 6249794.4 (56 MGA2020)	SURFACE ELEVATION : 47.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			Sandy SILT: pale brown, fine sand, trace rootlets	Damp	-		TOPSOIL 0.00: PID<1
			0.30m ES 0.40m	0.20m			Silty CLAY: medium to high plasticity, red-brown mottled pale brown, trace fine to medium ironstone gravel			100 200 300 400	RESIDUAL SOIL 0.30: HP =70 kPa 0.30: PID<1
		10/08/22, perched	0.80m ES 0.90m	0.5		CI-CH		w~PL	F		0.80: HP =90 kPa 0.80: PID<1
				1.0							
				1.20m			EXCAVATION AEC44TP73 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP74
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291933.2, N: 6249807.8 (56 MGA2020)	SURFACE ELEVATION : 47.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			0.10m FILL: sandy SILT: dark brown, fine sand, trace rootlets	Damp			FILL 0.00: PID<1
			0.20m				FILL: sandy SILT: medium to high plasticity, grey, fine to medium sand	w~PL	-		0.20: PID<1
			ES 0.30m				0.30m				
			0.40m				Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			X	RESIDUAL SOIL 0.40: HP =160 kPa 0.40: PID<1
		Not Observed	ES 0.50m	0.5		CI-CH		w~PL	St		
			0.90m							X	0.90: HP =180 kPa 0.90: PID<1
			ES 1.00m	1.0			1.10m				
							EXCAVATION AEC44TP74 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP75
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291899.8, N: 6249750.1 (56 MGA2020)	SURFACE ELEVATION : 47.30 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, grey, fine to medium sand, trace rootlets	w>PL	-		FILL 0.00: PID<1
			0.30m ES 0.40m	0.20m			Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			X	RESIDUAL SOIL 0.30: HP =140 kPa 0.30: PID<1
		10/08/22, perched	0.80m ES 0.90m	0.5		CI-CH	At 0.7m: grading to red-brown mottled grey	w~PL	St	X	0.80: HP =170 kPa 0.80: PID<1
				1.0							
				1.20m			EXCAVATION AEC44TP75 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP76
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291925.0, N: 6249764.7 (56 MGA2020)	SURFACE ELEVATION : 46.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, grey, fine to medium sand, trace rootlets	w>PL	-		FILL 0.00: PID<1
							0.20m				
			0.30m ES 0.40m	0.5			Silty CLAY: medium to high plasticity, orange-brown mottled grey, trace fine to medium ironstone gravel			100 200 300 400	RESIDUAL SOIL 0.30: HP =180 kPa 0.30: PID<1
		Not Observed				CI-CH		w~PL	St - VSt		
			0.80m ES 0.90m	1.0							0.80: HP =180 kPa 0.80: PID<1
							1.20m				
							EXCAVATION AEC44TP76 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP77
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291892.9, N: 6249723.4 (56 MGA2020) | SURFACE ELEVATION : 47.50 (mAHD)
EQUIPMENT TYPE : 12 tonne Excavator | METHOD : 800mm bucket
DATE EXCAVATED : 10/08/22 | LOGGED BY : PJ | CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETROMETER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	0.10m Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	w>PL	F		TOPSOIL 0.00: PID<1
		Not Observed	0.20m ES 0.30m				Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel and rootlets				RESIDUAL SOIL 0.20: PID<1
			0.70m ES 0.80m	0.5		CI-CH		w~PL	St - VSt		
							At 0.7m: grading to red-brown mottled grey				0.70: PID<1
							0.90m EXCAVATION AEC44TP77 TERMINATED AT 0.90 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Ref

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP78
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291925.1, N: 6249743.6 (56 MGA2020)	SURFACE ELEVATION : 46.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1
							0.20m				
			0.30m ES 0.40m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown mottled grey, trace fine to medium ironstone gravel	w~PL	St - VSt	×	RESIDUAL SOIL 0.30: HP =190 kPa 0.30: PID<1 Field Replicate BD3/20220811 taken at 0.3-0.4m depth
		Not Observed	0.80m ES 0.90m	1.0						×	0.80: HP =180 kPa 0.80: PID<1
							1.20m				
				1.5			EXCAVATION AEC44TP78 TERMINATED AT 1.20 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP79
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291888.4, N: 6249683.4 (56 MGA2020)	SURFACE ELEVATION : 47.40 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0		ML	Sandy SILT: low plasticity, dark brown, fine sand, trace rootlets	Damp	F		TOPSOIL 0.00: PID<1 Field Replicate BD4/20220810 taken at 0-0.1m depth
		Not Observed	0.40m ES 0.50m	0.30m 0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL	St - VSt	×	RESIDUAL SOIL 0.40: HP =170 kPa 0.40: PID<1
			0.90m ES 1.00m	1.0			At 0.7m: mottled pale grey			×	0.90: HP =250 kPa 0.90: PID<1
				1.10m 1.5			EXCAVATION AEC44TP79 TERMINATED AT 1.10 m Target depth				
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP80

FILE / JOB NO :

SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291923.0, N: 6249709.9 (56 MGA2020)	SURFACE ELEVATION : 47.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, pale brown, fine to medium sand, trace rootlets and fine to medium gravel	w~PL	-		FILL 0.00: PID<1
		Not Observed	0.30m ES 0.40m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, orange-brown mottled red-brown, trace fine to medium ironstone gravel	w~PL	St - VSt		RESIDUAL SOIL 0.30: PID<1
			0.80m ES 0.90m	0.5							0.80: PID<1
				0.90m			EXCAVATION AEC44TP80 TERMINATED AT 0.90 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



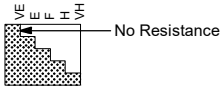
Report

PHOTOGRAPHS NOTES ☒ YES ☐ NO

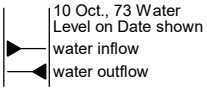
METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION



WATER



SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP81
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291911.9, N: 6249683.1 (56 MGA2020)	SURFACE ELEVATION : 47.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL	-		FILL 0.00: PID<1
				0.20m							
			0.30m ES 0.40m				Silty CLAY: high plasticity, red-brown, trace fine to medium ironstone gravel			× 0.40: HP =190 kPa	RESIDUAL SOIL 0.40: PID<1
		Not Observed		0.5		CH		w~PL	St - VSt		
			0.80m ES 0.90m	1.0						× 0.90: HP =210 kPa	0.90: PID<1
				1.10m			EXCAVATION AEC44TP81 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

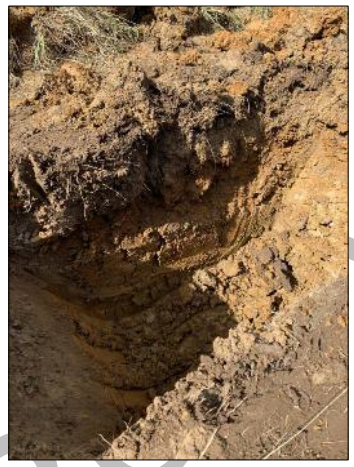
PIT NO : AEC44TP82
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291882.4, N: 6249654.1 (56 MGA2020)	SURFACE ELEVATION : 47.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 10/08/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING				MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL	-		FILL 0.00: PID<1
			0.30m				0.30m				
		Not Observed	ES 0.40m	0.5		CI-CH	Silty CLAY: medium to high plasticity, red-brown	w~PL	St	X	RESIDUAL SOIL 0.30: HP =160 kPa 0.30: PID<1
			0.80m							X	0.80: HP =130 kPa 0.80: PID<1
			ES 0.90m	1.0			1.00m EXCAVATION AEC44TP82 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE, E, F, H, VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP83
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291907.9, N: 6249671.0 (56 MGA2020)	SURFACE ELEVATION : 47.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 11/08/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER 100 200 300 400	STRUCTURE & Other Observations
		N/A	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, trace fine to medium gravel and rootlets	w~PL	-		FILL 0.00: PID<1 Field Replicate BD4/20220811 taken at 0-0.1m depth
							0.30m				
		Not Observed	0.40m ES 0.50m	0.5		CH	Silty CLAY: high plasticity, red-brown mottled orange-brown, trace fine to medium ironstone gravel	w~PL	St - VSt	×	RESIDUAL SOIL 0.40: HP =190 kPa 0.40: PID<1
			0.90m ES 1.00m	1.0			1.20m			×	0.90: HP =200 kPa 0.90: PID<1
							EXCAVATION AEC44TP83 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

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PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP84
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291490.8, N: 6249960.8 (56 MGA2020)	SURFACE ELEVATION : 57.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400 kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: Field Replicate BD1/20220905 taken at 0.0-0.1m depth
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, red-brown, trace ironstone gravel			×	RESIDUAL SOIL 0.30: HP =180 kPa
			0.80m ES 0.90m	0.5		CH	At 0.6m: pale grey mottled red-brown	w~PL	St	×	0.80: HP =140 kPa
				1.0							
				1.20m			EXCAVATION AEC44TP84 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP85
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291516.6, N: 6249953.8 (56 MGA2020)	SURFACE ELEVATION : 56.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand	w>PL			FILL
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, pale orange-brown mottled pale grey			X	RESIDUAL SOIL 0.30: HP =140 kPa
			0.80m ES 0.90m	0.5		CH		w~PL	St	X	0.80: HP =140 kPa
				1.0			1.00m EXCAVATION AEC44TP85 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



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PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP86
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291545.7, N: 6249950.8 (56 MGA2020)	SURFACE ELEVATION : 56.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand	w~PL			FILL
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, pale orange-brown mottled pale grey				RESIDUAL SOIL 0.30: HP =160 kPa
			0.80m ES 0.90m	0.5 1.0		CH		w~PL	St		0.80: HP =140 kPa
				1.10m			EXCAVATION AEC44TP86 TERMINATED AT 1.10 m Target depth				
				1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP87
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291582.7, N: 6249943.8 (56 MGA2020)	SURFACE ELEVATION : 55.80 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION (VE / E / F / H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100 / 200 / 300 / 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: Field Replicate BD2/20220905 taken at 0.0-0.1m depth
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, pale grey, trace fine to medium siltstone gravel			×	RESIDUAL SOIL 0.30: HP =180 kPa
			0.80m ES 0.90m	0.5		CH		w~PL	St to VSt		
				0.90m			At 0.8m: pale grey mottled orange-brown			×	0.80: HP =220 kPa
				1.0			EXCAVATION AEC44TP87 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP88
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291614.2, N: 6249944.5 (56 MGA2020)	SURFACE ELEVATION : 56.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, pale grey, trace fine to medium siltstone gravel				RESIDUAL SOIL 0.30: HP =180 kPa
			0.80m ES 0.90m	0.5		CH		w~PL	St		0.80: HP =200 kPa
				0.90m			EXCAVATION AEC44TP88 TERMINATED AT 0.90 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Re

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP89
FILE / JOB NO :
SHEET : 1 OF 1

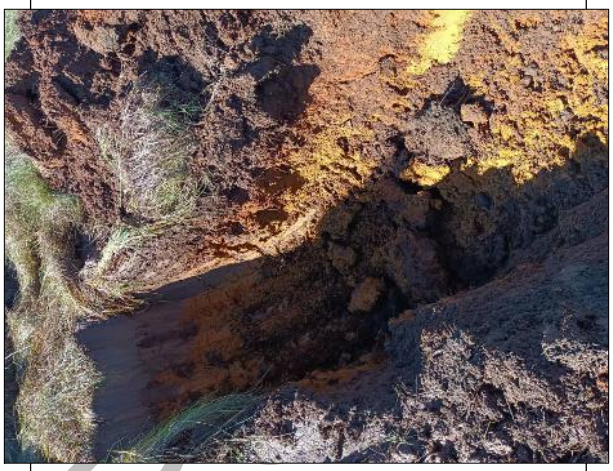
PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291644.8, N: 6249948.8 (56 MGA2020)	SURFACE ELEVATION : 56.60 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.40m				0.30m Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.40: HP =210 kPa
			ES 0.50m	0.5		CI-CH		w~PL	VSt		
			0.90m ES 1.00m	1.0			1.10m EXCAVATION AEC44TP89 TERMINATED AT 1.10 m Target depth			×	0.90: HP =200 kPa
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP90
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291678.0, N: 6249943.0 (56 MGA2020)	SURFACE ELEVATION : 56.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: Field Replicate BD3/20220905 taken at 0.0-0.1m depth
			0.30m ES 0.40m				0.20m Silty CLAY: medium to high plasticity, pale orange-brown, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.30: HP =200 kPa
			0.80m ES 0.90m	0.5		CI-CH		w~PL	St	×	0.80: HP =190 kPa
				1.0			1.00m EXCAVATION AEC44TP90 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP91
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291712.6, N: 6249934.9 (56 MGA2020)	SURFACE ELEVATION : 54.60 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400 kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, pale red-brown, trace fine to medium ironstone gravel	w~PL	VSt	×	RESIDUAL SOIL 0.30: HP =210 kPa
			0.80m ES 0.90m	0.5 0.70m		CH	Silty CLAY: high plasticity, pale grey mottled red-brown, trace fine to medium ironstone gravel	w~PL	St	×	0.80: HP =170 kPa
				1.0 1.10m			EXCAVATION AEC44TP91 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP92
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291753.5, N: 6249931.6 (56 MGA2020)	SURFACE ELEVATION : 52.80 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100–400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m				0.20m Silty CLAY: high plasticity, grey-brown				RESIDUAL SOIL 0.30: HP =180 kPa
			0.80m ES 0.90m	0.5		CH	0.80m	w~PL	St		
				1.0		CH	Silty CLAY: high plasticity, pale orange-brown, trace fine to medium ironstone gravel 1.10m	w~PL	St		0.80: HP =170 kPa
							EXCAVATION AEC44TP92 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP93
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291787.9, N: 6249930.0 (56 MGA2020)	SURFACE ELEVATION : 51.70 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m				0.20m Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			200	RESIDUAL SOIL 0.30: HP =200 kPa
			0.80m ES 0.90m	0.5		CH	0.90m	w~PL	VSt		0.80: HP =210 kPa
				1.0			EXCAVATION AEC44TP93 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE, E, F, H, VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP94
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291822.8, N: 6249927.8 (56 MGA2020)	SURFACE ELEVATION : 50.40 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: Field Replicate BD4/20220905 taken at 0.0-0.1m depth
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, red-brown, trace fine to medium gravel			X	RESIDUAL SOIL 0.30: HP =140 kPa
				0.5		CH		w~PL	St		
			0.80m ES 0.90m	1.00m						X	0.80: HP =140 kPa
				1.0			EXCAVATION AEC44TP94 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP95
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291849.7, N: 6249924.8 (56 MGA2020)	SURFACE ELEVATION : 49.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, red-brown, trace fine to medium ironstone and siltstone gravel			×	RESIDUAL SOIL 0.30: HP =160 kPa
			0.80m ES 0.90m	0.5		CH	At 0.6m: red-brown mottled grey	w~PL	St	×	0.80: HP =140 kPa
				1.0			1.00m EXCAVATION AEC44TP95 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP96
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291886.7, N: 6249924.0 (56 MGA2020)	SURFACE ELEVATION : 46.70 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m				0.20m Silty CLAY: medium to high plasticity, red-brown, trace fine ironstone gravel				RESIDUAL SOIL 0.30: HP =300 kPa
				0.5		CI-CH		w~PL	VSt		
			0.80m ES 0.90m				0.90m EXCAVATION AEC44TP96 TERMINATED AT 0.90 m Target depth				0.80: HP =270 kPa
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

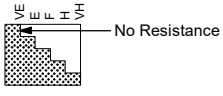


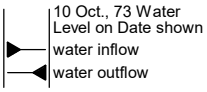
Re

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION


WATER


SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP97
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291484.4, N: 6249930.4 (56 MGA2020)	SURFACE ELEVATION : 55.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400 kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, red-brown, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.30: HP =160 kPa
			0.80m ES 0.90m	0.5		CH	At 0.7m: pale grey mottled red-brown	w~PL	St	×	0.80: HP =130 kPa
				1.0			EXCAVATION AEC44TP97 TERMINATED AT 1.10 m Target depth				
				1.10m							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP98
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291511.8, N: 6249925.4 (56 MGA2020)	SURFACE ELEVATION : 55.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400 kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m	0.20m							RESIDUAL SOIL
			ES 0.40m	0.5			Silty CLAY: high plasticity, red-brown, trace fine to medium ironstone gravel			×	0.30: HP =180 kPa
			0.80m			CH		w~PL	St		
			ES 0.90m	1.0						×	0.80: HP =160 kPa
				1.10m			EXCAVATION AEC44TP98 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP99
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291550.0, N: 6249923.5 (56 MGA2020)	SURFACE ELEVATION : 54.80 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m				0.20m Silty CLAY: high plasticity, pale orange-brown, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.30: HP =160 kPa
			0.80m ES 0.90m	0.5		CH	At 0.7m: pale grey mottled orange-brown	w~PL	St	×	0.80: HP =130 kPa
				1.0			1.10m EXCAVATION AEC44TP99 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP100
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291582.5, N: 6249914.3 (56 MGA2020)	SURFACE ELEVATION : 54.40 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, pale orange-brown, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.30: HP =180 kPa
				0.5		CH		w~PL	St		
			0.80m ES 0.90m				At 0.7m: pale orange-brown mottled pale grey			×	0.80: HP =150 kPa
				1.00m 1.0			EXCAVATION AEC44TP100 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

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METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP101
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291618.2, N: 6249913.2 (56 MGA2020)	SURFACE ELEVATION : 54.40 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, grey, trace fine to medium siltstone gravel			×	RESIDUAL SOIL 0.30: HP =160 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CH		w~PL	St	×	0.80: HP =180 kPa 0.80: PID <5
				0.90m			EXCAVATION AEC44TP101 TERMINATED AT 0.90 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



Re

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP102
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291644.1, N: 6249916.0 (56 MGA2020)	SURFACE ELEVATION : 54.70 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, grey, trace fine to medium siltstone gravel			×	Field Replicate BD3/20220906 taken at 0.0-0.1m depth RESIDUAL SOIL 0.30: HP =180 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CH	At 0.6m: pale grey	w~PL	St	×	0.80: HP =170 kPa 0.80: PID <5
				1.00m 1.0			EXCAVATION AEC44TP102 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

Ro

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP103
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291688.8, N: 6249901.5 (56 MGA2020)	SURFACE ELEVATION : 53.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			0.10m FILL: sandy SILT: medium to high plasticity, dark grey, fine to medium sand	w>PL			FILL 0.00: PID <5
			0.20m ES 0.30m				Silty CLAY: high plasticity, pale grey mottled orange-brown, trace fine to medium ironstone and siltstone gravel			X	RESIDUAL SOIL 0.20: HP =140 kPa 0.20: PID <5
			0.70m ES 0.80m	0.5		CH		w~PL	St to VSt	X	0.70: HP =210 kPa 0.70: PID <5
				1.0			0.90m EXCAVATION AEC44TP103 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP104
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291713.5, N: 6249903.0 (56 MGA2020)	SURFACE ELEVATION : 53.10 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING					MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER (kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, pale brown, trace mine to medium siltstone gravel			200	Field Replicate BD1/20220906 taken at 0.0-0.1m depth RESIDUAL SOIL 0.30: HP =180 kPa 0.30: PID <5
				0.5		CH		w~PL	St		
			0.80m ES 0.90m				At 0.7m: pale grey mottled orange-brown			200	0.80: HP =160 kPa 0.80: PID <5
				1.00m 1.0			EXCAVATION AEC44TP104 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP105
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291747.6, N: 6249900.1 (56 MGA2020) | SURFACE ELEVATION : 52.00 (mAHD)
EQUIPMENT TYPE : 12 tonne Excavator | METHOD : 800mm bucket
DATE EXCAVATED : 05/09/22 | LOGGED BY : PJ | CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace fine to medium gravel, trace rootlets	w>PL			FILL
			0.30m ES 0.40m				0.20m Silty CLAY: medium to high plasticity, pale brown				RESIDUAL SOIL 0.30: HP =140 kPa
				0.5		CI-CH		w>PL	St		
			0.80m ES 0.90m				0.70m Silty CLAY: high plasticity, pale orange-brown				0.80: HP =160 kPa
				1.0		CH	1.10m	w~PL	St		
							EXCAVATION AEC44TP105 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP106
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291779.2, N: 6249903.6 (56 MGA2020)	SURFACE ELEVATION : 50.80 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		No Observed	0.20m E 0.25m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets 0.25m	w~PL			FILL
				0.5			EXCAVATION AEC44TP106 TERMINATED AT 0.25 m Services present - pipe presumed to contain asbestos				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : **AEC44TP106a**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291782.5, N: 6249902.1 (56 MGA2020)	SURFACE ELEVATION : 51.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400 kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, orange-brown, trace fine to medium ironstone gravel				RESIDUAL SOIL 0.30: HP =180 kPa
			0.80m ES 0.90m	0.5		CH		w~PL	St		0.80: HP =160 kPa
				1.00m 1.0			EXCAVATION AEC44TP106a TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP107
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291693.0, N: 6249857.6 (56 MGA2020)	SURFACE ELEVATION : 50.60 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: medium to high plasticity, yellow-brown, trace fine to coarse ironstone gravel				RESIDUAL SOIL 0.30: HP =180 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CI-CH		w~PL	St		0.80: HP =190 kPa 0.80: PID <5
				1.0			EXCAVATION AEC44TP107 TERMINATED AT 1.10 m Target depth				
				1.10m							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP108
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291663.5, N: 6249877.9 (56 MGA2020)	SURFACE ELEVATION : 52.40 (mAHD)
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE	

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, orange-brown mottled grey				Field Replicate BD2/20220906 taken at 0.0-0.1m depth RESIDUAL SOIL 0.30: HP =200 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CH		w~PL	St		0.80: HP =180 kPa 0.80: PID <5
				1.00m 1.0			EXCAVATION AEC44TP108 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP109
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291706.4, N: 6249876.7 (56 MGA2020)	SURFACE ELEVATION : 52.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, orange-brown, trace fine to medium ironstone gravel, trace siltstone boulders			100 200 300 400	RESIDUAL SOIL 0.30: HP =210 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CH		w~PL	St to VSt		
				1.0			At 0.8m: orange-brown mottled grey				0.80: HP =190 kPa 0.80: PID <5
				1.10m			EXCAVATION AEC44TP109 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP110
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291742.3, N: 6249860.3 (56 MGA2020)	SURFACE ELEVATION : 50.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING					MATERIAL						
PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa	STRUCTURE & Other Observations
		Not Observed	0.20m E 0.30m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.20: PID <5
				0.30m			EXCAVATION AEC44TP110 TERMINATED AT 0.30 m Services present - pipe presumed to contain asbestos				
				0.5							
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

RevA

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP110a
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291739.8, N: 6249864.2 (56 MGA2020)	SURFACE ELEVATION : 50.90 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.40m ES 0.50m	0.30m			Silty CLAY: high plasticity, pale brown mottled orange-brown, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.40: HP =180 kPa 0.40: PID <5
			0.90m ES 1.00m	0.5 1.0		CH		w~PL	St	×	0.90: HP =170 kPa 0.90: PID <5
				1.10m			EXCAVATION AEC44TP110a TERMINATED AT 1.10 m Target depth				
				1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP111
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291770.7, N: 6249871.2 (56 MGA2020) | SURFACE ELEVATION : 50.30 (mAHD)
EQUIPMENT TYPE : 12 tonne Excavator | METHOD : 800mm bucket
DATE EXCAVATED : 06/09/22 | LOGGED BY : PJ | CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic, Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, pale grey-brown, trace fine to medium siltstone gravel			X	RESIDUAL SOIL 0.30: HP =140 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CH		w~PL	St	X	0.80: HP =150 kPa 0.80: PID <5
				1.0							
				1.20m			EXCAVATION AEC44TP111 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : **AEC44HA112**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291653.7, N: 6249857.3 (56 MGA2020) SURFACE ELEVATION : 51.20 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : Hand Tools MOUNTING : Hand Tools CONTRACTOR : Douglas Partners DRILLER : PJ

DATE STARTED : 21/09/22 DATE COMPLETED : 21/09/22 DATE LOGGED : 21/09/22 LOGGED BY : PJ CHECKED BY : MB

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
HA		E	Groundwater observed at approximately 0.3m	ES 0.10m	0.0 51.2			0.10m FILL: sandy SILT: medium to high plasticity, dark grey-brown, fine to medium sand, trace rootlets	w~PL		FILL 0.00: PID <5
				0.20m ES 0.30m				Silty CLAY: high plasticity, pale yellow-brown			RESIDUAL SOIL 0.20: PID <5
				0.70m ES 0.80m	0.5 50.7		CH		w~PL	F	0.70: PID <5
					1.0 50.2			1.00m BOREHOLE AEC44HA112 TERMINATED AT 1.00 m Target depth			
					1.5 49.7						
					2.0 49.2						
					2.5 48.7						
					3.0 48.2						
					3.5 47.7						
					4.0 47.2						
					4.5 46.7						
					5.0 46.2						

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See Explanatory Notes for details of abbreviations & basis of descriptions.

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP113
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291806.2, N: 6249911.6 (56 MGA2020)	SURFACE ELEVATION : 50.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: Field Replicate BD5/20220905 taken at 0.0-0.1m depth
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, red-brown mottled grey, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.30: HP =170 kPa
			0.80m ES 0.90m	0.5		CH		w~PL	St	×	0.80: HP =170 kPa
				1.00m 1.0			EXCAVATION AEC44TP113 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE, E, F, H, VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP114
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291867.6, N: 6249909.0 (56 MGA2020)	SURFACE ELEVATION : 47.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 05/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic, Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w>PL			FILL
			0.30m ES 0.40m				0.20m Silty CLAY: high plasticity, red-brown, trace fine to coarse ironstone gravel				RESIDUAL SOIL
				0.5		CH		w~PL	St	×	0.30: HP =160 kPa
			0.80m ES 0.90m				0.90m			×	0.80: HP =180 kPa
				1.0			EXCAVATION AEC44TP114 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : **AEC44HA115**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291864.3, N: 6249869.5 (56 MGA2020) SURFACE ELEVATION : 47.10 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : Hand Tools MOUNTING : Hand Tools CONTRACTOR : Douglas Partners DRILLER : PJ

DATE STARTED : 21/09/22 DATE COMPLETED : 21/09/22 DATE LOGGED : 21/09/22 LOGGED BY : PJ CHECKED BY : MB

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
HA		E	Not Observed	ES 0.10m	0.0 47.1			0.10m FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL		FILL 0.00: PID <5
		F		0.30m ES 0.40m	0.5 46.6		CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel	w~PL	F to St	Field Replicate BD1/20220921 taken at 0.0-0.1m depth RESIDUAL SOIL 0.30: PID <5
				0.80m ES 0.90m				0.90m			0.80: PID <5
					1.0 46.1			BOREHOLE AEC44HA115 TERMINATED AT 0.90 m Target depth			
					1.5 45.6						
					2.0 45.1						
					2.5 44.6						
					3.0 44.1						
					3.5 43.6						
					4.0 43.1						
					4.5 42.6						
					5.0 42.1						

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See Explanatory Notes for details of abbreviations & basis of descriptions.

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : **AEC44HA116**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291891.0, N: 6249875.5 (56 MGA2020) SURFACE ELEVATION : 46.20 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : Hand Tools MOUNTING : Hand Tools CONTRACTOR : Douglas Partners DRILLER : PJ

DATE STARTED : 21/09/22 DATE COMPLETED : 21/09/22 DATE LOGGED : 21/09/22 LOGGED BY : PJ CHECKED BY : MB

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
HA		E	Not Observed	ES 0.10m	0.0 46.2			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL		FILL 0.00: PID <5
					0.20m						
		F		0.30m ES 0.40m	0.5 45.7		CI-CH	Silty CLAY: medium to high plasticity, red-brown, trace fine to medium gravel	w~PL	F to St	RESIDUAL SOIL 0.30: PID <5
				0.80m ES 0.90m							0.80: PID <5
					1.00m						
					1.0 45.2			BOREHOLE AEC44HA116 TERMINATED AT 1.00 m Target depth			
					1.5 44.7						
					2.0 44.2						
					2.5 43.7						
					3.0 43.2						
					3.5 42.7						
					4.0 42.2						
					4.5 41.7						
					5.0 41.2						

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See Explanatory Notes for details of abbreviations & basis of descriptions.

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : **AEC44HA117**
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291882.2, N: 6249850.4 (56 MGA2020) SURFACE ELEVATION : 47.60 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : Hand Tools MOUNTING : Hand Tools CONTRACTOR : Douglas Partners DRILLER : PJ

DATE STARTED : 21/09/22 DATE COMPLETED : 21/09/22 DATE LOGGED : 21/09/22 LOGGED BY : PJ CHECKED BY : MB

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) / RL (m AHD)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	STRUCTURE & Other Observations
HA		E	Not Observed	ES 0.10m	0.0 47.6			0.10m FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL		FILL 0.00: PID <5
				0.20m				Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			RESIDUAL SOIL 0.20: PID <5
		F		ES 0.30m	0.5 47.1		CI-CH		w~PL	F to St	
				0.70m							0.70: PID <5
				ES 0.80m				0.90m BOREHOLE AEC44HA117 TERMINATED AT 0.90 m Target depth			
					1.0 46.6						
					1.5 46.1						
					2.0 45.6						
					2.5 45.1						
					3.0 44.6						
					3.5 44.1						
					4.0 43.6						
					4.5 43.1						
					5.0 42.6						

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See Explanatory Notes for details of abbreviations & basis of descriptions.

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : AEC44HA118
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291862.2, N: 6249825.4 (56 MGA2020) SURFACE ELEVATION : 47.80 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : Hand Tools MOUNTING : Hand Tools CONTRACTOR : Douglas Partners DRILLER : PJ

DATE STARTED : 21/09/22 DATE COMPLETED : 21/09/22 DATE LOGGED : 21/09/22 LOGGED BY : PJ CHECKED BY : MB

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
		E		ES 0.10m	0.0 47.8			0.10m FILL: sandy: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL		FILL 0.00: PID <5
HA				0.20m ES 0.30m				Silty: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			RESIDUAL SOIL 0.20: PID <5
		F	Not Observed		0.5 47.3		CI-CH		w~PL	F to St	
				0.70m ES 0.80m							0.70: PID <5
					1.0 46.8			1.00m BOREHOLE AEC44HA118 TERMINATED AT 1.00 m Target depth			
					1.5 46.3						
					2.0 45.8						
					2.5 45.3						
					3.0 44.8						
					3.5 44.3						
					4.0 43.8						
					4.5 43.3						
					5.0 42.8						

RevA

See Explanatory Notes for details of abbreviations & basis of descriptions.

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : AEC44HA119
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291850.3, N: 6249811.0 (56 MGA2020) SURFACE ELEVATION : 48.00 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : Hand Tools MOUNTING : Hand Tools CONTRACTOR : Douglas Partners DRILLER : PJ

DATE STARTED : 21/09/22 DATE COMPLETED : 21/09/22 DATE LOGGED : 21/09/22 LOGGED BY : PJ CHECKED BY : MB

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
HA		E	Not Observed	ES 0.10m	0.0 48.0			0.10m FILL: sandy: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w>PL		FILL 0.00: PID <5
				0.20m				Silty: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			Field Replicate BD2/20220921 taken at 0.0-0.1m depth
				ES 0.30m							RESIDUAL SOIL 0.20: PID <5
		F			0.5 47.5		CI-CH		w~PL	F to St	
				0.70m							0.70: PID <5
				ES 0.80m				0.90m red-brown mottled pale grey			
					1.0 47.0			BOREHOLE AEC44HA119 TERMINATED AT 0.90 m Target depth			
					1.5 46.5						
					2.0 46.0						
					2.5 45.5						
					3.0 45.0						
					3.5 44.5						
					4.0 44.0						
					4.5 43.5						
					5.0 43.0						

RevA

See Explanatory Notes for details of abbreviations & basis of descriptions.

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RMS LIB 40.3.14 .GLB Log RTA NON-CORE DRILL HOLE 2 AEC_MASTER.GPJ <<DrawingFile>> 30/Sep/2022 12:09 10.02.00.04 Datgel Tools

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : AEC44HA120
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291827.7, N: 6249793.7 (56 MGA2020) SURFACE ELEVATION : 48.40 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : Hand Tools MOUNTING : Hand Tools CONTRACTOR : Douglas Partners DRILLER : PJ

DATE STARTED : 21/09/22 DATE COMPLETED : 21/09/22 DATE LOGGED : 21/09/22 LOGGED BY : PJ CHECKED BY : MB

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
HA		E	Not Observed	ES 0.10m	0.0 48.4			FILL: sandy: medium to high plasticity, dark grey with red-brown, fine to medium sand, trace rootlets, trace fine gravel	w>PL		FILL 0.00: PID <5
				0.30m	0.20m						
		F		ES 0.40m			CI-CH	Silty: high plasticity, pale orange-brown, trace fine to medium siltstone gravel	w>PL	F to St	RESIDUAL SOIL 0.30: PID <5
		H			0.5 47.9					VSt	
					0.60m			BOREHOLE AEC44HA120 TERMINATED AT 0.60 m Refusal			
					1.0 47.4						
					1.5 46.9						
					2.0 46.4						
					2.5 45.9						
					3.0 45.4						
					3.5 44.9						
					4.0 44.4						
					4.5 43.9						
					5.0 43.4						

RevA

See Explanatory Notes for details of abbreviations & basis of descriptions.

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP121
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291805.6, N: 6249773.4 (56 MGA2020)	SURFACE ELEVATION : 48.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
			ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m		CI-CH	Silty CLAY: medium to high plasticity, orange-brown, trace fine to medium ironstone gravel	w~PL	St	×	RESIDUAL SOIL 0.30: HP =180 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5 0.60m		CL-CI	Gravelly CLAY: low to medium plasticity, orange-brown, fine ironstone gravel	w>PL	St	×	0.80: HP =100 kPa 0.80: PID <5
				1.0 1.20m			EXCAVATION AEC44TP121 TERMINATED AT 1.20 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP122
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291764.5, N: 6249763.7 (56 MGA2020)	SURFACE ELEVATION : 49.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark grey, fine to medium sand, trace rootlets, trace fine gravel	w>PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: medium to high plasticity, orange-brown, trace fine to coarse ironstone gravel			×	RESIDUAL SOIL 0.30: HP =150 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CI-CH		w~PL	St	×	0.80: HP =160 kPa 0.80: PID <5
				1.00m			EXCAVATION AEC44TP122 TERMINATED AT 1.00 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP123
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291735.4, N: 6249754.3 (56 MGA2020)	SURFACE ELEVATION : 49.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB

EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, red-brown, trace fine to medium ironstone gravel				RESIDUAL SOIL 0.30: HP =190 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CH		w~PL	St		0.80: HP =180 kPa 0.80: PID <5
				1.00m 1.0			EXCAVATION AEC44TP123 TERMINATED AT 1.00 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP124
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291701.3, N: 6249751.3 (56 MGA2020)	SURFACE ELEVATION : 50.00 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION E F H	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	HAND PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			0.10m FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.20m ES 0.30m	0.5			Silty CLAY: high plasticity, red-brown, trace fine to medium ironstone gravel			×	Field Replicate BD4/20220906 taken at 0.0-0.1m depth RESIDUAL SOIL 0.20: HP =210 kPa 0.20: PID <5
			0.70m ES 0.80m	1.0		CH		w~PL	VSt	×	0.70: HP =220 kPa 0.70: PID <5
							1.30m EXCAVATION AEC44TP124 TERMINATED AT 1.30 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP125
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291676.9, N: 6249762.1 (56 MGA2020)	SURFACE ELEVATION : 50.20 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: high plasticity, red-brown, trace fine to medium ironstone gravel			×	Field Replicate BD5/20220906 taken at 0.0-0.1m depth RESIDUAL SOIL 0.30: HP =170 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CH		w~PL	St		
				1.0						×	0.80: HP =170 kPa 0.80: PID <5
				1.10m			EXCAVATION AEC44TP125 TERMINATED AT 1.10 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							

PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP126
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291657.1, N: 6249770.8 (56 MGA2020)	SURFACE ELEVATION : 50.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

VE / PENETRATION (E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETRO-METER kPa (100, 200, 300, 400)	STRUCTURE & Other Observations
		Not Observed	ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: medium to high plasticity, red-brown, trace fine to medium ironstone gravel			×	RESIDUAL SOIL 0.30: HP =170 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CI-CH		w~PL	St	×	0.80: HP =170 kPa 0.80: PID <5
				1.00m			EXCAVATION AEC44TP126 TERMINATED AT 1.00 m Target depth				
				1.0							
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
- N Natural Exposure
- E Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

SUPPORT
- T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
- U50 - Undisturbed Sample 50 mm diameter
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- HP - Hand Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
- PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
- D - Dry
- M - Moist
- W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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EXCAVATION - GEOLOGICAL LOG

PIT NO : AEC44TP127
FILE / JOB NO :
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291637.4, N: 6249783.8 (56 MGA2020)	SURFACE ELEVATION : 50.50 (mAHD)	
EQUIPMENT TYPE : 12 tonne Excavator	METHOD : 800mm bucket	
DATE EXCAVATED : 06/09/22	LOGGED BY : PJ	CHECKED BY : MB
EXCAVATION DIMENSIONS : 1.00 m LONG 0.80 m WIDE		

DRILLING | MATERIAL

PENETRATION (VE, E, F, H)	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION (Soil Type, Colour, Plasticity or Particle Characteristic, Secondary and Minor Components)	MOISTURE CONDITION	CONSISTENCY / RELATIVE DENSITY	HAND PENETROMETER (kPa)	STRUCTURE & Other Observations
			ES 0.10m	0.0			FILL: sandy SILT: medium to high plasticity, dark brown, fine to medium sand, trace rootlets	w~PL			FILL 0.00: PID <5
			0.30m ES 0.40m	0.20m			Silty CLAY: medium to high plasticity, red-brown, trace fine ironstone gravel				RESIDUAL SOIL 0.30: HP =180 kPa 0.30: PID <5
			0.80m ES 0.90m	0.5		CI-CH		w>PL	St to VSt		0.80: HP =310 kPa 0.80: PID <5
				0.90m 1.0			EXCAVATION AEC44TP127 TERMINATED AT 0.90 m Target depth				
				1.5							
				2.0							
				2.5							
				3.0							
				3.5							
				4.0							
				4.5							
				5.0							



PHOTOGRAPHS NOTES ☒ YES ☐ NO

METHOD
N Natural Exposure
E Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

SUPPORT
T Timbering

PENETRATION
VE E F H VH — No Resistance

WATER
10 Oct., 73 Water Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS
U50 - Undisturbed Sample 50 mm diameter
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
HP - Hand Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak, R-Remouded (uncorrected kPa)
PBT - Plate Bearing Test

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE
D - Dry
M - Moist
W - Wet

CONSISTENCY/ RELATIVE DENSITY

VS	- Very Soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very Stiff
H	- Hard
VL	- Very Loose
L	- Loose
MD	- Medium Dense
D	- Dense
VD	- Very Dense

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RMS LIB 40.3.14 .GLB Log RTA EXCAVATION AEC_MASTER.GPJ <<DrawingFile>> 30/Sep/2022 08:53 10.02.00.04 Datgel Tools

PIEZOMETER CONSTRUCTION

HOLE NO : AEC44-BH01
FILE / JOB NO : 204814.01
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291495.2, N: 6249982.1 (56 MGA2020) SURFACE ELEVATION : 57.80 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : DB520 MOUNTING : Track CONTRACTOR : Numac

DATE STARTED : 26/08/22 DATE COMPLETED : 26/08/22 DATE LOGGED : 26/08/22 LOGGED BY : NB CHECKED BY : MB

DRILLING				MATERIAL			PIEZOMETER CONSTRUCTION DETAILS
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	GROUND WATER LEVELS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL (See geotechnical log for soil/rock detail)	ID 1 / Type / Stick Up & RL / Tip Depth & RL: 15.00 m 42.80 mAHD / Installation Date: 26/08/2022 / Static Water Level
AD/T		Not Encountered	0.0			0.20m TOPSOIL: sandy SILT: low plasticity, dark brown, fine sand, with rootlets	
					CI-CH	Silty CLAY: medium to high plasticity, pale grey, mottled orange-yellow	Backfill; PN18 PVC-U Pipe
			2.0				2.00m (55.80)
						2.50m	2.50m (55.30); Bentonite
					CI-CH	Silty CLAY: medium to high plasticity, orange-brown	
						3.00m	
					CI-CH	Silty CLAY: medium to high plasticity, dark grey brown	
			4.0				
						5.00m	
						SILTSTONE: dark brown and grey; highly weathered to fresh, very low to medium strength	
			6.0				
						At 7.0m: dark grey	
			8.0				5mm sand/ gravel; PVC slotted screen (6m)
			10.0				
			12.0				
			14.0				
						15.00m AEC44-BH01 TERMINATED AT 15.00 m Target depth	15.00m (42.80); End Cap

RevA

This report of well/VWP installation must be read in conjunction with accompanying notes and abbreviations. The geotechnical log is a summary only and the detailed log should be referred to for strata details and any core loss zones.

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PIEZOMETER CONSTRUCTION

HOLE NO : AEC44-BH02
FILE / JOB NO : 204814.01
SHEET : 1 OF 1

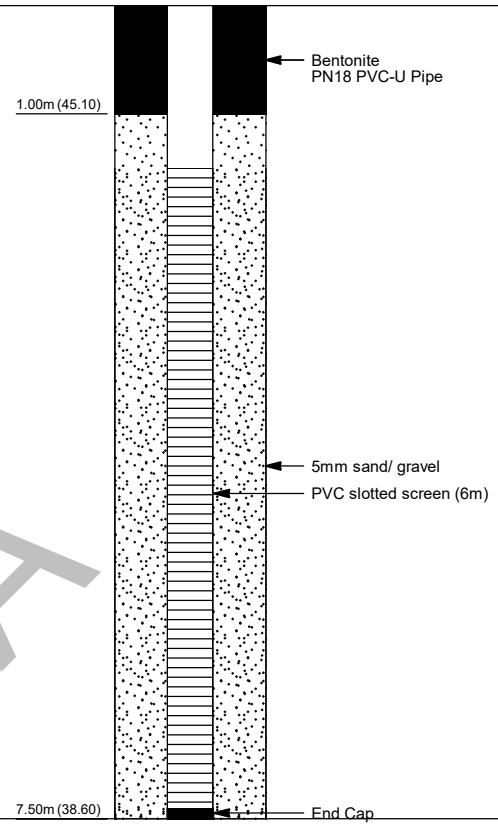
PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291971.0, N: 6249973.0 (56 MGA2020) SURFACE ELEVATION : 46.10 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : DB520 MOUNTING : Track CONTRACTOR : Numac

DATE STARTED : 29/08/22 DATE COMPLETED : 29/08/22 DATE LOGGED : 29/08/22 LOGGED BY : NB CHECKED BY : MB

DRILLING				MATERIAL			PIEZOMETER CONSTRUCTION DETAILS				
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	GROUND WATER LEVELS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL (See geotechnical log for soil/rock detail)	ID	Type	Stick Up & RL	Tip Depth & RL	Installation Date / Static Water Level
							1			7.50 m 38.60 mAHD	29/08/2022
AD/T		Slow seep	0.0			0.15m TOPSOIL: sandy SILT: low plasticity, dark brown, fine sand, with rootlets					
					CI-CH	Silty CLAY: medium to high plasticity, orange-brown					
			2.0			3.00m					
						Silty CLAY: medium to high plasticity, pale grey and mottled orange-yellow					
			4.0		CI-CH						
						5.50m					
			6.0			SILTSTONE: dark brown and grey; highly weathered to fresh, very low to medium strength					
						At 6.5m: dark grey					
						7.50m					
			8.0			AEC44-BH02 TERMINATED AT 7.50 m Target depth					
			10.0								
			12.0								
			14.0								



RevA

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PIEZOMETER CONSTRUCTION

HOLE NO : AEC44-BH03
FILE / JOB NO : 204814.01
SHEET : 1 OF 1

PROJECT : Western Sydney Airport - Surface and Civil Alignment Works
LOCATION : Elizabeth Drive - Badgerys Creek

POSITION : E: 291938.0, N: 6249756.6 (56 MGA2020) SURFACE ELEVATION : 46.80 (mAHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : DB520 MOUNTING : Track CONTRACTOR : Numac

DATE STARTED : 31/08/22 DATE COMPLETED : 31/08/22 DATE LOGGED : 31/08/22 LOGGED BY : NB CHECKED BY : MB

DRILLING				MATERIAL			PIEZOMETER CONSTRUCTION DETAILS
PROGRESS: DRILLING & CASING	PROGRESS: WATER LOSS	GROUND WATER LEVELS	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL (See geotechnical log for soil/rock detail)	
AD/T		Slow seep	0.0			0.30m TOPSOIL: sandy SILT: low plasticity, dark brown, fine sand, with rootlets	ID 1 — Type — Stick Up & RL — Tip Depth & RL: 4.50 m 42.30 mAHD — Installation Date: 31/08/2022 — Static Water Level
					CI-CH	Silty CLAY: medium to high plasticity, orange-yellow and pale grey	0.50m (46.30) Bentonite; PN18 PVC-U Pipe
			2.0			2.00m Silty CLAY: medium to high plasticity, grey and pale brown, trace fine sand	5mm sand/ gravel; PVC slotted screen (6m)
					CI-CH	3.50m SILTSTONE: dark brown and grey; highly weathered, very low strength	
			4.0			4.50m AEC44-BH03 TERMINATED AT 4.50 m Target depth	4.50m (42.30) End Cap
			6.0				
			8.0				
			10.0				
			12.0				
			14.0				

RevA

This report of well/VWP installation must be read in conjunction with accompanying notes and abbreviations. The geotechnical log is a summary only and the detailed log should be referred to for strata details and any core loss zones.

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Sampling Methods

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Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:

  4,6,7
  N=13

- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:

  15, 30/40 mm

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.

Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are generally based on Australian Standard AS1726:2017, Geotechnical Site Investigations. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	19 - 63
Medium gravel	6.7 - 19
Fine gravel	2.36 – 6.7
Coarse sand	0.6 - 2.36
Medium sand	0.21 - 0.6
Fine sand	0.075 - 0.21

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

The proportions of secondary constituents of soils are described as follows:

In fine grained soils (>35% fines)

Term	Proportion of sand or gravel	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	>30%	Sandy Clay
With	15 – 30%	Clay with sand
Trace	0 - 15%	Clay with trace sand

In coarse grained soils (>65% coarse)
- with clays or silts

Term	Proportion of fines	Example
And	Specify	Sand (70%) and Clay (30%)
Adjective	>12%	Clayey Sand
With	5 - 12%	Sand with clay
Trace	0 - 5%	Sand with trace clay

In coarse grained soils (>65% coarse)
- with coarser fraction

Term	Proportion of coarser fraction	Example
And	Specify	Sand (60%) and Gravel (40%)
Adjective	>30%	Gravelly Sand
With	15 - 30%	Sand with gravel
Trace	0 - 15%	Sand with trace gravel

The presence of cobbles and boulders shall be specifically noted by beginning the description with ‘Mix of Soil and Cobbles/Boulders’ with the word order indicating the dominant first and the proportion of cobbles and boulders described together.

Soil Descriptions

Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	VS	<12
Soft	S	12 - 25
Firm	F	25 - 50
Stiff	St	50 - 100
Very stiff	VSt	100 - 200
Hard	H	>200
Friable	Fr	-

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	Density Index (%)
Very loose	VL	<15
Loose	L	15-35
Medium dense	MD	35-65
Dense	D	65-85
Very dense	VD	>85

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Extremely weathered material – formed from in-situ weathering of geological formations. Has soil strength but retains the structure or fabric of the parent rock;
- Alluvial soil – deposited by streams and rivers;
- Estuarine soil – deposited in coastal estuaries;
- Marine soil – deposited in a marine environment;
- Lacustrine soil – deposited in freshwater lakes;
- Aeolian soil – carried and deposited by wind;
- Colluvial soil – soil and rock debris transported down slopes by gravity;
- Topsoil – mantle of surface soil, often with high levels of organic material.
- Fill – any material which has been moved by man.

Moisture Condition – Coarse Grained Soils

For coarse grained soils the moisture condition should be described by appearance and feel using the following terms:

- Dry (D) Non-cohesive and free-running.
- Moist (M) Soil feels cool, darkened in colour.
  Soil tends to stick together.
  Sand forms weak ball but breaks easily.
- Wet (W) Soil feels cool, darkened in colour.
  Soil tends to stick together, free water forms when handling.

Moisture Condition – Fine Grained Soils

For fine grained soils the assessment of moisture content is relative to their plastic limit or liquid limit, as follows:

- 'Moist, dry of plastic limit' or 'w <PL' (i.e. hard and friable or powdery).
- 'Moist, near plastic limit' or 'w ≈ PL (i.e. soil can be moulded at moisture content approximately equal to the plastic limit).
- 'Moist, wet of plastic limit' or 'w >PL' (i.e. soils usually weakened and free water forms on the hands when handling).
- 'Wet' or 'w ≈LL' (i.e. near the liquid limit).
- 'Wet' or 'w >LL' (i.e. wet of the liquid limit).

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

* Assumes a ratio of 20:1 for UCS to $Is_{(50)}$. It should be noted that the UCS to $Is_{(50)}$ ratio varies significantly for different rock types and specific ratios should be determined for each site.

Degree of Weathering

The degree of weathering of rock is classified as follows:

Term	Abbreviation	Description
Residual Soil	RS	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.
Extremely weathered	XW	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
Highly weathered	HW	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.
Moderately weathered	MW	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.
Slightly weathered	SW	Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.
Fresh	FR	No signs of decomposition or staining.
Note: If HW and MW cannot be differentiated use DW (see below)		
Distinctly weathered	DW	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.

Rock Descriptions

Degree of Fracturing

The following classification applies to the spacing of natural fractures in diamond drill cores. It includes bedding plane partings, joints and other defects, but excludes drilling breaks.

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:

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

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

For sedimentary rocks the following terms may be used to describe the spacing of bedding partings:

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

Symbols & Abbreviations

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Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U_{50}	Undisturbed tube sample (50mm)
W	Water sample
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	Lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

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

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

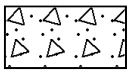
Symbols & Abbreviations

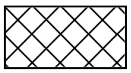
Graphic Symbols for Soil and Rock

General


Asphalt


Road base

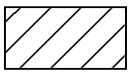

Concrete

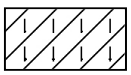

Filling

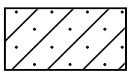
Soils


Topsoil

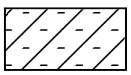

Peat

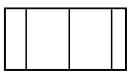

Clay

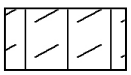

Silty clay

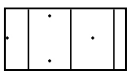

Sandy clay

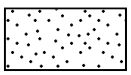

Gravelly clay

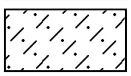

Shaly clay

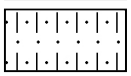

Silt


Clayey silt


Sandy silt

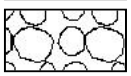

Sand

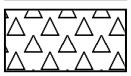

Clayey sand


Silty sand


Gravel

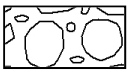

Sandy gravel


Cobbles, boulders

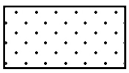

Talus

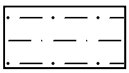
Sedimentary Rocks

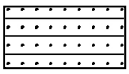

Boulder conglomerate

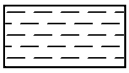

Conglomerate


Conglomeratic sandstone

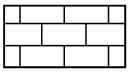

Sandstone


Siltstone

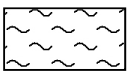

Laminite

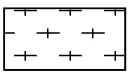

Mudstone, claystone, shale


Coal


Limestone

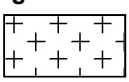
Metamorphic Rocks

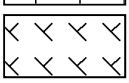

Slate, phyllite, schist

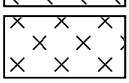

Gneiss

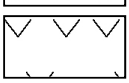

Quartzite

Igneous Rocks


Granite


Dolerite, basalt, andesite


Dacite, epidote


Tuff, breccia


Porphyry

Appendix H

Field Sheets and Calibration Records

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **11K101271**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper	✓	
	Settings	✓	
Software	Version	✓	
Data logger	Operation	✓	
Download	Operation	✓	
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		381241	pH 6.98
2. pH 4.00		pH 4.00		389384	pH 3.94
3. mV		236.7mV		385070/387771	236.8mV
4. EC		2.76mS		385041	2.76mS
5. D.O		0ppm		379624	0.0ppm
6. Temp		21.5		MultiTherm	21.4

Calibrated by: **Alex Buist**

Calibration date: **01/09/2022**

Next calibration due: **28/02/2023**

PID Calibration Certificate

Instrument PhoCheck Tiger
Serial No. T-113854

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
Pump	Operation	✓	
	Filter	✓	
	Flow	✓	
	Valves, Diaphragm	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	PID	✓	10.6 ev
Alarms	Beeper	✓	Low: 50ppm; High: 100ppm; TWA: ; STEL:
	Settings	✓	
Software	Version	✓	
Data logger	Operation	✓	
Download	Operation	✓	
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		93ppm Isobutylene	NATA	SY361		90.2 ppm Isobutylene

Calibrated by: Alex Buist

Calibration date: 1/09/2022

Next calibration due: 28/02/2023

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GROUNDWATER SAMPLING FORM

Project: WSA SCAW Tender Design	**Project No:** 204814.01
Client: CPB Contractors Pty Limited & United Infrastructure Pty Limited (CPBUIJV)	
Location: Elizabeth Drive, Luddenham	
Sampling Method: Twister Pump	

Bore No.	AEL44BH01				
Purging Date	30/8/22				
Bore Casing Diameter (mm)	50mm				
SWL (m below top of casing)	Nil				
Height of Casing (m above GL*)	0.33				
SWL (m below GL*)	Nil				
Total Bore Depth (m below GL*) 15.72	15.39				
Well Volume (L) **[which for 50mm casing is 2L approx. per metre depth]		(DRY)			
Purged Volume (L) (≈ well vol x 3)		(DRY)			
Sampling Date					
Sampling Time					
Temperature (°C)					
pH (record to one decimal place)					
EC (µS/cm)					
Dissolved Oxygen (% Sat)					
Dissolved Oxygen (mg/L)					
Turbidity (NTU)					
Redox (mV)					
TDS (mg/L)					
Odour					
Colour					
Recharge Rate					
Observations					

Notes: Well dry, no groundwater observed.

Supervisor: **Date:**

Water quality meter calibration details (please tick calibration liquids used):

Meter ID							
Buffer (pH 4)	☐	Use-by Date		Conductivity Standard (2.76 mS/cm)	☐	Use-by Date	
Buffer (pH 6.88)	☐	Use-by Date		Total Dissolved Solids Standard (2 parts per thousand)	☐	Use-by Date	
Buffer (pH 9)	☐	Use-by Date		Rapid Cal Solution	☐	Use-by Date	

*GL – denotes ground level **Well Volume = πr^2 x depth of water, where r is internal casing radius

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GROUNDWATER SAMPLING FORM

Project: WSA SCAW Tender Design	**Project No:** 204814.01
Client: CPB Contractors Pty Limited & United Infrastructure Pty Limited (CPBUIJV)	
Location: Elizabeth Drive, Luddenham	
Sampling Method: Twister Pump.	

Bore No.	AEC44BH02				
Purging Date	30/8/22				
Bore Casing Diameter (mm)	50mm				
SWL (m below top of casing)	2.32				
Height of Casing (m above GL*)	0.48				
SWL (m below GL*)	1.84				
Total Bore Depth (m below GL*) BH2	7.64				
Well Volume (L) **[which for 50mm casing is 2L approx. per metre depth]	11.600				
Purged Volume (L) (≈ well vol x 3) 3480	27.000 (DRY)				
Sampling Date					
Sampling Time					
Temperature (°C)					
pH (record to one decimal place)					
EC (µS/cm)					
Dissolved Oxygen (% Sat)					
Dissolved Oxygen (mg/L)					
Turbidity (NTU)					
Redox (mV)					
TDS (mg/L)					
Odour	No Odour				
Colour	Dark Brown				
Recharge Rate					
Observations					
Notes:					
Supervisor:			**Date:**		

Water quality meter calibration details (please tick calibration liquids used):

Meter ID							
Buffer (pH 4)	☐	Use-by Date		Conductivity Standard (2.76 mS/cm)	☐	Use-by Date	
Buffer (pH 6.88)	☐	Use-by Date		Total Dissolved Solids Standard (2 parts per thousand)	☐	Use-by Date	
Buffer (pH 9)	☐	Use-by Date		Rapid Cal Solution	☐	Use-by Date	

*GL – denotes ground level **Well Volume = πr^2 x depth of water, where r is internal casing radius

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GROUNDWATER SAMPLING FORM

Project: WSA SCAW Tender Design	**Project No:** 204814.01
Client: CPB Contractors Pty Limited & United Infrastructure Pty Limited (CPBUIJV)	
Location: Elizabeth Drive, Luddenham	
Sampling Method: Twister Pump	

Bore No.	AEC44BH03				
Purging Date	31/8/22				
Bore Casing Diameter (mm)	50mm				
SWL (m below top of casing)	3.10				
Height of Casing (m above GL*)	0.79				
SWL (m below GL*)	2.31				
Total Bore Depth (m below GL*) 5.32	~~5.32~~ 4.53				
Well Volume (L) **[which for 50mm casing is 2L approx. per metre depth]	4.440				
Purged Volume (L) (≈ well vol x 3)	12.000 (DRY)				
Sampling Date					
Sampling Time					
Temperature (°C)					
pH (record to one decimal place)					
EC (µS/cm)					
Dissolved Oxygen (% Sat)					
Dissolved Oxygen (mg/L)					
Turbidity (NTU)					
Redox (mV)					
TDS (mg/L)					
Odour	No odour				
Colour	Cloudy, orange-brown				
Recharge Rate					
Observations					
Notes:					
Supervisor:			**Date:**		

Water quality meter calibration details (please tick calibration liquids used):

Meter ID							
Buffer (pH 4)	☐	Use-by Date		Conductivity Standard (2.76 mS/cm)	☐	Use-by Date	
Buffer (pH 6.88)	☐	Use-by Date		Total Dissolved Solids Standard (2 parts per thousand)	☐	Use-by Date	
Buffer (pH 9)	☐	Use-by Date		Rapid Cal Solution	☐	Use-by Date	

*GL – denotes ground level **Well Volume = πr^2 x depth of water, where r is internal casing radius

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Groundwater Field Sheet

Bore Volume = casing volume + filter pack volume
$= \pi h_1 d_1^2/4 + n(\pi h_1 d_1^2/4 - \pi h_2 d_2^2/4)$
Where: $\pi = 3.14$
n = porosity (0.3 for most filter pack material)
h_1 = height of water column
d_1 = diameter of annulus
h_2 = length of filter pack
d_2 = diameter of casing
Bore Vol Normally: 7.2*h

Project and Bore Installation Details	
Bore / Standpipe ID:	AEC44BH02
Project Name:	SCAW
Project Number:	204814.01
Site Location:	AEC44
Bore GPS Co-ord:	
Installation Date:	
GW Level (during drilling):	- m bgl
Well Depth:	m bgl
Screened Interval:	m bgl
Contaminants/Comments:	-

Bore Development Details	
Date/Time:	
Purged By:	
GW Level (pre-purge):	m bgl
GW Level (post-purge):	m bgl
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	m bgl
Estimated Bore Volume:	L
Total Volume Purged:	(target: no drill mud, min 3 well vol. or dry)
Equipment:	

Micropurge and Sampling Details	
Date/Time:	15/9/22 9:00am
Sampled By:	JH/LL
Weather Conditions:	OVERCAST
2.13 GW Level (pre-purge):	1.66 m bgl
GW Level (post sample):	1.88 m bgl
PSH observed:	Yes / (No) (interface) / visual). Thickness if observed:
8.10 Observed Well Depth:	~~8.~~ 7.63 ~~m bgl~~
Estimated Bore Volume:	42 L
Total Volume Purged:	2.0 L
Equipment:	PERI-PUMP

Water Quality Parameters

Time / Volume	Temp (°C)	DO (mg/L)	EC (µS or mS/cm)	pH	Turbidity	Redox (mV)
Stabilisation Criteria (3 readings)	**0.1° C**	**+/- 0.3 mg/L**	**+/- 3%**	**+/- 0.1**	**+/- 10%**	**+/- 10 mV**
15 /0.5	19.1	1.23	10126	6.12	~~218~~	-124
30 /1.0	19.0	0.79	10228	6.11		-120
45 /1.5	19.0	0.62	10291	6.11		-119
60 /2.0	19.0	0.54	10316	6.10		-116
Additional Readings Following stabilisation:	DO % Sat	SPC	TDS			

Sample Details

Sampling Depth (rationale):	6 m bgl, MIDDLE OF SCREEN
Sample Appearance (e.g. colour, siltiness, odour):	NON-TURBID, GREY, NO ODOUR/SHEEN
Sample ID:	AEC44BH02
QA/QC Samples:	BD1/20220915
Sampling Containers and filtration:	2x GLASS 2x PLASTIC 2x VIAL
Comments / Observations:	

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Groundwater Field Sheet

Bore Volume = casing volume + filter pack volume
$= \pi h_1 d_1^2/4 + n(\pi h_1 d_1^2/4 - \pi h_2 d_2^2/4)$
Where: $\pi = 3.14$
n = porosity (0.3 for most filter pack material)
h_1 = height of water column
d_1 = diameter of annulus
h_2 = length of filter pack
d_2 = diameter of casing
Bore Vol Normally: 7.2*h

Project and Bore Installation Details	
Bore / Standpipe ID:	AEC44BH03
Project Name:	SCAL
Project Number:	204814.01
Site Location:	AEC44
Bore GPS Co-ord:	
Installation Date:	
GW Level (during drilling):	- m bgl
Well Depth:	m bgl
Screened Interval:	m bgl
Contaminants/Comments:	-
Bore Development Details	
Date/Time:	
Purged By:	
GW Level (pre-purge):	m bgl
GW Level (post-purge):	m bgl
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	m bgl
Estimated Bore Volume:	L
Total Volume Purged:	(target: no drill mud, min 3 well vol. or dry)
Equipment:	
Micropurge and Sampling Details	
Date/Time:	15/9/22 11:00 am
Sampled By:	JH/LL
Weather Conditions:	OVERCAST
GW Level (pre-purge):	0.13 m bgl
GW Level (post sample):	0.61 m bgl
PSH observed:	Yes / (No) (interface) / visual). Thickness if observed:
Observed Well Depth:	4.53 m bgl
Estimated Bore Volume:	3l L
Total Volume Purged:	2.0 L
Equipment:	PERI-PUMP

Water Quality Parameters

Time / Volume	Temp (°C)	DO (mg/L)	EC (µS or mS/cm)	pH	Turbidity	Redox (mV)
Stabilisation Criteria (3 readings)	***0.1° C***	**+/- 0.3 mg/L**	**+/- 3%**	**+/- 0.1**	**+/- 10%**	**+/- 10 mV**
15 / 0.5	18.9	1.96	16124	6.41		-30
30/ 1.0	18.8	0.82	15628	6.32		-33
45/1.5	18.8	0.71	15519	6.32		-37
60/2.0	18.7	0.64	15483	6.31		-39
Additional Readings Following stabilisation:	DO % Sat	SPC	TDS			

Sample Details

Sampling Depth (rationale):	3 m bgl, MIDDLE OF SCREEN
Sample Appearance (e.g. colour, siltiness, odour):	NON-TURBD, CLEAR, NO ODOUR/SHEEN
Sample ID:	AEC44BH03
QA/QC Samples:	—
Sampling Containers and filtration:	2x GLASS 2x PLASTIC 2x VIAL
Comments / Observations:	

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CALIBRATION RECORD

Project:

Project Number: 204814.01

Calibrated Equipment

Model:	Minirae
Serial No.:	
DP Reference:	DP710 / PID 4
Other:	10.6eV Lamp

Calibration

Date(s):	8/8/2022
Operator(s):	PJ
Zero Gas:	ambient air
Span Gas:	isobutylene
Span Gas Concentration:	100
Response Factor:	1.0
Pre-calibration Reading	
Post-calibration Reading	100

Approved:

Date: 8/8/2022

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Photoionisation Detector Calibration Record

Project No:	204814.01

PID Unit:	Tiger - Photocheck
Lamp:	10.6 eV

Calibration Details: Zero Air and Span Calibration (ISO-BUTYLENE 100 PPM)	
Zero Air:	Ambient
Response Factor:	1.0
Span Gas Type:	Isobutylene
Span Gas Concentration:	100 ppm
Calibration Bottle Details:	PTG-4032, UN 1956, **Serial:** Y94443, Y94545 Certified to +/- 2% 100ppm Iso-Butylene Expires July 2022
Reading after calibration (Ambient):	0.0
Reading after calibration (bump test):	100.1

Operator Name:	Jimmy H	**Signed:**		**Date:**	21/8/22

Appendix I

Summary of Laboratory Results

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Table A1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

				Metals								TRH						BTEX				PAH				Phenols	OCP														OPP		PCB	Asbestos						
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH C6-C10 less BTEX	TRH >C10-C16 less Naphthalene	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Total Phenols	DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Other OCP	Chlorpyrifos	Other OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos (500 ml)
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	0.1	0.05	0.5	0.05	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1	0.1	1.1	0.1						<0.001	0.001
Sample ID	Depth	Soil type	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	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	-	-	-	g	g	%(w/w)	-
AEC44 TP1	0 - 0.1 m	topsoil	03/08/2022	11	<0.4	24	14	23	<0.1	6	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP2	0 - 0.1 m	topsoil	03/08/2022	10	<0.4	25	17	20	<0.1	6	22	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP3	0 - 0.1 m	topsoil	03/08/2022	9	<0.4	20	17	20	<0.1	7	20	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP4	0 - 0.1 m	topsoil	03/08/2022	9	<0.4	25	13	21	<0.1	8	27	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
BD1 220803	0 - 0.1 m	topsoil	03/08/2022	6	<0.4	21	12	17	<0.1	11	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP5	0.1 - 0.2 m	topsoil	03/08/2022	9	<0.4	19	14	20	<0.1	7	23	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP6	0 - 0.1 m	topsoil	03/08/2022	7	<0.4	17	15	20	<0.1	8	34	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
BD2 220803	0 - 0.1 m	topsoil	03/08/2022	8	<0.4	20	15	21	<0.1	8	31	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP7	0 - 0.1 m	topsoil	03/08/2022	7	<0.4	19	13	17	<0.1	6	17	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP8	0 - 0.1 m	topsoil	03/08/2022	10	<0.4	19	13	21	<0.1	8	24	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP9	0 - 0.1 m	topsoil	03/08/2022	11	<0.4	19	16	20	<0.1	8	23	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
BD4 220803	0 - 0.1 m	topsoil	03/08/2022	14	<0.4	23	17	21	<0.1	7	22	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP10	0 - 0.1 m	topsoil	03/08/2022	10	<0.4	16	15	18	<0.1	8	26	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP11	0 - 0.1 m	topsoil	03/08/2022	14	<0.4	20	17	20	<0.1	8	28	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP12	0 - 0.1 m	topsoil	03/08/2022	8	<0.4	9	18	9	<0.1	2	9	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP12	0.3 - 0.4 m	natural	03/08/2022	9	<0.4	17	19	18	<0.1	8	26	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP13	0 - 0.1 m	topsoil	4/08/2022	7	<0.4	21	18	22	<0.1	12	43	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP14	0 - 0.1 m	topsoil	4/08/2022	9	<0.4	17	21	21	<0.1	9	38	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP15	0 - 0.1 m	topsoil	4/08/2022	9	<0.4	14	23	23	<0.1	17	51	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP15	1.5 - 1.6 m	natural	4/08/2022	22	<0.4	6	61	20	<0.1	48	100	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	360	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP16	0 - 0.1 m	topsoil	4/08/2022	11	<0.4	14	18	22	<0.1	16	42	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP17	0 - 0.1 m	topsoil	4/08/2022	16	<0.4	14	19	27	<0.1	10	43	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP18	0 - 0.1 m	topsoil	4/08/2022	8	<0.4	14	15	24	<0.1	12	39	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP18	1 - 1.1 m	natural	4/08/2022	6	<0.4	10	48	19	<0.1	52	99	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	360	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP19	0 - 0.1 m	topsoil	4/08/2022	14	<0.4	10	22	24	<0.1	12	40	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP20	0 - 0.1 m	topsoil	4/08/2022	9	<0.4	16	19	30	<0.1	16	56	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP21	0 - 0.1 m	topsoil	4/08/2022	9	<0.4	14	12	21	<0.1	9	31	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP22	0 - 0.1 m	topsoil	4/08/2022	17	<0.4	13	25	26	<0.1	21	61	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
BD3/220804	0 - 0.1 m	topsoil	4/08/2022	13	<0.4	11	21	21	<0.1	16	48	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	-	250	-	-	1	-			
AEC44 TP23	0 - 0.1 m	topsoil	4/08/2022	8	<0.4	14	22	22	<0.1	17	51	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400

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Table A1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

				Metals								TRH						BTEX				PAH				Phenols	OCP															OPP		PCB	Asbestos						
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH C6-C10 less BTEX	TRH >C10-C16 less Naphthalene	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Total Phenols	DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Other OCP	Chlorpyrifos	Other OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos (500 ml)
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	0.1	0.05	0.5	0.05	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1	0.1	1.1	0.1						<0.001	0.001
Sample ID	Depth	Soil type	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	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	-	-	-	g	g	%(w/w)	-
AEC44TP38	0 - 0.1 m	topsoil	09/08/2022	12	<0.4	13	17	16	<0.1	11	31	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP39	0 - 0.1 m	topsoil	5/08/2022	11	<0.4	16	19	17	<0.1	8	32	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP40	0 - 0.1 m	topsoil	10/08/2022	9	<0.4	10	29	19	<0.1	12	32	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP41	0 - 0.1 m	topsoil	09/08/2022	11	<0.4	12	21	16	<0.1	12	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP42	0 - 0.1 m	topsoil	5/08/2022	15	<0.4	21	14	20	<0.1	8	29	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP43	0 - 0.1 m	topsoil	10/08/2022	9	<0.4	12	21	15	<0.1	5	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP44	0 - 0.1 m	topsoil	09/08/2022	6	<0.4	6	9	10	<0.1	5	16	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
BD3/20220809	0 - 0.1 m	topsoil	09 Aug 2022	16	<0.4	20	22	24	<0.1	11	46	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<PQL	NT	<PQL	NT	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP44	0.3 - 0.4 m	natural	09/08/2022	10	<0.4	11	14	16	<0.1	9	26	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP45	0 - 0.1 m	topsoil	5/08/2022	14	<0.4	20	19	23	<0.1	10	36	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
BD1/220805	0 - 0.1 m	topsoil	5/08/2022	14	<0.4	19	17	23	<0.1	9	32	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP46	0 - 0.1 m	topsoil	10/08/2022	10	<0.4	10	18	24	<0.1	7	22	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP47	0 - 0.1 m	topsoil	09/08/2022	8	<0.4	10	11	15	<0.1	5	23	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP48	0 - 0.1 m	topsoil	5/08/2022	10	<0.4	20	24	24	<0.1	12	33	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP49	0 - 0.1 m	topsoil	09/08/2022	11	<0.4	17	20	32	<0.1	13	42	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP49	0.3 - 0.4 m	natural	09/08/2022	<4	<0.4	6	12	5	<0.1	3	9	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP50	0 - 0.1 m	topsoil	09/08/2022	10	<0.4	16	18	20	<0.1	12	30	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP51	0 - 0.1 m	topsoil	5/08/2022	8	<0.4	17	24	24	<0.1	18	43	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP52	0 - 0.1 m	topsoil	09/08/2022	10	<0.4	15	16	18	<0.1	10	24	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP53	0 - 0.1 m	topsoil	09/08/2022	9	<0.4	17	16	18	<0.1	9	23	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP54	0 - 0.1 m	topsoil	5/08/2022	12	<0.4	17	21	27	<0.1	11	39	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP55	0 - 0.1 m	topsoil	09/08/2022	13	<0.4	19	12	24	<0.1	6	14	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP56	0 - 0.1 m	topsoil	09/08/2022	10	<0.4	17	12	17	<0.1	4	12	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP56	0.3 - 0.4 m	natural	09/08/2022	11	<0.4	21	18	16	<0.1	4	12	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP57	0 - 0.1 m	topsoil	5/08/2022	13	<0.4	23	12	25	<0.1	6	16	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP58	0 - 0.1 m	topsoil	09/08/2022	7	<0.4	13	10	16	<0.1	5	13	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP58	0.2 - 0.3 m	fill	09/08/2022	11	<0.4	20	16	28	<0.1	6	19	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44TP59	0 - 0.1 m	topsoil	09/08/2022	12	<0.4	16	9	16	<0.1	5	12	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP60	0 - 0.1 m	topsoil	5/08/2022	6	<0.4	19	6	16	<0.1	4	12	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP61	0 - 0.1 m	topsoil	5/08/2022	7	<0.4	20	6	17	<0.1	4	15	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-	
AEC44 TP62	0 - 0.1 m	topsoil	5/08/2022	8	<0.4	21	5	20	<0.1	3	10	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000

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Table A1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

				Metals								TRH					BTEX				PAH				Phenols	OCP														OPP	PCB	Asbestos						
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH C6-C10 less BTEX	TRH >C10-C16 less Naphthalene	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Total Phenols	DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Other OCP	Chlorpyrifos	Other OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos (500 ml)
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	0.1	0.05	0.5	0.05	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1	0.1	1.1	0.1						<0.001	0.001
Sample ID	Depth	Soil type	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	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	-	-	-	g	g	%(w/w)	-
AEC44TP75	0 - 0.1 m	fill	10/08/2022	<4	<0.4	11	5	14	<0.1	2	4	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP76	0 - 0.1 m	fill	11/08/2022	6	<0.4	16	6	25	<0.1	4	6	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP76 - [TRIPLICATE]	0 - 0.1 m	fill	11/08/2022	5	<0.4	14	5	19	<0.1	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP77	0 - 0.1 m	topsoil	10/08/2022	10	<0.4	15	8	15	<0.1	3	14	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP78	0 - 0.1 m	topsoil	11/08/2022	5	<0.4	12	10	16	<0.1	7	12	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP79	0 - 0.1 m	topsoil	10/08/2022	6	<0.4	14	7	14	<0.1	3	10	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP80	0 - 0.1 m	fill	11/08/2022	<4	<0.4	8	8	13	<0.1	3	14	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP80	0.3 - 0.4 m	natural	11/08/2022	8	<0.4	18	18	16	<0.1	5	16	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP81	0 - 0.1 m	fill	11/08/2022	7	<0.4	19	8	14	<0.1	5	8	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44T82	0 - 0.1 m	fill	10/08/2022	<4	<0.4	8	5	8	<0.1	3	5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44T82	0.3 - 0.4 m	natural	10/08/2022	6	<0.4	16	17	11	<0.1	4	11	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP83	0 - 0.1 m	fill	11/08/2022	<4	<0.4	11	8	14	<0.1	8	22	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
BD4/20220811	0 - 0.1 m	fill	11/08/2022	3.6	<0.4	12	9.5	16	<0.1	7.5	21	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<PQL	NT	<PQL	NT	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP84	0 - 0.1 m	fill	05/09/2022	13	<0.4	19	17	23	<0.1	12	52	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
BD1/20220905	0 - 0.1 m	fill	05/09/2022	12	<0.4	18	17	22	<0.1	15	53	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP85	0 - 0.1 m	fill	05/09/2022	17	<0.4	11	20	26	<0.1	20	59	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP86	0 - 0.1 m	fill	05/09/2022	13	<0.4	15	24	27	<0.1	29	95	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP87	0 - 0.1 m	fill	05/09/2022	9	<0.4	12	29	29	<0.1	27	88	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
BD2/20220905	0 - 0.1 m	fill	05/09/2022	10	<0.4	12	45	33	<0.1	35	96	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<PQL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP88	0 - 0.1 m	fill	05/09/2022	11	<0.4	10	24	20	<0.1	33	84	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP89	0 - 0.1 m	fill	05/09/2022	8	<0.4	14	15	16	<0.1	15	61	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP90	0 - 0.1 m	fill	05/09/2022	10	<0.4	18	20	18	<0.1	20	62	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
BD3/20220905	0 - 0.1 m	fill	05/09/2022	14	<0.4	21	22	26	<0.1	21	60	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<PQL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP91	0 - 0.1 m	fill	05/09/2022	15	<0.4	15	17	22	<0.1	15	57	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP92	0 - 0.1 m	fill	05/09/2022	8	<0.4	15	27	20	<0.1	16	64	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP93	0 - 0.1 m	fill	05/09/2022	15	<0.4	19	13	21	<0.1	9	46	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP94	0 - 0.1 m	fill	05/09/2022	14	<0.4	20	12	20	<0.1	5	37	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
BD4/20220905	0 - 0.1 m	fill	05/09/2022	19	<0.4	23	23	23	<0.1	6.6	27	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<PQL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP95	0 - 0.1 m	fill	05/09/2022	15	<0.4	23	12	18	<0.1	5	33	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-	250	-	1	-							
AEC44TP96	0 - 0.1 m	fill	05/09/2022	12	<0.4	21	11	22	<0.1	6	38	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-

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Table A1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

				Metals									TRH						BTEX				PAH				Phenols	OCP																OPP	PCB	Asbestos						
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH C6-C10 less BTEX	TRH >C10-C16 less Naphthalene	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Total Phenols	DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Other OCP	Chlorpyrifos	Other OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos (500 ml)
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	0.1	0.05	0.5	0.05	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1	0.1	1.1	0.1						<0.001	0.001
Sample ID	Depth	Soil type	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	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	-	-	-	g	g	%(w/w)	-
AEC44TP111	0 - 0.1 m	fill	6/09/22	4	<0.4	9	19	15	<0.1	8	28	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA112	0 - 0.1 m	fill	21/09/2022	5	<0.4	13	17	18	<0.1	11	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP113	0 - 0.1 m	fill	05/09/2022	11	<0.4	16	10	14	<0.1	6	32	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP114	0 - 0.1 m	fill	05/09/2022	10	<0.4	17	10	16	<0.1	5	18	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA115	0 - 0.1 m	fill	21/09/2022	6	<0.4	12	13	15	<0.1	5	36	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
BD1/20220921	0 - 0.1 m	fill	21/09/2022	13	<0.4	20	22	25	<0.1	7	36	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA116	0 - 0.1 m	fill	21/09/2022	<4	<0.4	9	9	16	<0.1	4	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA117	0 - 0.1 m	fill	21/09/2022	4	<0.4	11	8	12	<0.1	3	9	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA118	0 - 0.1 m	fill	21/09/2022	4	<0.4	14	13	12	<0.1	4	11	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA119	0 - 0.1 m	fill	21/09/2022	6	<0.4	17	10	19	<0.1	6	17	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
BD2/20220921	0 - 0.1 m	fill	21/09/2022	6.3	<0.4	18	8.4	14	<0.1	6.5	8.5	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	NT	NT	<0.05	<0.05	<0.05	<0.05	<0.05	NT	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA119	0.2 - 0.3 m	natural	21/09/2022	<4	<0.4	6	7	5	<0.1	2	5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44HA120	0 - 0.1 m	fill	21/09/2022	5	<0.4	10	10	20	<0.1	5	15	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	250	180	NL	-	-	1300	-	5600	4	65	NL	105	NL	125	NL	45	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP121	0 - 0.1 m	fill	6/09/22	7	<0.4	16	10	18	<0.1	4	13	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP121	0.3 - 0.4 m	natural	6/09/22	9	<0.4	14	17	23	<0.1	4	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP122	0 - 0.1 m	fill	6/09/22	4	<0.4	10	8	21	<0.1	3	5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP123	0 - 0.1 m	fill	6/09/22	<4	<0.4	6	3	10	<0.1	2	8	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP124	0 - 0.1 m	fill	6/09/22	7	<0.4	14	16	16	<0.1	5	18	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP125	0 - 0.1 m	fill	6/09/22	7	<0.4	11	9	18	<0.1	5	13	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP126	0 - 0.1 m	fill	6/09/22	5	<0.4	9	7	15	<0.1	4	13	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP126	0.3 - 0.4 m	natural	6/09/22	4	<0.4	8	17	10	<0.1	4	18	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	-	-	-	-	-	-	-
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44TP127	0 - 0.1 m	fill	6/09/22	8	<0.4	15	11	17	<0.1	6	21	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44SED01	0 m	sediment	25/08/2022	13	<0.4	26	18	23	<0.1	8	27	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						
AEC44SED02	0 m	sediment	25/08/2022	10	<0.4	16	17	22	<0.1	9	25	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<PQL	<0.1	NAD	NAD	NAD	-	-	-	NAD
				300	100	90	-	300	190	17000	180	600	1100	80	-	1200	110	30000	420	-	-	120	260	180	NL	-	-	300	-	2800	3	50	NL	85	NL	70	230	105	NL	170	-	0.7	3	-	300	-	120	-	-	400	180	-	-	180	10	-	70	-	20	-	340	-	10	-	10	-	400	-		250	-		1	-						

Lab result
HIL/HSL value EIL/ESL 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 HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

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

b Reported naphthalene laboratory result obtained from BTEXN suite

c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Recreational C including public open space with amenities buildings

HIL C	Recreational / Open Space (NEPC, 2013)
HSL D	Commercial / Industrial (vapour intrusion) (NEPC, 2013)
DC HSL C	Direct contact HSL C Recreational /Open space (direct contact) (CRC CARE, 2011)
EIL/ESL UR/POS	Urban Residential and Public Open Space (NEPC, 2013)
ML R/P/POS	Residential, Parkland and Public Open Space (NEPC, 2013)

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Table A2: Summary of Results of Groundwater Analysis (All results in µg/L)

| Sample Location / Identification (Borehole or Replicate) | Sample Date | Metals (dissolved) | | | | | | | | Polycylic Aromatic Hydrocarbons | | | | | | Total Recoverable Hydrocarbons, BTEX and Volatile Organic Compounds | | | | | | | |

Table A2 (continued): Summary of Results of Groundwater Analysis (All results in µg/L)

Sample Location / Identification (Borehole or Replicate)	Sample Date	Organochlorine Pesticides													Organophosphorus Pesticides																									Polychlorinated Biphenyls			Phenols												
		Aldrin	Dieldrin	gamma-Chlordane	alpha-Chlordane	Total Chlordanes	pp-DDT	Endosulfan I	Endosulfan II	Endrin	Heptachlor	Methoxychlor	Lindane	Other OCP	Azinphos-methyl	Bromophos-ethyl	Chlorpyrifos	Chlorfenvinphos	Diazinon	Dichlorovos	Dimethoate	Disulfoton	Ethion	Ethoprophos (Ethoprop)	Fenitrothion	Fensulfothion	Fenthion	Malathion	Mevinphos (Phosdrin)	Monocrotophos	Omethoate	Parathion	Methyl Parathion	Pyrazophos	Terbufos	Tetrachlorvinphos	Pirimiphos-methyl	Other OPP	Aroclor 1242	Aroclor 1254	Other PCB	Phenol	2,4,6-Trichlorophenol	2,4-Dinitrophenol	4-Nitrophenol	2,3,4,6-Tetrachlorophenol	Total Tetrachlorophenols	Pentachlorophenol	2-Chlorophenol	2,4-Dimethylphenol	2,4-Dichlorophenol	2,6-Dichlorophenol	Other Phenols
AEC44BH02	15/09/2022	<0.01	<0.01	<0.01	<0.01	-	<0.006	<0.01	<0.01	<0.01	<0.01	<0.01	-	<PQL	<0.02	<0.2	<0.01	-	<0.01	<0.2	<0.15	-	<0.2		<0.2	-	-	<0.05	<0.2	-	-	<0.01	-	-	-	-		<PQL	<0.1	<0.1	<PQL	<2	<1	<20	<40	<1	-	<5	<1	<1	<1	<1	<PQL
AEC44BH03	15/09/2022	<0.01	<0.01	<0.01	<0.01	-	<0.006	<0.01	<0.01	<0.01	<0.01	<0.01	-	<PQL	<0.02	<0.2	<0.01	-	<0.01	<0.2	<0.15	-	<0.2		<0.2	-	-	<0.05	<0.2	-	-	<0.01	-	-	-	-		<PQL	<0.1	<0.1	<PQL	<2	<1	<20	<40	<1	-	<5	<1	<1	<1	<1	<PQL
AEC44SW01	15/09/2022	<0.01	<0.01	<0.01	<0.01	-	<0.006	<0.01	<0.01	<0.01	<0.01	<0.01	-	<PQL	<0.02	<0.2	<0.01	-	<0.01	<0.2	<0.15	-	<0.2		<0.2	-	-	<0.05	<0.2	-	-	<0.01	-	-	-	-		<PQL	<0.1	<0.1	<PQL	<2	<1	<20	<40	<1	-	<5	<1	<1	<1	<1	<PQL
Assessment Criteria																																																						
Freshwater DGV		0.001	0.01	0.03			0.006	0.03		0.01	0.01	0.005	-	-	0.01	-	0.01	-	0.01	-	0.15	-	-	-	0.2	-	-	0.05	-	-	-	0.004	-	-	-	-	-	-	0.3	0.01	-	320	3	45	58	10	0.2	3.6	340	2	120	34	-
Guidelines for Recreational Water	Health	3		20			90	200		-	3	3000	100	-	300	100	100	20	40	50	70	40	40	10	70	100	70	700	50	20	10	200	7	200	9	1000	900	-	-	-	-	-	200	-	-	-	-	100	3000	-	2000	-	-
	Aesthetic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	2	-	-	-	-	-	0.1	-	0.3	-	-
HSL D for Vapour Intrusion, Clay (depth 2 m to <4 m)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

PQL Practical Quantitation Limit

\- not defined/ not analysed/ not applicable

BD1/20220915 is blind replicate of AEC44BH02

BD2/20220915is blind replicate of AEC44SW01

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Table A3: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

			Metals								TRH		BTEX				PAH		Phenols	OCP		OPP	PCB	Asbestos	pH
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Benzo(a)pyrene (BaP)	Total PAHs	Total Phenols	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Total Asbestos	pH Units
			4	0.4	1	1	1	0.1	1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.001	
Sample ID	Depth	Soil type	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	-	
AEC44 TP1	0 - 0.1 m	topsoil	11	<0.4	24	14	23	<0.1	6	21	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	5.9
AEC44 TP2	0 - 0.1 m	topsoil	10	<0.4	25	17	20	<0.1	6	22	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP3	0 - 0.1 m	topsoil	9	<0.4	20	17	20	<0.1	7	20	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP4	0 - 0.1 m	topsoil	9	<0.4	25	13	21	<0.1	8	27	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD1 220803	0 - 0.1 m	topsoil	6	<0.4	21	12	17	<0.1	11	35	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP5	0.1 - 0.2 m	topsoil	9	<0.4	19	14	20	<0.1	7	23	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	6
AEC44 TP6	0 - 0.1 m	topsoil	7	<0.4	17	15	20	<0.1	8	34	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD2 220803	0 - 0.1 m	topsoil	8	<0.4	20	15	21	<0.1	8	31	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP7	0 - 0.1 m	topsoil	7	<0.4	19	13	17	<0.1	6	17	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP8	0 - 0.1 m	topsoil	10	<0.4	19	13	21	<0.1	8	24	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP9	0 - 0.1 m	topsoil	11	<0.4	19	16	20	<0.1	8	23	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD4 220803	0 - 0.1 m	topsoil	14	<0.4	23	17	21	<0.1	7	22	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP10	0 - 0.1 m	topsoil	10	<0.4	16	15	18	<0.1	8	26	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP11	0 - 0.1 m	topsoil	14	<0.4	20	17	20	<0.1	8	28	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP12	0 - 0.1 m	natural	8	<0.4	9	18	9	<0.1	2	9	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	5.7
AEC44 TP12	0.3 - 0.4 m	topsoil	9	<0.4	17	19	18	<0.1	8	26	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP13	0 - 0.1 m	topsoil	7	<0.4	21	18	22	<0.1	12	43	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	5.8
AEC44 TP14	0 - 0.1 m	topsoil	9	<0.4	17	21	21	<0.1	9	38	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP15	0-0.1m	topsoil	9	<0.4	14	23	23	<0.1	17	51	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP15	1.5 - 1.6 m	natural	22	<0.4	6	61	20	<0.1	48	100	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP16	0 - 0.1 m	topsoil	9	<0.4	14	23	23	<0.1	17	51	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP17	0 - 0.1 m	topsoil	16	<0.4	14	19	27	<0.1	10	43	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP18	0 - 0.1 m	topsoil	8	<0.4	14	15	24	<0.1	12	39	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP18	1 - 1.1 m	natural	6	<0.4	10	48	19	<0.1	52	99	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP19	0 - 0.1 m	topsoil	14	<0.4	10	22	24	<0.1	12	40	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	5.7
AEC44 TP20	0 - 0.1 m	topsoil	9	<0.4	16	19	30	<0.1	16	56	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP21	0 - 0.1 m	topsoil	9	<0.4	15	12	21	<0.1	9	31	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP22	0 - 0.1 m	topsoil	17	<0.4	13	25	26	<0.1	21	61	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD3/220804	0 - 0.1 m	topsoil	13	<0.4	11	21	21	<0.1	16	48	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP23	0 - 0.1 m	topsoil	8	<0.4	14	22	22	<0.1	17	51	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP24	0 - 0.1 m	fill	5	<0.4	15	4	12	<0.1	3	8	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	7
AEC44 TP24a	0 - 0.1 m	topsoil	6	<0.4	13	10	17	<0.1	7	27	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	

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Table A3: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

			Metals								TRH		BTEX				PAH		Phenols	OCP		OPP	PCB	Asbestos	pH
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Benzo(a)pyrene (BaP)	Total PAHs	Total Phenols	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Total Asbestos	pH Units
			4	0.4	1	1	1	0.1	1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.001	
Sample ID	Depth	Soil type	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	-	
AEC44TP25	0 - 0.1 m	topsoil	10	<0.4	9	21	22	<0.1	21	47	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP25	0.4 - 0.5 m	natural	17	<0.4	8	42	16	<0.1	28	66	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP26	0 - 0.1 m	topsoil	<4	<0.4	9	18	15	<0.1	19	43	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD1/20220809	0 - 0.1 m	topsoil	6.3	<0.4	16	20	21	<0.1	20	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AEC44 TP27	0 - 0.1 m	topsoil	12	<0.4	14	16	16	<0.1	9	33	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP28	0 - 0.1 m	topsoil	6	<0.4	9	18	15	<0.1	15	41	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD3/20220810	0 - 0.1 m	topsoil	14	<0.4	19	27	21	<0.1	15	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AEC44TP29	0 - 0.1 m	fill	4	<0.4	11	23	13	<0.1	16	41	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP30	0 - 0.1 m	topsoil	6	<0.4	13	9	15	<0.1	6	27	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP31	0 - 0.1 m	topsoil	4	<0.4	10	19	15	<0.1	17	47	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP32	0 - 0.1 m	topsoil	5	<0.4	8	11	14	<0.1	7	26	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP33	0 - 0.1 m	topsoil	12	<0.4	17	21	18	<0.1	12	40	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP34	0 - 0.1 m	topsoil	7	<0.4	9	18	12	<0.1	14	35	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP35	0 - 0.1 m	topsoil	9	<0.4	11	14	16	<0.1	9	35	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP35	0.4 - 0.5 m	natural	9	<0.4	12	38	14	<0.1	20	54	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP36	0 - 0.1 m	topsoil	19	<0.4	16	21	22	<0.1	13	38	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP37	0 - 0.1 m	topsoil	10	<0.4	10	17	16	<0.1	12	28	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP38	0 - 0.1 m	topsoil	12	<0.4	13	17	16	<0.1	11	31	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP39	0 - 0.1 m	topsoil	11	<0.4	16	19	17	<0.1	8	32	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP40	0 - 0.1 m	topsoil	9	<0.4	10	29	19	<0.1	12	32	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP41	0 - 0.1 m	topsoil	11	<0.4	12	21	16	<0.1	12	35	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP42	0 - 0.1 m	topsoil	15	<0.4	21	14	20	<0.1	8	29	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	6.2
AEC44TP43	0 - 0.1 m	topsoil	9	<0.4	12	21	15	<0.1	5	21	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP44	0 - 0.1 m	topsoil	6	<0.4	6	9	10	<0.1	5	16	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD3/20220809	0 - 0.1 m	topsoil	16	<0.4	20	22	24	<0.1	11	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AEC44TP44	0.3 - 0.4 m	natural	10	<0.4	11	14	16	<0.1	9	26	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP45	0 - 0.1 m	topsoil	14	<0.4	20	19	23	<0.1	10	36	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD1/220805	0 - 0.1 m	topsoil	14	<0.4	19	17	23	<0.1	9	32	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP46	0 - 0.1 m	topsoil	10	<0.4	10	18	24	<0.1	7	22	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP47	0 - 0.1 m	topsoil	8	<0.4	10	11	15	<0.1	5	23	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP48	0 - 0.1 m	topsoil	10	<0.4	20	24	24	<0.1	12	33	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP49	0 - 0.1 m	topsoil	11	<0.4	17	20	32	<0.1	13	42	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP49	0.3 - 0.4 m	natural	<4	<0.4	6	12	5	<0.1	3	9	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP50	0 - 0.1 m	topsoil	10	<0.4	16	18	20	<0.1	12	30	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP51	0 - 0.1 m	topsoil	8	<0.4	17	24	24	<0.1	18	43	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	

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Table A3: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

			Metals								TRH		BTEX				PAH		Phenols	OCP		OPP	PCB	Asbestos	pH
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Benzo(a)pyrene (BaP)	Total PAHs	Total Phenols	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Total Asbestos	pH Units
			4	0.4	1	1	1	0.1	1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.001	
Sample ID	Depth	Soil type	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	-	
AEC44TP52	0 - 0.1 m	topsoil	10	<0.4	15	16	18	<0.1	10	24	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP53	0 - 0.1 m	topsoil	9	<0.4	17	16	18	<0.1	9	23	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP54	0 - 0.1 m	topsoil	12	<0.4	17	21	27	<0.1	11	39	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP55	0 - 0.1 m	topsoil	13	<0.4	19	12	24	<0.1	6	14	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP56	0 - 0.1 m	topsoil	10	<0.4	17	12	17	<0.1	4	12	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP56	0.3 - 0.4 m	natural	11	<0.4	21	18	16	<0.1	4	12	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP57	0 - 0.1 m	topsoil	13	<0.4	23	12	25	<0.1	6	16	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP58	0 - 0.1 m	topsoil	7	<0.4	13	10	16	<0.1	5	13	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP58	0.2 - 0.3 m	fill	11	<0.4	20	16	28	<0.1	6	19	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP59	0 - 0.1 m	topsoil	12	<0.4	26	9	16	<0.1	5	12	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP60	0 - 0.1 m	topsoil	6	<0.4	19	6	16	<0.1	4	12	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP61	0 - 0.1 m	topsoil	7	<0.4	20	6	17	<0.1	4	15	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44 TP62	0 - 0.1 m	topsoil	8	<0.4	21	5	20	<0.1	3	10	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD2/220805	0 - 0.1 m	topsoil	6	<0.4	19	5	21	<0.1	4	9	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP63	0 - 0.1 m	topsoil	10	<0.4	18	8	17	<0.1	5	14	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD5/20220809	0 - 0.1 m	topsoil	15	<0.4	31	11	21	<0.1	8	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AEC44TP63	0.3 - 0.4 m	natural	<4	<0.4	8	10	7	<0.1	2	5	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44 TP64	0 - 0.1 m	topsoil	8	<0.4	21	5	17	<0.1	3	7	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	6.4
AEC44TP65	0 - 0.1 m	fill	5	<0.4	11	9	13	<0.1	4	18	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP66	0 - 0.1 m	fill	5	<0.4	11	7	12	<0.1	5	13	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP67	0 - 0.1 m	fill	8	<0.4	13	19	13	<0.1	5	20	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP68	0 - 0.1 m	fill	5	<0.4	11	19	11	<0.1	5	17	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP69	0 - 0.1 m	fill	4	<0.4	11	4	12	<0.1	3	5	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP70	0 - 0.1 m	fill	10	<0.4	24	15	24	<0.1	6	18	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	5.5
AEC44TP70	0.2 - 0.3 m	natural	11	<0.4	27	26	29	<0.1	7	29	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP71	0 - 0.1 m	fill	<4	<0.4	8	4	6	<0.1	1	3	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP72	0 - 0.1 m	fill	5	<0.4	16	4	17	<0.1	2	4	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP73	0 - 0.1 m	topsoil	<4	<0.4	9	5	10	<0.1	3	5	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP73	0.3 - 0.4 m	natural	5	<0.4	12	14	15	<0.1	3	10	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP74	0 - 0.1 m	fill	<4	<0.4	12	6	13	<0.1	5	6	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP74	0.2 - 0.3 m	fill	<4	<0.4	13	6	13	<0.1	2	4	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP75	0 - 0.1 m	fill	<4	<0.4	11	5	14	<0.1	2	4	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP76	0 - 0.1 m	fill	6	<0.4	16	6	25	<0.1	4	6	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP76 - [TRIPLICATE]	0 - 0.1 m	fill	5	<0.4	14	5	19	<0.1	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AEC44TP77	0 - 0.1 m	topsoil	10	<0.4	15	8	15	<0.1	3	14	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	

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Table A3: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

			Metals								TRH		BTEX				PAH		Phenols	OCP		OPP	PCB	Asbestos	pH
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Benzo(a)pyrene (BaP)	Total PAHs	Total Phenols	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Total Asbestos	pH Units
			4	0.4	1	1	1	0.1	1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.001	
Sample ID	Depth	Soil type	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	-	
AEC44TP78	0 - 0.1 m	topsoil	5	<0.4	12	10	16	<0.1	7	12	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP79	0 - 0.1 m	topsoil	6	<0.4	14	7	14	<0.1	3	10	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP80	0 - 0.1 m	fill	<4	<0.4	8	8	13	<0.1	3	14	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	5.5
AEC44TP80	0.3 - 0.4 m	natural	8	<0.4	18	18	16	<0.1	5	16	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP81	0 - 0.1 m	fill	7	<0.4	19	8	14	<0.1	5	8	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44T82	0 - 0.1 m	fill	<4	<0.4	8	5	8	<0.1	3	5	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44T82	0.3 - 0.4 m	natural	6	<0.4	16	17	11	<0.1	4	11	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP83	0 - 0.1 m	fill	<4	<0.4	11	8	14	<0.1	8	22	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD4/20220811	0 - 0.1 m	fill	3.6	<0.4	12	9.5	16	<0.1	7.5	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AEC44TP84	0 - 0.1 m	fill	13	<0.4	19	17	23	<0.1	12	52	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	0.9	0.9	<0.1	<0.1	NAD	
BD1/20220905	0 - 0.1 m	fill	12	<0.4	18	17	22	<0.1	15	53	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP85	0 - 0.1 m	fill	17	<0.4	11	20	26	<0.1	20	59	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP86	0 - 0.1 m	fill	13	<0.4	15	24	27	<0.1	29	95	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP87	0 - 0.1 m	fill	9	<0.4	12	29	29	<0.1	27	88	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD2/20220905	0 - 0.1 m	fill	10	<0.4	12	45	33	<0.1	35	96	<20	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<PQL	<0.05	<0.05	<0.2	<0.1	-	
AEC44TP88	0 - 0.1 m	fill	11	<0.4	10	24	20	<0.1	33	84	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP89	0 - 0.1 m	fill	8	<0.4	14	15	16	<0.1	15	61	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP90	0 - 0.1 m	fill	10	<0.4	18	20	18	<0.1	20	62	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD3/20220905	0 - 0.1 m	fill	14	<0.4	21	22	26	<0.1	21	60	<20	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<PQL	<0.05	<0.05	<0.2	<0.1	-	
AEC44TP91	0 - 0.1 m	fill	15	<0.4	15	17	22	<0.1	15	57	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP92	0 - 0.1 m	fill	8	<0.4	15	27	20	<0.1	16	64	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP93	0 - 0.1 m	fill	15	<0.4	19	13	21	<0.1	9	46	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP94	0 - 0.1 m	fill	14	<0.4	20	12	20	<0.1	5	37	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	6.4
BD4/20220905	0 - 0.1 m	fill	19	<0.4	23	16	23	<0.1	6.6	27	<20	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<PQL	<0.05	<0.05	<0.2	<0.1	-	
AEC44TP95	0 - 0.1 m	fill	15	<0.4	23	12	18	<0.1	5	33	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP96	0 - 0.1 m	fill	12	<0.4	21	11	22	<0.1	6	38	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP97	0 - 0.1 m	fill	12	<0.4	28	16	24	<0.1	10	48	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP98	0 - 0.1 m	fill	17	<0.4	17	21	27	<0.1	19	70	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP99	0 - 0.1 m	fill	12	<0.4	15	21	26	<0.1	20	65	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	6.4
AEC44TP99	0.3 - 0.4 m	natural	8	<0.4	12	22	19	<0.1	12	40	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP100	0 - 0.1 m	fill	8	<0.4	14	23	23	<0.1	19	57	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP101	0 - 0.1 m	fill	5	<0.4	7	24	19	<0.1	12	33	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP102	0 - 0.1 m	fill	7	<0.4	8	20	18	<0.1	16	39	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP103	0 - 0.1 m	fill	4	<0.4	6	27	16	<0.1	11	61	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP104	0 - 0.1 m	fill	7	<0.4	8	20	15	<0.1	10	39	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	

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Table A3: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

			Metals								TRH		BTEX				PAH		Phenols	OCP		OPP	PCB	Asbestos	pH
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Benzo(a)pyrene (BaP)	Total PAHs	Total Phenols	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Total Asbestos	pH Units
			4	0.4	1	1	1	0.1	1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.001	
Sample ID	Depth	Soil type	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	-	
BD1/20220906	0 - 0.1 m	fill	5	<0.4	8	20	14	<0.1	10	31	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP105	0 - 0.1 m	fill	11	<0.4	17	17	21	<0.1	11	48	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP106A	0 - 0.1 m	fill	9	<0.4	18	24	24	<0.1	18	59	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP107	0 - 0.1 m	fill	5	<0.4	9	17	18	<0.1	8	30	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP108	0 - 0.1 m	fill	6	<0.4	8	15	16	<0.1	9	27	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP109	0 - 0.1 m	fill	5	<0.4	8	18	17	<0.1	11	36	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	6.3
AEC44TP109	0.3 - 0.4 m	natural	<4	<0.4	6	19	9	<0.1	8	19	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP110A	0 - 0.1 m	fill	<4	<0.4	8	15	13	<0.1	8	23	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP111	0 - 0.1 m	fill	4	<0.4	9	19	15	<0.1	8	28	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44HA112	0 - 0.1 m	fill	5	<0.4	13	17	18	<0.1	11	35	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44HA115	0 - 0.1 m	fill	6	<0.4	12	13	15	<0.1	5	36	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD1/20220921	0 - 0.1 m	fill	13	<0.4	20	22	25	<0.1	7	36	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44HA116	0 - 0.1 m	fill	<4	<0.4	9	9	16	<0.1	4	21	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44HA117	0 - 0.1 m	fill	4	<0.4	11	8	12	<0.1	3	9	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44HA118	0 - 0.1 m	fill	4	<0.4	14	13	12	<0.1	4	11	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44HA119	0 - 0.1 m	fill	6	<0.4	17	10	19	<0.1	6	17	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
BD2/20220921	0 - 0.1 m	fill	6.3	<0.4	18	8.4	14	<0.1	6.5	8.5	<20	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<PQL	<0.05	<0.05	<0.2	<0.1	-	
AEC44HA119	0.2 - 0.3 m	natural	<4	<0.4	6	7	5	<0.1	2	5	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44HA120	0 - 0.1 m	fill	5	<0.4	10	10	20	<0.1	5	15	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP121	0 - 0.1 m	fill	7	<0.4	16	10	18	<0.1	4	13	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP121	0.3 - 0.4 m	natural	9	<0.4	14	17	23	<0.1	4	21	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP122	0 - 0.1 m	fill	4	<0.4	10	8	21	<0.1	3	5	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP123	0 - 0.1 m	fill	<4	<0.4	6	3	10	<0.1	2	8	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP124	0 - 0.1 m	fill	7	<0.4	14	16	16	<0.1	5	18	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP125	0 - 0.1 m	fill	7	<0.4	11	9	18	<0.1	5	13	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44TP126	0 - 0.1 m	fill	5	<0.4	9	7	15	<0.1	4	13	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	6
AEC44TP126	0.3 - 0.4 m	natural	4	<0.4	8	17	10	<0.1	4	18	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	-	
AEC44TP127	0 - 0.1 m	fill	8	<0.4	15	11	17	<0.1	6	21	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	

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Table A3: Summary of Laboratory Results – Metals, TRH, BTEX, PAH, Phenol, OCP, OPP, PCB, Asbestos

			Metals								TRH		BTEX				PAH		Phenols	OCP		OPP	PCB	Asbestos	pH
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Benzo(a)pyrene (BaP)	Total PAHs	Total Phenols	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Total Asbestos	pH Units
			4	0.4	1	1	1	0.1	1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.001	
Sample ID	Depth	Soil type	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	-	
AEC44SED01	0 m	sediment	13	<0.4	26	18	23	<0.1	8	27	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
AEC44SED02	0 m	sediment	10	<0.4	16	17	22	<0.1	9	25	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	
Waste Classification Criteria [f]																									
CT1			100	20	100	NC	100	4	40	NC	650	10000	10	288	600	1000	0.8	200	-	60	<50	4	<50	NC	
SCC1			500	100	1900	NC	1500	50	1050	NC	650	10000	18	518	1080	1800	10	200	-	108	<50	7.5	<50	NC	
TCLP1			N/A	N/A	N/A	NC	N/A	N/A	N/A	NC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	N/A	NC	
CT2			400	80	400	NC	400	16	160	NC	2600	40000	40	1152	2400	4000	3.2	800	-	240	<50	16	<50	NC	
SCC2			2000	400	7600	NC	6000	200	4200	NC	2600	40000	72	2073	4320	7200	23	800	-	432	<50	30	<50	NC	
TCLP2			N/A	N/A	N/A	NC	N/A	N/A	N/A	NC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	N/A	NC	
Excavated Natural Material (ENM) Order Assessment Criteria																									
Maximum average concentration			20	0.5	75	100	50	0.5	30	150	NC	250	N/A	N/A	N/A	N/A	0.5	20	-	-	-	-	-	-	5 to 9
Absolute maximum concentration			40	1	150	200	100	1	60	300	NC	500	0.5	65	25	15	1	40	-	-	-	-	-	-	4.5 to 10

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

NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable

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	All criteria are in the same units as the reported results
PQL	Practical quantitation limit
CT1	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste
SCC1	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
TCLP1	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
CT2	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values of specific contaminant concentration (SCC) for classification without TCLP: Restricted solid waste
SCC2	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste
TCLP2	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste

Appendix J

Data Quality Assurance and Quality Control

Data Quality Assurance and Quality Control Report for DSI for AEC44

Surface & Civil Alignment Works (SCAW) Package for Sydney Metro - Western Sydney Airport (SMWSA)

1.0 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 in the summary results Table QA1 to QA7.

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	PC
Intra-laboratory replicates	5% of primary samples	C
	<30% RPD	PC
Inter-laboratory replicates	5% of primary samples	C
	<30% RPD	PC
Trip Spikes	1 per sampling event; 60-140% recovery	C
Trip Blanks	1 per sampling event; <PQL	C
Rinsates	1 per water sampling event; <PQL	C
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)	C
Control Samples	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Standard Operating Procedures (SOP)	Adopting SOP for all aspects of the sampling field work	C

Notes: C = compliance; PC = partial compliance; NC = non-compliance; NR Not required

For soil, laboratory analysis was undertaken with recommended holding times except for pH analysis. The analysis of pH outside of the recommended holding time (7 days) is not considered to affect the assessment of analytical results.

For the inter-laboratory replicate water sample, analysis was undertaken slightly outside the recommended holding time (7 days) for TRH, BTEX, PAH, VOC, PCB, OCP and phenols (laboratory certificate 924883). The analysis slightly outside the recommended holding time is not considered to affect the assessment of analytical results.

With regard to laboratory certificate 915474, it is noted that instructions for analysis were not passed on from the primary laboratory (Envirolab Services) to the secondary laboratory (Eurofins). Due to the time delay in the secondary laboratory receiving instructions, analysis for organics (TRH, BTEX, PAH, OCP, OPP, PCB and phenols) was not undertaken given that the analysis would be outside holding times. Inter-laboratory analysis was therefore limited to metals.

As noted in laboratory certificate 303001, the laboratory RPD acceptance criterion was exceeded for sample 303001-130 for lead, so a triplicate result was issued as sample 303001-155. It is noted that all the lead concentrations were generally low for this sample and it is considered that the high RPD does not affect the assessment of results.

As noted in laboratory certificate 304994, the spike recovery was not able to be obtained for zinc in sample 304994-64 due to the inhomogeneous nature of the element in the sample, however, an acceptable recovery was obtained for the laboratory control sample.

As noted in laboratory certificate 306482, the laboratory RPD acceptance criteria were exceeded for sample 306482-74 for chromium, copper, lead and nickel. Therefore, a triplicate result was issued as laboratory sample number 306482-79.

As noted in laboratory certificate 306482, the spike recovery was not able to able to be reported due to the inhomogeneous nature of zinc in samples 306482-4 and 306482-54, however, an acceptable recovery was obtained for the laboratory control sample.

As noted in laboratory certificate, the practical quantitation limits for speciated phenols in water samples were raised due to low spike recoveries.

For soil, the RPD results for intra-laboratory and intra-laboratory analysis were all within the acceptable range, with the exception of some metals analysis and for endosulfan in samples BD1/20220905 and AEC44TP84. The exceedances are not, however, considered to be of concern given low actual differences in the concentrations between the primary and replicate samples.

For water samples, RPD results for intra-laboratory and intra-laboratory analysis were within the acceptable range except for copper in the samples from AEC44BH02. The exceedance is not, however, considered to be of concern given low actual difference in the concentration between the primary and replicate sample.

Although replicate samples for sediment samples were not analysed, given that the tests undertaken are the same for soil samples, and the purpose of replicate analysis is to check for consistency of results for each laboratory method, the overall replicate analysis of 10% of primary soil and sediment samples is considered sufficient.

For groundwater sampling, the electronic interface probe, flow cell and probes were decontaminated between monitoring wells by rinsing in a diluted Liquinox solution and then rinsing in demineralised water. A rinsate (Rinsate-W080922) was collected by running demineralised water over the decontaminated sampling equipment and directing the water into sampling bottles provided by the laboratory. Rinsate test results were all less than the practical quantitation limits. For soil and sediment sampling, to avoid the need for decontaminating sampling equipment, disposable nitrile gloves were changed between each sampling event and used for sample collection. Soil and sediment samples collected from the hand auger was carefully done so as to be representative of the target strata/material (e.g., natural soil samples were observed to be free of overlying fill).

In summary, the QC data is determined to be of sufficient quality to be considered acceptable for the assessment.

2.0 Data Quality Indicators

The reliability of field procedures and analytical results was assessed against the following data quality indicators (DQIs) 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.

Table 2: Data Quality Indicators

Data Quality Indicator	Method(s) of Achievement
Completeness	Systematic and target locations sampled.
	Preparation of logs, sample location plan and chain of custody records.
	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).
	Completion of chain of custody (COC) documentation.
	NATA accredited laboratory results certificates provided by the laboratory.
	Satisfactory frequency and results for field and laboratory quality control (QC) samples as discussed above.
Comparability	Using appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project.
	Experienced sampler(s) 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 DQOs.
	Samples were extracted and analysed within holding times.
	Samples were analysed in accordance with the COC.
Precision	Field staff followed standard operating procedures.
	Acceptable RPD between original samples and replicates.
	Satisfactory results for all other field and laboratory QC samples.
Accuracy	Field staff followed standard operating procedures.
	Satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQIs have been generally complied with.

3.0 Conclusion

Based on the results of the field QA and field and laboratory QC, and evaluation against the DQIs it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

4.0 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.

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Table QA1: Relative Percentage Difference Results – Replicates

			Metals								TRH						BTEX				PAH				Phenols	OCP													OPP	PCB
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH C6-C10 less BTEX	TRH >C10-C16 less Naphthalene	TRH (>C16-C34)	TRH (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Total Phenols	DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Other OCP	Chlorpyriphos	Total PCB
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	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
BD1 220803	0 - 0.1 m	03/08/2022	6	<0.4	21	12	17	<0.1	11	35	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44 TP4	0 - 0.1 m	03/08/2022	9	<0.4	25	13	21	<0.1	8	27	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	3	0	4	1	4	0	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	**40%**	0%	17%	8%	21%	0%	**32%**	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD2 220803	0 - 0.1 m	03/08/2022	8	<0.4	20	15	21	<0.1	8	31	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44 TP6	0 - 0.1 m	03/08/2022	7	<0.4	17	15	20	<0.1	8	34	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	1	0	3	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	13%	0%	16%	0%	5%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD4 220803	0 - 0.1 m	03/08/2022	14	<0.4	23	17	21	<0.1	7	22	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44 TP9	0 - 0.1 m	03/08/2022	11	<0.4	19	16	20	<0.1	8	23	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	3	0	4	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	24%	0%	19%	6%	5%	0%	13%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD3/220804	0 - 0.1 m	4/08/2022	13	<0.4	11	21	21	<0.1	16	48	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44 TP22	0 - 0.1 m	4/08/2022	17	<0.4	13	25	26	<0.1	21	61	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	4	0	2	4	5	0	5	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	27%	0%	17%	17%	21%	0%	27%	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD1/20220809	0 - 0.1 m	09/08/2022	6.3	<0.4	16	20	21	<0.1	20	52	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
AEC44TP26	0 - 0.1 m	09/08/2022	<4	<0.4	9	18	15	<0.1	19	43	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	2.3	0	7	2	6	0	1	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		RPD	**45%**	0%	**56%**	11%	**33%**	0%	5%	19%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD3/20220810	0 - 0.1 m	10/08/2022	14	<0.4	19	27	21	<0.1	15	58	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
AEC44TP28	0 - 0.1 m	10/08/2022	6	<0.4	9	18	15	<0.1	15	41	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	8	0	10	9	6	0	0	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		RPD	**80%**	0%	**71%**	**40%**	**33%**	0%	0%	**34%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD3/20220809	0 - 0.1 m	09/08/2022	16	<0.4	20	22	24	<0.1	11	46	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
AEC44TP44	0 - 0.1 m	09/08/2022	6	<0.4	6	9	10	<0.1	5	16	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	10	0	14	13	14	0	6	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		RPD	**91%**	0%	**108%**	**84%**	**82%**	0%	**75%**	**97%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD1/220805	0 - 0.1 m	5/08/2022	14	<0.4	19	17	23	<0.1	9	32	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44 TP45	0 - 0.1 m	5/08/2022	14	<0.4	20	19	23	<0.1	10	36	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	0	0	1	2	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	0%	0%	5%	11%	0%	0%	11%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD2/220805	0 - 0.1 m	5/08/2022	6	<0.4	19	5	21	<0.1	4	9	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44 TP62	0 - 0.1 m	5/08/2022	8	<0.4	21	5	20	<0.1	3	10	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	2	0	2	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	29%	0%	10%	0%	5%	0%	29%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD5/20220809	0 - 0.1 m	9/08/2022	15	<0.4	31	11	21	<0.1	8	21	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
AEC44TP63	0 - 0.1 m	9/08/2022	10	<0.4	18	8	17	<0.1	5	14	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	5	0	13	3	4	0	3	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		RPD	**40%**	0%	**53%**	**32%**	21%	0%	**46%**	**40%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD4/20220811	0 - 0.1 m	11/08/2022	3.6	<0.4	12	9.5	16	<0.1	7.5	21	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
AEC44TP83	0 - 0.1 m	11/08/2022	<4	<0.4	11	8	14	<0.1	8	22	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	0.4	0	1	1.5	2	0	0.5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		RPD	11%	0%	9%	17%	13%	0%	6%	5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table QA1: Relative Percentage Difference Results – Replicates

			Metals								TRH						BTEX				PAH				Phenols	OCP													OPP	PCB
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH C6-C10 less BTEX	TRH >C10-C16 less Naphthalene	TRH (>C16-C34)	TRH (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Total Phenols	DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Other OCP	Chlorpyriphos	Total PCB
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	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
BD1/20220905	0 - 0.1 m	05/09/2022	12	<0.4	18	17	22	<0.1	15	53	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44TP84	0 - 0.1 m	05/09/2022	13	<0.4	19	17	23	<0.1	12	52	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	1	0	1	0	1	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0	0	0	0
		RPD	8%	0%	5%	0%	4%	0%	22%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**160%**	0%	0%	0%	0%	0%	0%
BD2/20220905	0 - 0.1 m	05/09/2022	10	<0.4	12	45	33	<0.1	35	96	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<PQL	<PQL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<0.1
AEC44TP87	0 - 0.1 m	05/09/2022	9	<0.4	12	29	29	<0.1	27	88	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	1	0	0	16	4	0	8	8	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	11%	0%	0%	**43%**	13%	0%	26%	9%	22%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD3/20220905	0 - 0.1 m	05/09/2022	14	<0.4	21	22	26	<0.1	21	60	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<PQL	<PQL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<0.1
AEC44TP90	0 - 0.1 m	05/09/2022	10	<0.4	18	20	18	<0.1	20	62	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	4	0	3	2	8	0	1	2	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	**33%**	0%	15%	10%	**36%**	0%	5%	3%	22%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD4/20220905	0 - 0.1 m	05/09/2022	19	<0.4	23	16	23	<0.1	6.6	27	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<PQL	<PL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<0.1
AEC44TP94	0 - 0.1 m	05/09/2022	14	<0.4	20	12	20	<0.1	5	37	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	5	0	3	4	3	0	1.6	10	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	**30%**	0%	14%	29%	14%	0%	28%	**31%**	22%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD1/20220906	0 - 0.1 m	6/09/22	5	<0.4	8	20	14	<0.1	10	31	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44TP104	0 - 0.1 m	6/09/22	7	<0.4	8	20	15	<0.1	10	39	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	2	0	0	0	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	**33%**	0%	0%	0%	7%	0%	0%	23%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD1/20220921	0 - 0.1 m	21/09/2022	13	<0.4	20	22	25	<0.1	7	36	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
AEC44HA115	0 - 0.1 m	21/09/2022	6	<0.4	12	13	15	<0.1	5	36	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	7	0	8	9	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	**74%**	0%	**50%**	**51%**	**50%**	0%	**33%**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD2/20220921	0 - 0.1 m	21/09/2022	6.3	<0.4	18	8.4	14	<0.1	6.5	8.5	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<PQL	<PQL	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.05	<0.05	<0.05	<0.05	<0.05	<PQL	<0.2	<0.1
AEC44HA119	0 - 0.1 m	21/09/2022	6	<0.4	17	10	19	<0.1	6	17	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<0.1
		Difference	0.3	0	1	1.6	5	0	0.5	8.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0
		RPD	5%	0%	6%	17%	**30%**	0%	8%	**67%**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

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Table QA2: Trip Blank Results - Soils (mg/kg)

Sample ID	Sampling Date	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene
Blank 1	4/08/2022	<0.2	<0.5	<1	<1	<2
Blank 2	5/08/2022	<0.2	<0.5	<1	<1	<2
Blank 20803	3/08/2022	<0.2	<0.5	<1	<1	<2
TB1	9/08/2022	<0.2	<0.5	<1	<1	<2
TB2	10/08/2022	<0.2	<0.5	<1	<1	<2
TB3	11/08/2022	<0.2	<0.5	<1	<1	<2
TB-260822	25/08/2022	<0.2	<0.5	<1	<1	<2
TB-050922	5/09/2022	<0.2	<0.5	<1	<1	<2
TB-060922	6/09/2022	<0.2	<0.5	<1	<1	<2
TB-210922	21/09/2022	<0.2	<0.5	<1	<1	<2

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Table QA3: Trip Spike Results – Soils (% Recovery)

Sample ID	Sampling Date	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene
Spike 1	4/08/2022	93	94	94	94	94
Spike 2	5/08/2022	103	103	103	102	104
Spike 220803	3/08/2022	90	81	81	81	88
TS1	9/08/2022	82	88	91	92	92
TS2	10/08/2022	94	105	114	110	108
TS3	11/08/2022	91	91	91	90	91
TS-260822	25/08/2022	103	103	104	104	104
TS-050922	5/09/2022	99	99	100	98	98
TS-060922	6/09/2022	104	103	104	105	105
TS-210922	21/09/2022	81	79	82	82	82

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Table QA4: Relative Percentage Difference Results for Groundwater

	Metals								TRH				BTEX					PAH							Phenols													OCP									
	Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	o-xylene	m+p-xylene	Naphthalene	Anthracene	Fluoranthene	Benzo(a)pyrene	Phenanthrene	Other PAH	Phenol	2,4,6-Trichlorophenol	2,4-Dinitrophenol	4-Nitrophenol	2,3,4,6-Tetrachlorophenol	Total Tetrachlorophenols	Pentachlorophenol	2-Chlorophenol	2,4-Dimethylphenol	2,4-Dichlorophenol	2,6-Dichlorophenol	Other Phenols	Aldrin	Dieldrin	gamma-Chlordane	alpha-Chlordane	pp-DDT	Endosulfan I	Endosulfan II	Endrin	Heptachlor	Methoxychlor
Sample ID	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	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
BD1/20220915	2	<0.1	<1	<1	<1	<0.05	7	19	<10	<50	<100	<100	<1	<1	<1	<1	<2	<0.2	<0.1	<0.1	<0.1	<0.1	<PQL	<1	<1	<1	<20	<1	-	<5	<1	<20	<1	<1	<PQL	<0.01	<0.01	<0.01	<0.01	<0.006	<0.01	<0.01	<0.01	<0.01	<0.01
AEC44BH02	2	<0.1	<1	3	<1	<0.05	7	22	<10	<50	<100	<100	<1	<1	<1	<1	<2	<0.2	<0.1	<0.1	<0.1	<0.1	<PQL	<1	<1	<1	<20	<1	-	<5	<1	<20	<1	<1	<PQL	<0.01	<0.01	<0.01	<0.01	<0.006	<0.01	<0.01	<0.01	<0.01	<0.01
	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	**100%**	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BD2/20220915	<1	<0.2	<1	4	<1	<0.1	<1	<5	<10	<50	<100	<100	<1	<1	<1	<1	<2	<0.01	<0.01	<0.01	<0.01	<0.01	<PQL	<3	<10	<3	<30	-	<30	<10	<3	<30	<3	<3	<PQL	<0.2	<0.2	<2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
AEC44SW01	<1	<0.1	<1	4	<1	<0.05	<1	3	<10	<50	<100	<100	<1	<1	<1	<1	<2	<0.2	<0.1	<0.1	<0.1	<0.1	<PQL	<1	<1	<1	<20	<1	-	<5	<1	<20	<1	<1	<PQL	<0.01	<0.01	<0.01	<0.01	<0.006	<0.01	<0.01	<0.01	<0.01	<0.01
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

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Table QA4: Relative Percentage Difference Results for Groundwater

| | | OPP | | | | | | | | | | | | PCB | | | VOC | | | | | | | | | | | |

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Table QA5: Trip Blank Results - Water (µg/L)

Sample ID	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	TRH C6-C10 less BTEX	TRH C6-C10
TB-W0221915	<1	<1	<1	<1	<2	<10	<10

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Table QA6: Trip Spike Results – Water (% Recovery)

Sample ID	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene
TS-W0220915	96	102	107	109	107%

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Table QA7: Rinsate Results for Water Sampling

		Metals								TRH				BTEX					PAH						OCP													
		Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	o-xylene	m+p-xylene	Naphthalene	Anthracene	Fluoranthene	Benzo(a)pyrene	Phenanthrene	Other PAH	Aldrin	Dieldrin	gamma-Chlordane	alpha-Chlordane	pp-DDT	Endosulfan I	Endosulfan II	Endrin	Heptachlor	Methoxychlor	Other OCP
Sample ID	Sampling 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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Rinsate-W0220915	15/09/2022	<1	<0.1	<1	<1	<1	<0.05	<1	<1	<10	<50	<100	<100	<1	<1	<1	<1	<2	<0.2	<0.1	<0.1	<0.1	<0.1	<PQL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.006	<0.01	<0.01	<0.01	<0.01	<PQL