Sydney Environmental Group

Supplementary Stage 2 Detailed Site Investigation

Western Sydney University
Milperra Campus, Milperra NSW

Mirvac Homes (NSW) Pty Ltd

Report No: 2300-DSI-01-220224.v1f
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DOCUMENT RECORD

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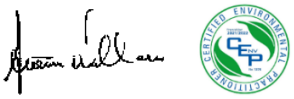
Author Signature		**Reviewer Signature**	
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Document Title:	Supplementary Detailed Site Investigation, Western Sydney University – Milperra Campus, Milperra NSW
Site Address:	Western Sydney University – Milperra Campus, Bullecourt Avenue, Milperra NSW
Client Name:	Mirvac Pty Ltd
Site Size:	≈ 18.83 ha
Investigation Area Size:	AEC01 ≈ 1.3 ha AEC01a ≈ 1 ha AEC02 ≈ 1.7 ha AEC03 ≈ 1.35 ha
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Prepared by Sydney Environmental Group Pty Ltd ABN: 14 631 026 214

EXECUTIVE SUMMARY

Sydney Environmental Group (SE) was engaged by Mirvac Pty Ltd (the client), to undertake a Supplementary Detailed Site Investigation for the site located at Western Sydney University – Milperra Campus, Milperra NSW (refer **Figure 1** with the 'site' boundaries outlined in **Figure 2**).

SE has the following project appreciation:

- The entirety of the site covers an area of approximately 18.83 ha;
- The site currently comprises of infrastructure with residential and education establishment purposes;
- The site proposed for redevelopment comprising a low-density residential land use setting;
- Historically the site has been utilised for agricultural activities with rural-residential structures;
- A Detailed Site Investigation (DSI) was carried out for the site in December 2019 and January 2020 by Alliance Geotechnical (AG), which identified five (5) areas of environmental concern;
- A Remedial Action Plan (RAP) was prepared for the site by AG in January 2020, which identified four (4) data gaps requiring further assessment; and
- A Supplementary Detailed Site Investigation is required to address data gaps identified within AG 2022.

The objectives of this project were to:

- Assess the potential for contamination to be present within the cleared portion of the site as a result of past and current land use activities;
- Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting; and
- Provide recommendations for further investigation, management and/or remediation (if warranted).

SE undertook the following scope of works to achieve the project objective:

- Review of the previous contamination assessment prepared for the site;
- The preparation of a Sampling and Analysis Quality Plan (SAQP);
- Laboratory analysis of selected samples collected during the field investigation; and
- An assessment of the contamination status of the fill materials within the site and the recommendation of any further remedial requirements associated with the redevelopment of the site (if necessary).

Based on SE's assessment of the desktop review information, fieldwork data and laboratory analytical data, in the context of the proposed redevelopment scenario, SE makes the following conclusions:

- AEC01a was not accessible at the time of this data gap assessment and requires assessment within a future assessment prior to the start of remediation works;
- Friable Asbestos Containing Materials (ACM) were identified within AEC01 during this assessment and previous contamination assessments undertaken;
- Friable and Non-Friable Asbestos Containing Materials (ACM) were identified within AEC02 during this assessment and previous contamination assessments undertaken;
- Non-Friable Asbestos Containing Materials (ACM) were identified within AEC03 during this assessment and previous contamination assessments undertaken;
- Surficial asbestos identified within all three (3) AECs assessed currently present an unacceptable aesthetics risk and require further management/remediation;
- Based on the assessments undertaken as part of this investigation, SE has concluded that the site has friable and non-friable asbestos impacted soil materials requiring remediation and further management; and
- An addendum to the existing Remedial Action Plan (AG 2022) is required to outline the remediation methodologies required to remediate the newly identified extents of contamination identified.

Based on the conclusions stated above and the background data gathered during the course of this investigation, SE recommends:

- An addendum to the existing Remedial Action Plan prepared by AG (2022) is required to outline the remediation methodologies required to remediate the newly identified extents of asbestos contamination identified.
- Following removal of hazardous building materials (if identified) and subsequent demolition of the onsite structures, a clearance inspection should be carried out by an appropriately qualified occupational hygienist / NSW LAA;
- A supplementary contamination assessment is required within AEC01a prior to the start of remedial works at the site;
- Additional contamination assessments are required to be undertaken per the site RAP (AG 2022) prior to the start of remediation works at the site; and
- A waste classification assessment should be carried out on any soil materials proposed for disposal off-site as per the NSW EPA Waste Classification Guidelines (2014).

This report, including its conclusions and recommendations, must be read in conjunction with the limitations presented in **Section 16.**

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ABBREVIATIONS

AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
AST	Aboveground storage tank
Bgs	Below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
Btoc	Below top of casing
CoC	Chain of Custody
CSM	Conceptual Site Model
DSI	Detailed Site Investigation
EC	Electrical conductivity
EIL	Ecological Investigation Level
ESL	Ecological Screening Level
EPA	Environment Protection Authority
GS	Geological Survey of NSW
HIL	Health Investigation Levels
HSL	Health Screening Levels
IL	Investigation Levels
LOR	[Laboratory] Limit of reporting
NATA	National Association of Testing Laboratories
N/A	Not applicable
ND	Not detected
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NSW EPA	NSW Environment Protection Authority
OCP	Organochlorine Pesticide
OPP	Organophosphorus Pesticide
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PID	Photo-ionisation detector
PSH	Phase separated hydrocarbon
PSI	Preliminary Site Investigation
QA/QC	Quality assurance/Quality control
RPD	Relative percentage difference
SAQP	Sampling Analysis and Quality Plan
SE	Sydney Environmental Group Pty Ltd
SVOC	Semi-volatile organic compound
TPH	Total petroleum hydrocarbon
USCS	Unified Soil Classification System
UST	Underground storage tank
VOC	Volatile organic compound

1 INTRODUCTION

1.1 Background

Sydney Environmental Group (SE) was engaged by Mirvac Pty Ltd (the client), to undertake a Supplementary Detailed Site Investigation for the site located at Western Sydney University – Milperra Campus, Milperra NSW (refer **Figure 1** with the 'site' boundaries outlined in **Figure 2**).

SE has the following project appreciation:

- The entirety of the site covers an area of approximately 18.83 ha;
- The site currently comprises of infrastructure with residential and education establishment purposes;
- The site proposed for redevelopment comprising a low-density residential land use setting;
- Historically the site has been utilised for agricultural activities with rural-residential structures;
- A Detailed Site Investigation (DSI) was carried out for the site in December 2019 and January 2020 by Alliance Geotechnical (AG), which identified five (5) areas of environmental concern;
- A Remedial Action Plan (RAP) was prepared for the site by AG in January 2020, which identified four (4) data gaps requiring further assessment; and
- A Supplementary Detailed Site Investigation is required to address data gaps identified within AG 2022.

1.2 Proposed Development

SE understands that the proposed site use will consist of demolition of the current campus structures and roadways, and residential infrastructure for redevelopment under a low-density residential land use setting.

As the proposed future site use is redevelopment under a low-density residential setting, SE considers it reasonable to adopt the 'HIL A – Low-Density Residential' per guidance provided in Section 2.2 of Schedule B (1) of the National Environment Protection Measure (Assessment of Site Contamination) 2013 (NEPM ASC 2013), in order to conservatively assess the site for any future proposed land use as well as the current land use.

Currently under the *State Environmental Planning Policy (SEPP) (Resilience and Hazards)* - a consent authority must not consent to the carrying out of any redevelopment unless it has considered whether the land is contaminated. This report has been prepared to satisfy Clause 6 and 7 of SEPP and Council planning policies.

1.3 Objectives

The objectives of this project were to:

- Assess the potential for contamination to be present within the cleared portion of the site as a result of past and current land use activities;
- Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting; and
- Provide recommendations for further investigation, management and/or remediation (if warranted).

1.4 Scope of Work

SE undertook the following scope of works to achieve the project objective:

- Review of the previous contamination assessment prepared for the site;
- The preparation of a Sampling and Analysis Quality Plan (SAQP);
- Laboratory analysis of selected samples collected during the field investigation; and
- An assessment of the contamination status of the fill materials within the site and the recommendation of any further remedial requirements associated with the redevelopment of the site (if necessary).

2 SITE IDENTIFICATION

The site identification details and associated information are presented in **Table 2.1.**

Table 2.1. Site Identification Information

Attribute	Description
Street Address	Western Sydney University – Milperra Campus, Bullecourt Avenue, Milperra NSW
Lot and Deposited Plan (DP)	Lot 2 DP1291984
Geographical Coordinates	33°56'25.876" S 150°59'26.563" E (Centre of site)
Site Area	18.83 ha
Investigation Area Size	AEC01 ≈ 1.3 ha AEC01a ≈ 1 ha AEC02 ≈ 1.7 ha AEC03 ≈ 1.35 ha
Local Government Area (LGA)	City of Canterbury-Bankstown
Parish	Bankstown
County	Cumberland
Zoning	SP2 – Infrastructure / Commercial Servies (Educational Establishment) *Canterbury-Bankstown Local Environmental Plan 2023*

The locality of the site is set out in **Figure 1**.

The general layout and boundary of the site is set out in **Figure 2**.

3 GEOLOGY, ACID SULFATE SOILS, TOPOGRAPHY AND HYDROGEOLOGY

Regional geology, topography, soil landscape and hydrogeological information are presented in **Table 3.1.**

Table 3.1. Regional Setting Information

Attribute	Description
Geology	A review of the Environment NSW 'eSpade V2.1' web application (environment.nsw.gov.au/eSpade2WebApp, accessed 10 January 2024), indicated that the site is likely to be underlain by Wianamatta Group Ashfield Shale defined as laminite and dark grey siltstone, Bringelly Shale defined as shale with occasional calcareous claystone, laminite and infrequent coal, and Minchinbury Sandstone defined as fine to medium-grained quartz lithic sandstone.
Acid Sulfate Soils	A review of the acid sulfate soil risk mapping layer accessed on the Environment NSW 'eSpade V2.1' web application (accessed 10 January 2024), indicated that the site lies in an area mapped as ***'No Known Occurrence'*** with respect to acid sulfate soils. This infers that land management activities are not likely to be affected by acid sulfate soil materials. Further assessment of acid sulfate soils in the context of this investigation is considered by SE as not warranted.
Topography	Generally, the local landscape consists of gently undulating rises on Wianamatta Group Shale with local relief 10 – 30 m and slopes generally >5% but occasionally up to 10%. The site topography slopes downwards from the north-east to south-west corner. SE understands that the site is located at an elevation approximately 3 m to 22 m Australian Height Datum (AHD).
Hydrology and Hydrogeology	Surface water courses proximal to the site include an unnamed tributary of Kelso Creek, located approximately 300 m south of the site, Kelso Creek located approximately 600 m south of the site, and Georges River located approximately 1.3 km south-west of the site. Based on distances to the nearest surface water course and the site topography, groundwater flow in the vicinity of the subject area within the site is considered likely to be towards the south-west. A review of the NSW Office of Water groundwater database undertaken on 16 February 2024 indicated there are seven (7) registered groundwater features located within a 500m radius of the north-eastern portion of the site; • GW113993 – groundwater monitoring bore, final drill depth 4.00 metres below ground level (mBGL), standing water level (SWL) not specified, located approximately 105 m east of the site; • GW113998 – groundwater monitoring bore, final drill depth 4.50 mBGL, SWL not specified, located approximately 150 m east of the site; • GW113994 – groundwater monitoring bore, final drill depth 5.20 mBGL, SWL not specified, located approximately 145 m east of the site; • GW113997 – groundwater monitoring bore, final drill depth 12.50 mBGL, SWL not specified, located approximately 240 m east of the site; • GW113999 – groundwater monitoring bore, final drill depth 7.00 mBGL, SWL not specified, located approximately 250 m east of the site; • GW113995 – groundwater monitoring bore, final drill depth 4.00 mBGL, SWL not specified, located approximately 278 m east of the site; and • GW113996 – groundwater monitoring bore, final drill depth 4.00 mBGL, SWL not specified, located approximately 307 m east of the site.
Adjacent Sensitive Receptors	A review of the Bureau of Meteorology Groundwater Dependent Ecosystem Map was undertaken to determine the closest sensitive ecological receptors. The closest highly dependent groundwater ecosystem was the Georges River, located approximately 1.3 km south-west of the site. The closest sensitive human receptors are the residential properties surrounding the site's boundary and any future onsite construction workers / builders.

4 PREVIOUS ASSESSMENTS

The following reports were reviewed during the project. SE note that Coffey (2011), Noel Arnolds and Associates (NAA 2011), EIS (2016) and JBS&G (2018) were not provided for review by SE. As such, SE have relied on the information outlined within AG (2022) for a summary of the works undertaken.

- Coffey (Coffey 2011), 'Phase 2 Environmental Site Assessment – Student Residence Development University of Western Sydney, Bankstown Campus', dated 25 August 2011, Ref: GEOTLCOV24163AG-AB;
- Noel Arnolds and Associates (NAA 2011), 'Soil Contamination Investigation, University of Western Sydney – Bankstown Campus Bullecourt Avenue, Milperra NSW', dated October 2011, Ref: SJ0085:95458;
- Environmental Investigation Services (EIS 2016), 'Preliminary Contamination Screening and Waste Classification, Proposed Oval Facilities, UWS Bankstown Campus, 2 Bullecourt Avenue, Milperra' dated 7 April 2016, no report ref provided;
- JBS&G (JBS&G 2018), 'Phase 1 Environmental Assessment Report, Bullecourt Avenue, Milperra NSW', dated 30 January 2020, Ref: 9996-ER-1-1;
- Alliance Geotechnical (AG 2020), 'Detailed Site Investigation, Western Sydney University – Milperra Campus, Bullecourt Avenue, Milperra NSW', dated 30 January 2020, Ref: 9996-ER-1-1; and
- Alliance Geotechnical (AG 2022), 'Remedial Action Plan, Western Sydney University – Milperra Campus, Bullecourt Avenue, Milperra NSW', dated 30 January 2020, Ref: 9996-ER-2-1.

A summary of the previous contamination assessments is provided in **Sections 4.1** to **4.6** below.

4.1 Coffey 2011, Phase 2 Environmental Site Assessment

For the purposes of this Phase 2 Environmental Site Assessment (P2 ESA), Coffey assumed the site boundary comprised approximately 1.5ha. At the time of reporting, it was subsequently understood that the proposed student residence development was to extend further to the east and cover an area of approximately 3ha.

Coffey understood that UWS required a P2 ESA to support a development application (DA) to Bankstown City Council.

The objectives of the assessment were to:

- Assess the acid sulfate soil status of the site based on a review of risk map and field observations;
- Assess the contamination status of the site by undertaking sampling and testing of soil; and
- Provide recommendations for further investigation/remediation requirements (if any) for the site to be suitable for the proposed student accommodation development.

The scope of work undertaken included:

- Fieldwork including soil sampling;
- Laboratory testing; and
- Data assessment and reporting.

Based on the site history information and visual observations, a number of Areas of Environmental Concern (AECs) and Chemicals of Potential Concern (COPCs) were identified. The identified AECs and associated CoPCs are presented in **Table 4.1.1** overleaf.

Table 4.1.1 AECs and associated COPC

Potential Areas of Concern	Chemicals of Potential Concern	Extent of Contamination
Southern end of the site – building rubble burial	TPH, PAH, Metals, Asbestos	Building rubble was buried up to 3 m to 4 m below the site surface.
Former farm dam – potential contaminated fill	TPH, BTEX, PAH, OCP, Metals, Asbestos	Potentially contaminated fill could have been used to backfill the dam
Whole site – use of pesticides for pest/weed control	OCP, Metals	Chemical application (such as pesticides) was commonly used in historical farming activities. Contamination, if present, is likely to be localised near the surface and minor.
Whole site – hazardous building materials	Asbestos, Lead	Historical fam sheds/houses could contain asbestos and lead paint. Weathering, leaching and spreading (during demolition) of material would likely to be localised in the near surface.
Existing Building Footprints (inaccessible)	Uncontrolled Filling	Metals, PAH, BTEX, TRH, PCB, OCP/OPP, Phenols and Asbestos

A total of twenty-five (25) boreholes were cored across the site on 11 and 12 July 2011, and samples submitted to a NATA accredited laboratory for analysis of CoPC.

Analytical results indicated the contaminant concentrations were less than the adopted site criteria, with the exception of:

- Asbestos, which was detected at six (6) locations across the site.

Coffey recommended additional assessment to be undertaken to further characterise the asbestos impact and to assist in the selection of remedial/management options.

4.2 NAA 2011, Soil Contamination Investigation

NAA was commissioned by JDH Architects to undertake a Soil Contamination Investigation (SCI) in an area in the northeast of the Bankstown Campus at the University of Western Sydney - Bankstown Campus located at Bullecourt Avenue, Milperra NSW (the site). The portion of the site investigated in NAA (2011) was approximately 2,500m2 in area and resided to the north of the existing P2 car park at the Bankstown Campus. The proposed redevelopment comprised construction of a single storey childcare facility with adjacent car parking facilities.

The objectives of the SCI were to provide information on the extent and nature of contamination (if any) within the fill/soil material at the site and to assess the suitability of the site for the proposed land-use as a childcare facility.

NAA undertook the following scope of works to achieve the project objectives:

- Prepare a safe work method statement for works to be conducted at the site;
- Complete a site inspection and a comprehensive site walkover;
- Conduct grid-based sampling pattern by the hand augering of eight locations within the boundaries of the site. Hand augering was undertaken to a maximum depth of approximately 1.2m below ground surface with sampling conducted at varying depths through the fill/soil profile;
- Collect seventeen (17) soil samples;
- Conduct NATA-certified laboratory-based analysis of soil; and
- Prepare a SCI report.

Based on the findings of the investigation, NAA concluded the following:

- Hotspots of lead contamination at locations BH3 0.0-0.2m and S2 0.0-0.1m were identified during an intrusive investigation previously undertaken by Coffey (AG were not provided this report);
- Concentrations of cadmium (BH3 0.0-0.2m) and zinc (BH3 0.0-0.2m, S2 0.0-0.1m and S7 0.0-0.1m) have been found to exceed the adopted Provisional Phytotoxicity Investigation Levels (PPIL);
- The site was unsuitable for the proposed land use as a childcare facility due to the presence of hotspots of lead contamination which may present a risk to human health if not appropriately managed;
- Exceedances of PPILs have also been reported at these locations and can be addressed as part of the management of the lead hotspots; and
- A marginal exceedance of zinc concentrations when compared with the PPIL was recorded at S7 0.0-0.1m. Given the marginal nature of this exceedance, it does not impact upon the suitability of the site for the proposal land use as a childcare facility.

Based on these conclusions, NAA 2011 made the following recommendations:

- Given the shallow nature of the impacted material, it was assumed that this material will be excavated and removed from site during the course of site preparation works (e.g. stripping back of topsoil material) for the purposes of redevelopment;
- Fill/soils to be removed offsite for disposal should be classified in accordance with NSW EPA Waste Classification Guidelines (2014) and should be disposed of at an appropriately licenced landfill facility;
- Following site preparation works, a suitably qualified Environmental Consultant should return to site to collect validation samples of the area of concern (in vicinity of BH3, S2 and S7) in order to confirm acceptable residual concentrations of heavy metals are present with respect to the adopted HIL and PPIL and that the site is suitable for the intended land use; and
- If it is determined that site preparation works will not result in the excavation and removal of the shallow material at BH3 0.0-0.2m and S2 0.0-0.1m, remediation works will be required. In this event, it is recommended that a Remedial Action Plan (RAP) be developed to address remediation of the hotspots of contamination identified.

4.3 EIS 2016, Preliminary Contamination Screening and Waste Classification

Burtenshaw Scoufis Architecture + Interiors commissioned Environmental Investigation Services (EIS) to assign a waste classification to in-situ soil adjacent to the west of the athletics track located at 2 Bullecourt Avenue, Milperra NSW.

The aim of the investigation was to assess soil contamination issues at the site and to provide a waste classification for the material to be excavated for the proposed oval development.

The scope of work included the following:

- Review of available geological information;
- Soil sampling from three boreholes;
- Interpretation of the analytical results against the adopted Site Assessment Criteria (SAC); and
- Preparation of a letter report presenting the results of the investigation.

All results were below the site assessment criteria (SAC) adopted for the site. Overlying fill soils were classified as General Solid Waste (Non-putrescible) and underlying natural soils were classified as Virgin Excavated Natural Material (VENM). Based on this data, EIS concluded that the risk of widespread significant soil contamination in the development area was relatively low. The fill and natural soil material assessed was considered by EIS to be suitable for re-use on the subject site, provided it meets geotechnical and earthwork requirements.

4.4 JBS&G 2018, Phase 1 Environmental Assessment Report

JBS&G Australia Pty Ltd (JBS&G) were engaged by Western Sydney University (WSU) (the client) to prepare a Phase 1 Environmental Assessment Report for the WSU Milperra Campus located off Bullecourt Avenue, Milperra NSW (the site). Based on current Master Plan concepts for the Milperra Campus, JBS&G understood

WSU intends to create an integrated living and working precinct with a range of land uses including medium to high density residential, mixed use, retail, community, open space and conservation areas at the site.

The objective of the investigation was to assess the potential for contamination relating to historical and current land use activities at the site to constrain the intended development objectives, and to make recommendations for further investigations and or remediation to achieve intended land uses of the development.

To meet the project objectives, JBS&G carried out the following scope of works:

- Review of available council documentation, aerial photographs, legal title information, EPA records and heritage records to identify areas of environmental concern (AECs) and associated contaminants of potential concern (CoPC);
- Review of site setting including topography, hydrology, hydrogeology and geology;
- Review of records of environmental incidents or former environmental licenses held by the NSW EPA;
- A detailed site inspection of accessible areas to identify potential AECs and CoPC not identified in the historical record review;
- Development and documentation of a conceptual site model (CSM);
- Limited soil sampling and analysis of soil samples for a range of CoPC;
- Assessment of soil sampling and analysis results against EPA endorsed guideline criteria for residential land use; and
- Preparation of the Phase 1 Environmental Site Assessment report in general accordance with guidelines made or approved by the NSW EPA.

Surrounding land use at the time of JBS&Gs site walk over was comprised of the following:

- North: Bullecourt Avenue with commercial / industrial land-use beyond including a service station to the north-west;
- East: Mount Saint Joseph's High School and Horsley Road with commercial / industrial land-use beyond;
- South: The South Western Motorway (M5) with Kelso Landfill beyond; and
- West: Ashford Avenue with residential land-use beyond.

A SafeWork NSW search of the Stored Chemical Information Database (SCID) and the microfiche records held by SafeWork was requested. Information provided by SafeWork NSW included details on a number of abandoned (2) underground storage tanks (USTs) formerly located in the central eastern section of the site. Review of the SafeWork NSW documentation indicated the 2 x 2,500L USTs were removed on Friday 19 December 1997 by Email Petroleum Systems.

Based on site history review and observations during the site walkover, JBS&G identified the following AEC and associated CoPC presented in **Table 4.4.1** below.

Table 4.4.1 AECs and associated COPCs

Areas of Environmental Concern (AECs)	Contaminants of Potential Concern (CoPCs)
Demolition of historical site structure that may have contained hazardous building materials	Heavy metals, lead and asbestos
Surface soils impacted with herbicides/pesticides due to the maintenance of site from noxious weeds/pests	OCPs
Fill materials across the site, potential imported to site	Heavy metals, TRH, BTEX, PAH, OCPs, PCBs and asbestos
Burial area (fill material)	Heavy metals, TRH, BTEX, PAH, VOCs
Landfill gas along the southern boundary adjacent the Kelso Landfill	Methane and other landfill gases (LFG)

Based on the unidentified sources of fill material potentially imported to the site to backfill/raise topographic features and the potential for fill material at the site to contain waste materials associated with demolition of historical buildings potentially containing asbestos and/or lead paint, fill materials must be considered a potential contaminated medium. Due to the age of some existing site structures, it is possible that they may contain hazardous building materials including asbestos and lead based paints. Soils immediately surrounding buildings are considered as potentially contaminated medium.

In addition, buildings containing asbestos and / or lead paint which may have been demolished without appropriate controls may have also impacted surface soils. Surface soils must also therefore be considered a potential contaminated medium.

Based on the suspected depth of groundwater >8 m bgs, the likelihood of contamination of groundwater as a result of activities at the site is considered to be low. Based on the presence of the landfill site to the south and the nearby commercial/industrial properties to the north and east, there is potential for groundwater to be impacted as a result of offsite activities.

Given the relatively close proximity of the landfill to the south of the site, landfill gas has the potential to be a contaminated medium in the southern portion of the site.

JBS&G carried out a limited detailed site inspection and investigation. During the detailed site inspection JBS&G noted the observation of topography for potential adjustments in ground levels due to filling, presence of waste material such as asbestos containing material (ACM) on the ground surface and on external surfaces of structures and potential chemical/fuel storage, use or spillage.

On 23 August 2017, ten surface samples were collected from the site using a hand auger and forwarded to a NATA accredited laboratory for analysis of heavy metals, PAH, asbestos (NEPM 500ml) and OCPs. During soil sampling, a geotechnical fabric layer was identified below the ground surface at sampling point SS10.

Analytical results indicated the contaminant concentrations were less than the adopted site criteria, with the exception of:

- SS10 – asbestos fibres/fibrous asbestos (AF/FA) detected at 0.02% w/w above the adopted HSL site criteria 0.001% w/w.

Based on the findings of this investigation, JBS&G made the following conclusions:

- The site has historically been used for a combination of agricultural and residential uses prior to development of the university;
- There is the potential for impacts to soil as a result of the demolition of former building structures potentially containing hazardous building materials, including asbestos and lead paint. This was confirmed by the identification of asbestos at sampling point SS10 and review of the Coffey 2011 Phase 2 Environmental Site Assessment Report, which also identified and recommended management of asbestos in soil;
- There is the potential for presence of imported fill material of unknown origin to have been used during historical construction activities at the site; and
- Based on the presence of the landfill site to the south and the nearby commercial industrial properties to the north, northwest and east, there is considered to be a potential for contaminated groundwater and landfill gas migration to have impacted the site.

Based on these conclusions, JBS&G recommended a detailed site investigation (DSI) is undertaken for the site in order to assess the extent and degree of contamination at the site and to provide an assessment of risk posed by site contaminants to human and environmental health. In addition to the DSI, JBS&G recommended a hazardous building material survey be completed prior to commencement of redevelopment works such that materials identified as comprising lead paint and or asbestos may be appropriately managed with regard to exposure risks to site workers and future building occupants.

4.5 AG 2020, Detailed Site Investigation

Alliance Geotechnical Pty Ltd (AG) was engaged by Mirvac Pty Ltd to conduct a Stage 2 Detailed Site Investigation (DSI) for the property located at Western Sydney University – Milperra Campus, Milperra NSW.

AG had the following project appreciation:

- The site was an active campus of Western Sydney University;
- The investigation was limited to areas outside of building structures and discretion was required in active areas of the site;
- The site was proposed for rezoning and subdivision to facilitate residential development. It was understood that this will comprise demolition of the existing university campus and construction of a low-density residential development; and
- A Detailed Site Investigation was required to accompany the development application.

The primary objectives of this investigation were;

- To assess the potential for contamination to be present on the site in available / accessible areas as a result of past and current land use activities;
- To provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting; and
- To provide recommendations for further investigation, management and/or remediation (if warranted).

AG undertook the following activities to address the project objectives:

- A desktop review of relevant information pertaining to the site;
- A site walkover to understand current site conditions;
- Conduct an intrusive site investigation via hydraulic excavator, drill rig and hand auger to establish ground conditions, facilitate the collection of representative soil and groundwater samples and install groundwater monitoring wells;
- Laboratory analysis of selected soil and groundwater samples collected during the field investigation; and
- An assessment of the contamination status of the site and preparation of a DSI in accordance with the Guidelines for Consultants Reporting on Contaminated Sites, 2011.

Based on evidence assessed as part of the investigation, AG made the following conclusions;

- The detected concentrations of contaminants of potential concern in groundwater are considered unlikely to present a risk to surrounding aquatic environments;
- The detected concentrations of contaminants of potential concern in groundwater are considered unsuitable for discharge to municipal stormwater without further treatment / assessment;
- The detected concentrations of contaminants of potential concern in the soil samples analysed are considered unlikely to present a risk an unacceptable direct contact human health exposure risk;
- The detected concentrations of asbestos fines / friable asbestos and non-friable asbestos containing materials in the soil samples analysed are considered likely to present a risk an unacceptable direct contact human health exposure risk;
- The detected concentrations of contaminants of potential concern in the soil samples analysed are considered unlikely to present a risk an unacceptable inhalation / vapour intrusion exposure risk;
- The detected concentrations of contaminants of potential concern in the soil samples analysed are considered unlikely to present a risk an unacceptable TPH management limit exposure risk; and
- The detected concentrations of contaminants of potential concern in the soil samples analysed are considered unlikely to present a risk an unacceptable aesthetic risk.

The following areas of environmental concern were identified:

Table 4.5.1 Areas of Environmental Concern (AG 2020)

ID	Area of Environmental Concern	Land Use Activity	Contaminants of Potential Concern
AEC01	Friable / Non-Friable Asbestos and Heavy Metal impacted Surficial and Fill Soils	Uncontrolled Filling	Asbestos, Lead, Cadmium and Zinc
AEC02	Friable Asbestos impacted Fill Soils	Uncontrolled Filling	Asbestos
AEC03	Non-Friable Asbestos impacted Surficial and Fill Soils	Uncontrolled Filling	Asbestos
AEC04	Potential Underground Storage of Petroleum Products Onsite (JBS&G 2018)	Uncontrolled Fuel / Oil Spillage	Metals, PAH, BTEX and TRH
AEC05	Existing Building Footprints (inaccessible)	Uncontrolled Filling	Metals, PAH, BTEX, TRH, PCB, OCP/OPP, Phenols and Asbestos

Based upon conclusions made, AG recommended the following;

- A further supplementary contamination assessment should be considered to further understanding of nature and extent of contamination identified onsite and address data gaps presented by building footprints, inaccessible areas and building footprints;
- Preparation of a Remedial Action Plan (RAP) is required to detail the works needed to adequately delineate, remediate and validate the areas of concern that present an unacceptable contamination risk;
- If groundwater is expected to be encountered during the proposed development, a groundwater management plan would be required;
- The preparation of any supplementary contamination assessments, remedial action plans and/or groundwater management plans should be completed by an appropriately experienced environmental consultant;
- As per NSW WHS Regulations, any removal of friable asbestos requires the engagement of a Class A licensed asbestos removalist and a pre-notification to SafeWork NSW, with accompanying air monitoring during the works and clearances post completion to be conducted by a licensed asbestos assessor (LAA);
- Following remediation of the identified contamination, validation sampling and a site validation report will be required to confirm the effectiveness of the remedial works; and
- Any soil proposed for disposal should be classified and disposed of as per the NSW EPA Waste Classification Guidelines, 2014 with all disposal documentation retained by the client for inclusion within the site validation report.

4.6 AG 2022 – Remedial Action Plan

Alliance Geotechnical Pty Ltd (AG) was engaged by Mirvac Pty Ltd to prepare a Remedial Action Plan (RAP) for the property located at Western Sydney University – Milperra Campus, Milperra NSW.

AG had the following project appreciation:

- The site was an active campus of Western Sydney University;
- The investigation was limited to areas outside of building structures and discretion was required in active areas of the site;
- The site was proposed for rezoning and subdivision to facilitate residential development. It was understood that this will comprise demolition of the existing university campus and construction of a low-density residential development; and
- A Detailed Site Investigation (DSI) was carried out for the site by AG in 2020, which recommended a supplementary contamination assessment to understand the nature and extent of contamination

identified onsite and address data gaps presented by building footprints, previous contamination assessments and inaccessible areas of environmental concern; and

- The DSI also concluded that a RAP be prepared in order to detail the works needed to adequately delineate, remediate and validate the areas of concern that present an unacceptable contamination assessment.

The following Sampling Analysis Quality Plan (SAQP) was prepared for the data gap assessment required prior to remediation works.

Table 4.6.1 Data Gap Assessment SAQP (AG 2022)

ID	Area of Environmental Concern	Area (m^2)	Methodology	Analytes
Detailed Asbestos Gravimetric Assessment				
AEC01	Friable / Non-Friable Asbestos impacted Surficial and Fill Soils	12,800	Forty-six (46) sampling points, 10 L sample required every 1 m from surface, 500 ml sub-sample for quantitative asbestos analysis.	Asbestos
AEC02	Friable Asbestos impacted Fill Soils	17,100	Fifty-four (54) sampling points, 10 L sample required every 1 m from surface, 500 ml sub-sample for quantitative asbestos analysis.	Asbestos
AEC03	Non-Friable Asbestos impacted Surficial and Fill Soils	18,240	Eighty-four (84) sampling points, 10 L sample required every 1 m from surface, 500 ml sub-sample for quantitative asbestos analysis.	Asbestos
Remaining areas of site	Potential Asbestos impacted Soils	80,000	Forty-seven (47) sampling points, 10 L sample required every 1 m from surface, 500 ml sub-sample for quantitative asbestos analysis.	Asbestos
Heavy Metal / Asbestos Gravimetric Assessment				
AEC01a	Heavy Metal impacted Surficial and Fill Soils	1,000	Six (6) sampling points, 10 L sample required every 1 m from surface, 500 ml sub-sample for quantitative asbestos analysis.	Lead, Cadmium and Zinc
Chemical Characterisation / Asbestos Gravimetric Assessment				
AEC05	Post Demolition Assessment	37,000		

Based on the data reviewed during the preparation of the RAP, AG concluded the land could be made suitable for the proposed future land use subject to completion of the following;

- Preparation of a SAQP prior to commencement of data gap assessment;
- Implementation of the strategies, methodologies and measures set out in this RAP;
- Should newly identified unacceptable land contamination risks be identified during supplementary assessment works, an addendum to this RAP may be required. The addendum should be prepared by a suitably experienced environmental consultant;
- Prior to any removal of soils from site for offsite disposal during remedial works, waste classification for those soils should be prepared by a suitably experienced environmental consultant. Residual impacted fill materials must also be appropriately characterised as per the strategy outlined in this RAP;
- AG recommends that any waste classifications, remediation monitoring and validation works be undertaken by a suitably experienced environmental consultant; and

- It is recognised that contamination risks may remain on the site. If so, a LT-EMP will document areas where residual contamination is present on the site, and information on management measures that have been adopted. Provisions contained in the LT-EMP will need to have a mechanism to be legally enforceable and will be publicly notified. A revised RAP will be prepared to document where and how management measures will be implemented, and how a LTEMP can be made legally enforceable.

5 DATA INTEGRITY ASSESSMENT

SE has relied on the following sources of data while undertaking this investigation:

- SE field observations during the site walkover;
- City of Canterbury-Bankstown;
- Department of Land and Water Conservations;
- Department of Minerals and Energy;
- Department of Primary Industries – Water;
- Australian Soil Resource Information System;
- Google Earth;
- National Environment Protection Council;
- Nearmap;
- NSW Environment Protection Authority;
- NSW Land and Property Information; and
- Previous Contamination Assessments.

Based on SE's experience and professional judgement, the data obtained from the sources relied upon, is considered to be adequately precise, accurate, representative, complete and comparable within the objectives of this investigation and for the purpose of drawing conclusions regarding land contamination risks at the site.

6 CONCEPTUAL SITE MODEL DEVELOPMENT

6.1 Potential Areas of Environmental Concern

The review of site history, previous contamination assessments and site walkover observations were assessed within the objectives of this investigation and in the context of the proposed development works. That assessment identified areas of environmental concern (AEC) and contaminants of potential concern (COPC) which have the potential to be present on site. The AEC identified and associated COPC are presented in **Table 6.1.1.**

Table 6.1.1 PAEC and COPC

ID	Area of Environmental Concern	Land Use Activity	Contaminants of Potential Concern
AEC01	Friable / Non-Friable Asbestos Impacted Fill Soils	Uncontrolled Filling	Asbestos
AEC01a	Lead, Cadmium and Zinc Impacted Fill Soils	Uncontrolled Filling	Lead, Cadmium and Zinc
AEC02	Friable Asbestos Impacted Fill Soils	Uncontrolled Filling	Asbestos
AEC03	Non-Friable Asbestos Impacted Fill Soils	Uncontrolled Filling	Asbestos

The potential contamination pathways are considered to be as follows:

- Inhalation/ingestion of contaminants released in dust during redevelopment by site workers; and
- Direct contact, ingestion or inhalation of soil by future site inhabitants.

Relevant potential receptors are considered to include:

- Onsite construction and maintenance workers;
- Third parties during construction (adjacent site users and adjacent residents);
- Onsite flora and fauna;
- Groundwater and surface water;
- Future residents/end users; and
- Neighbouring residential land users.

6.2 Land Use Setting

SE understands that the site currently utilised as an educational establishment with on-site residential facilities. The site is proposed for demolition and redevelopment within a low-density residential land use setting.

As the proposed future site use is redevelopment under a low-density residential land use setting, SE considers it reasonable to adopt the 'HIL A – Low-Density Residential' per guidance provided in Section 2.2 of Schedule B (1) of the National Environment Protection Measure (Assessment of Site Contamination) 2013 (NEPM ASC 2013), in order to conservatively assess the site for any future proposed land use as well as the current land use.

6.3 Drinking Water Use

There are no groundwater bores onsite or within a 500 m radius of the site, registered for drinking water use. Therefore, further assessment of this groundwater drinking water value is considered not warranted.

6.4 Recreational Water Use

Surface water courses proximal to the site includes Kelso Creek, located approximately 300 m south of the site, Kelso Creek located approximately 600 m south of the site, and Georges River located approximately 1.3 km south-west of the site.

Based on the previous contamination assessments, there is limited concern for contaminants of concern reaching nearby waterways and as such, this value will not be considered further during this assessment.

6.5 Aquatic Ecosystems

Surface water courses proximal to the site includes Kelso Creek, located approximately 300 m south of the site, Kelso Creek located approximately 600 m south of the site, and Georges River located approximately 1.3 km south-west of the site.

Based on the previous contamination assessments, there is limited concern for contaminants of concern reaching nearby waterways and as such, this value will not be considered further during this assessment.

6.6 Direct Contact – Human Health

SE notes that the proposed development includes building footprints and hardstand pavement areas across some of the site, which would act as a direct contact barrier between potential land contamination and onsite receptors during operation of the site. However, it is understood that majority of the site will remain as open space / landscaping areas.

The open space turfed / landscaping areas would act as a direct contact barrier assuming intrusive disturbance of the physical barrier was not undertaken following installation. During construction, the public and construction employees, may complete the direct contact exposure pathway between potential contamination and receptors. Based on the presence of heavy metals exceedances present within soil, further consideration of this value is considered warranted.

Following demolition at the site, further consideration of this value will be considered warranted.

SE recommends a pragmatic approach during the course of any required intrusive / excavation works. If contamination is suspected, works should stop, an unexpected finds protocol should be followed and further investigation of the fill materials should be carried out by a suitably qualified environmental consultant.

6.7 Inhalation / Vapour Intrusion – Human Health

In order for a potentially unacceptable inhalation / vapour intrusion human health exposure risk to exist, a primary vapour source (e.g. underground storage tank) or secondary vapour source (e.g. significantly contaminated soil or groundwater) must be present onsite. Review of the previous contamination assessments indicated a moderate to high likelihood for a potential primary source to be present immediately adjacent to the site associated with Kelso Landfill. This will be further assessed and/or managed during remedial works at the site.

The historical evidence reviewed indicated a high likelihood for the presence of asbestos containing materials to be present at the site in the form of friable and non-friable asbestos. As such, further investigation is warranted as part of this data gap assessment, to determine the presence and extent of the asbestos contamination at the site.

6.8 Aesthetics

Section 3.6.3 of NEPM ASC 2013 advises that there are no specific numeric aesthetic guidelines, however site assessment requires a balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity.

SE notes that the proposed development includes building footprints and hardstand pavement areas across some of the site, which would act as a direct contact barrier. The open space turfed areas would act as a direct contact barrier assuming intrusive disturbance of the physical barrier was not undertaken following installation.

During construction, the public and construction employees, may complete an aesthetics exposure pathway between potential contamination and receptors.

Due to the known presence of asbestos containing materials on-site within surficial and fill soils, further consideration of this value is warranted.

6.9 Ecological Health - Terrestrial Ecosystems

Section 3.4.2 of Schedule B1 NEPM ASC 2013, advises a pragmatic risk-based approach should be taken in applying ecological investigation levels and ecological screening levels in residential and commercial / industrial land use settings.

SE notes that the proposed development would include landscaped areas on site as it is understood majority of the site will remain undeveloped.

Due to the presence of these areas and the presence of elevated heavy metals within soil materials at the site, further consideration to onsite and adjacent ecological receptors is warranted.

6.10 Management Limits for Petroleum Hydrocarbon Compounds

NEPM ASC 2013 notes that there are a number of policy considerations which reflect the nature and properties of petroleum hydrocarbons:

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

Schedule B1 of NEPM ASC 2013 includes ‘management limits’ to avoid or minimise these potential effects. Application of the management limits requires consideration of site-specific factors such as the depth of building basements and services and depth to groundwater, to determine the maximum depth to which the limits should apply. NEPM ASC 2013 also notes that management limits may have less relevance at operating industrial sites which have no or limited sensitive receptors in the area of potential impact, and when management limits are exceeded, further site-specific assessment and management may enable any identified risk to be addressed.

7 SITE ASSESSMENT CRITERIA

Taking into consideration the objectives of this project, and the conceptual site model and land use setting presented in **Section 6** of this project, the following assessment criteria have been adopted for this project:

- Human health direct contact – HILs in Table 1A (1) in NEPM ASC 2013 and HSLs in Table B4 of Friebel, E & Nadebaum, P (2011);
- Human health inhalation/vapour intrusion – HSLs in Table 1 (A) in NEPM ASC 2013;
- Human health (asbestos) – absence / presence for preliminary screening, and no visible ACM on surface;
- Petroleum hydrocarbon compounds (management limits) – Table 1 B (7) of NEPM ASC 2013;
- Ecological Investigation and Screening Levels as calculated per NEPM ASC 2013 Table 1 (B) 1-6; and
- Aesthetics – no highly malodorous site media (e.g. strong residual petroleum hydrocarbon odours, hydrogen sulphide in site media, organosulfur compounds), no hydrocarbon sheen on surface water, no discoloured chemical deposits or soil staining with chemical waste other than of a very minor nature, no large monolithic deposits of otherwise low risk material (e.g. gypsum as powder or plasterboard, cement kiln dust), no presence of putrescible refuse including material that may generate hazardous levels of methane such as a deep-fill profile of green waste or large quantities of timber waste, and no soils containing residue from animal burial (e.g. former abattoir sites).

A summary of the site adopted criteria utilised for this assessment, is presented in **Appendix B**.

8 DATA QUALITY OBJECTIVES

NEPM ASC 2013 provides guidance on the development of data quality objectives (DQO) using a seven-step process. The DQO for this project are set out in **Sections 8.1** to **8.7** of this report. SE note AG (2022) outlined Validation Data Quality Objectives for validation works and as such, SE have adopted DQO for the supplementary detailed site investigation.

8.1 Step 1: State the problem

The first step involves summarising the contamination problem that requires new environmental data and identifying resources available to solve the problem.

The objectives of this project are to:

- Assess the potential for contamination to be present on the site as a result of past and current land use activities;
- Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting; and
- Provide recommendations for further investigation, management and/or remediation (if warranted).

The project is being undertaken because:

- The site is proposed for low-density residential development, comprising removal of existing structures and redevelopment; and
- Asbestos containing materials have been detected within previous contamination assessments and the full extent and condition of the materials is currently unknown;
- A Supplementary Contamination Assessment to address data gaps identified within AG (2022) to further inform remediation strategies.

The project team identified for this project consists of suitably experienced environmental consultants from SE.

The regulatory authorities identified for this project include NSW EPA and City of Canterbury-Bankstown.

8.2 Step 2: Identify the decision/goal of the study

The second step involves identifying decisions that need to be made about the contamination problem and the new environmental data required to make them.

The decisions that need to be made during this project include:

- Is the environmental data collected for the project, suitable for assessing relevant land contamination exposure risks?
- Do the concentrations of identified contaminants of potential concern (COPC) present an unacceptable exposure risk to identified receptors, for the proposed land use setting?
- Is the site suitable for the proposed land use setting, in the context of land contamination?

8.3 Step 3: Identify the information inputs

The third step involves identifying the information needed to support decisions and whether new environmental data will be needed.

The inputs required to make the decisions set out in **Section 8.2** for this project, will include:

- Data obtained during searches of the site's history;
- The nature and extent of sampling at the site, including both density and distribution;
- Samples of relevant site media;
- The measured physical and/or chemical parameters of the site media samples (including field screening and laboratory analysis, where relevant); and

- Assessment criteria adopted for each of the media sampled.

The site adopted criteria is presented in **Section 7** and **Appendix B**.

8.4 Step 4: Define the boundaries of the study

The fourth step involves specifying the spatial and temporal aspects of the environmental media that the data must represent to support decisions.

The spatial extent of the project will be limited to the subject investigation area as defined by its boundaries (refer **Figure 2**).

The temporal boundaries of the project include:

- The project timeframe presented in the SE proposal for this project;
- Unacceptable weather conditions at the time of undertaking fieldwork, including rainfall, cold and/or heat;
- Access availability of the site (to be defined by the site owner/representative); and
- Availability of SE field staff (typically normal daylight working hours, Monday to Friday).

The lateral extent that contamination is expected to be distributed across, based on the conceptual site model, is defined by the inferred boundaries of the areas of environmental concern (AEC).

The vertical extent that contamination is expected to be distributed across, based on the conceptual site model and the project scope, is likely to be limited to shallow soils and fill material within the site.

The scale of the decisions required will be based on the entire site.

Constraints which may affect the carrying out of this project may include access limitations, presence of above and below ground infrastructure, and hazards creating health and safety risks.

8.5 Step 5: Develop the analytical approach (or decision rule)

The fifth step involves defining the parameter of interest, specifying the action level, and integrating information from Steps 1 to 4 into a single statement that gives a logical basis for choosing between alternative actions.

8.5.1 Rinsate Blanks

No rinsate blank samples will be collected as the assessment will be subject to asbestos analysis only.

8.5.2 Trip Spikes and Trip Blank Samples

No trip spike and trip blank samples will be collected as the assessment will be subject to asbestos analysis only.

8.5.3 Field Duplicates and Field Triplicates

No field duplicate and field triplicate samples will be collected as the assessment will be subject to asbestos analysis only.

8.5.4 Laboratory Analysis Quality Assurance / Quality Control

The analytical laboratory QA/QC program will typically include laboratory method blank samples, matrix spike samples, surrogate spike samples, laboratory control samples, and laboratory duplicate samples.

8.5.5 If/Then Decision Rules

SE has adopted the following 'if/then' decision rules for this project:

- If the result of the assessment of field data and laboratory analytical data is considered acceptable, then that field data and laboratory analytical data is suitable for interpretation within the scope of this project; and
- If the field data and laboratory analytical data is within the constraints of the assessment criteria adopted for this project (refer **Section 8.3**), then the contamination exposure risks to identified receptors, are considered acceptable.

In the event the assessment of field data and/or laboratory analytical data results in the data being not suitable for interpretation, then SE will determine if additional data is required to allow interpretation to be undertaken.

In the event that field data and/or laboratory analytical data exceeds the assessment criteria adopted for this project (refer **Section 8.3**), SE will undertake an assessment of the exceedance in the context of the project objectives to determine if additional data is required and whether management and/or remediation is required.

8.6 Step 6: Specify the performance or acceptance criteria

The sixth step involves specifying the decision maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data. When assessing contaminated land, there are generally two types of errors in decision making:

- Contamination exposure risks for a specific land use setting are acceptable, when they are not; and
- Contamination exposure risks for a specific land use setting are not acceptable, when they are.

SE will mitigate the risk of decision error by:

- Assignment of fieldwork tasks to suitably experienced SE consulting staff, and suitably experienced contractors;
- Assignment of laboratory analytical tasks to reputable NATA accredited laboratories; and
- Assignment of data interpretation tasks to suitably experienced SE consulting staff and outsourcing to technical experts where required.

SE will also adopt a range of data quality indicators (DQI) to facilitate assessment of the completeness, comparability, representativeness, precision and accuracy (bias).

Table 8.6.1 Performance and Acceptance Criteria Summary

Completeness			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Critical locations sampled	Refer **Section 8.7.1**	Critical samples analysed according to DQO	Refer **Section 8.7.6**
Critical samples collected	Refer **Section 8.7.1**	Analytes analysed according to DQO	Refer **Section 8.7.6**
SOPs appropriate and complied with	100%	Appropriate laboratory analytical methods and LORs	Refer **Section 8.7.6**
Field documentation complete	All sampling point logs, calibration logs and chain of custody forms	Sample documentation complete	All sample receipt advices, all certificates of analysis
		Sample extraction and holding times complied with	Refer **Section 8.7.7**
Comparability			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Same SOPs used on each occasion	100%	Same analytical methods used by primary laboratory	Refer **Section 8.7.7**
Climatic conditions	Samples stored in insulated containers with ice, immediately after collection	Same LORs at primary laboratory	Refer **Section 8.7.7**
Same types of samples collected, and handled/preserved in same manner	All soil samples same size, all stored in insulated containers with ice	Same laboratory for primary sample analysis	All primary samples to Eurofins | MGT
		Same analytical measurement units	Refer **Section 8.7.7**
Representativeness			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Appropriate media sampled according to DQO	Refer **Section 8.7.6**	Samples analysed according to DQO	Refer **Section 8.7.6**
Media identified in DQO sampled	Refer **Section 8.7.6**		
Precision			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Field duplicate / triplicate RPD	Minimum 5% duplicates and triplicates No limit for analytical results <10 times LOR 50% for analytical results 10-20 times LOR 30% for analytical results >10 times LOR	Laboratory duplicates	No exceedances of laboratory acceptance criteria
SOPs appropriate and complied with	100%		
Accuracy (bias)			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Field trip spikes	Recoveries between 60% and 140%	Matrix spike recovery	No exceedances of laboratory acceptance criteria
Field trip blanks	Analyte concentration <LOR	Surrogate spike recovery	No exceedances of laboratory acceptance criteria

8.7 Step 7: Develop the plan for obtaining data

The seventh step involves identifying the most resource effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

8.7.1 Sampling Point Density and Locations

Table A in NSW EPA *Sampling Design Guidelines* (2022) provides guidance on minimum sampling point densities required for site characterisation, based on detecting circular hot spots by using a systematic sampling pattern. This guidance assumes the investigator has little knowledge about the probable locations of the contamination, the distribution of the contamination is expected to be random (e.g. land fill sites) or the distribution of the contamination is expected to be fairly homogenous (e.g. agricultural lands).

However, Section 3.1 of NSW EPA *Sampling Design Guidelines* (2022) states that a judgemental sampling pattern can be used where there is enough information on the probable locations of contamination. Further to this, Section 6.2.1 of NEPM ASC 2013 states that the number and location or sampling points is based on knowledge of the site and professional judgement. Sampling should be localised to known or potentially contaminated areas identified from knowledge of the site either from site history or an earlier phase of site investigation. Judgemental sampling can be used to investigate sub-surface contamination issues in site assessment.

Table 1 in the *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, May 2009*, Western Australia Department of Health (DOH (2009)) indicates that where the 'likelihood of asbestos' is assessed as "possible" or "suspect", the investigation regimen should include a sampling density that is either judgemental or the same as that set out in Table A of NSW EPA *Sampling Design Guidelines* (2022) for assessing asbestos.

Sampling densities outlined within AG (2020) were amended to meet a double density of areas known to be asbestos-impacted and as such, the following sampling densities were met for each AEC assessed:

- Twenty-three (23) samples will be collected from AEC01 to address an area of 12,800 m^2;
- Fifty-four (54) samples will be collected from AEC02 to address an area of 17,100 m^2;
- Eighty-four (84) samples will be collected from AEC03 to address an area of 31,740 m^2; and
- Six (6) samples will be collected from AEC01a to address an area of 1,000 m^2.

The locations of the sampling points are set out in **Figure 3**.

8.7.2 Sampling Methodology

The sampling point methodology presented in **Table 8.7.1** will be used for this project. The methodology is based on a range of factors considered relevant to this project, including:

- The identified contaminants of potential concern;
- The suspected laydown mechanisms for those contaminants of concern;
- The suspected likely depth of contamination; and
- Site specific constraints which affect the type of sampling techniques suited to the site.

Table 8.7.1 Proposed Sampling Methodology

AEC	Area	Sampling Point ID	Method	Target Depth of Sampling Point (m bgl)
AEC01	Friable / Non-Friable Asbestos impacted Surficial and Fill Soils	'AEC01-TP01' to 'AEC01-TP23'	3.5 t Excavator	1.0 m bgl, practical refusal or 0.3 m into inferred natural material, whichever occurs first.
AEC01a	Heavy Metal impacted Surficial and Fill Soils	'AEC01a-TP01' to 'AEC01a-TP06'	3.5 t Excavator	1.0 m bgl, practical refusal or 0.3 m into inferred natural material, whichever occurs first.
AEC02	Friable Asbestos impacted Fill Soils	'AEC02-TP01' to 'AEC02-TP54'	3.5 t Excavator	1.0 m bgl, practical refusal or 0.3 m into inferred natural material, whichever occurs first.
AEC03	Non-Friable Asbestos impacted Surficial and Fill Soils	'AEC03-TP01' to 'AEC03-TP84'	3.5 t Excavator	1.0 m bgl, practical refusal or 0.3 m into inferred natural material, whichever occurs first.

Reference will also be made to Table 5 in WA DOH (2009) for the sampling and screening of fill soils for the presence of asbestos, where practical. The application of asbestos screening criteria published in NEPM ASC 2013 may be limited.

8.7.3 Identification, Storage and Handling of Samples

Sample identifiers will be used for each sample collected, based on the sampling point number and the depth/interval the sample was collected from, e.g. a sample collected from TP03 at a depth of 0.2m below ground level, would be identified as TP03-0.2.

Project samples will be stored in laboratory prepared glass and plastic containers (and zip lock bags if collected for asbestos or acid sulfate soil assessment).

Soil samples analysed for organic contaminants of concern (and acid sulfate soil samples) will be placed in insulated container/s with ice.

Samples will be transported to the relevant analytical laboratory, with chain of custody (COC) documentation that includes the following information:

- SE project identification number;
- Each sample identifier;
- Date each sample was collected;
- Sample type (e.g. soil or water);
- Container type/s for each sample collected;
- Preservation method used for each sample (e.g. ice);
- Analytical requirements for each sample and turnaround times; and
- Date and time of dispatch and receipt of samples (including signatures).

8.7.4 Decontamination

All sampling equipment used during the soil investigation consisted of location specific nitrile gloves, as such decontamination was deemed unnecessary. To avoid cross contamination via the excavator bucket, samples were collected from the centre of the soil formation, ensuring to avoid sampling materials which had come into contact with the excavator bucket.

Non-disposable equipment (if required) used during the investigation will be decontaminated before and in between sampling events, to mitigate potential for cross contamination between samples collected. The decontamination methodology to be adopted for this project will include:

- Washing relevant sampling equipment using potable water with a phosphate free detergent (i.e. Decon 90 or similar) mixed into water;
- Rinsing the washed non-disposable sampling equipment with distilled or de-ionised water; and
- Air drying as required.

8.7.5 Laboratory Selection

The analytical laboratories used for this project will be National Association of Testing Australia (NATA) accredited for the analysis undertaken.

8.7.6 Laboratory Analytical Schedule

Project samples will be scheduled for NATA accredited laboratory analysis, using a combination of:

- Observations made in the field of the media sampled; and
- The contaminants of potential concern (COPC) identified for the area of environmental concern that the sample was collected from.

8.7.7 Laboratory Holding Times, Analytical Methods and Limits of Reporting

The laboratory holding times, analytical methods and limits of reporting (LOR) being used for this project, are presented in **Table 8.7.2** below.

Table 8.7.2 Laboratory Holding Times (Primary Laboratory - Eurofins)

Analyte	Holding Time	Analytical Method	Limit of Reporting (mg/kg)
Asbestos	No limit	AS4964:2004	0.01 % w/w (qualitative)
Asbestos	No limit	Inhouse Method	0.001% w/w

9 DETAILED SITE INVESTIGATION METHODOLOGY

Soil sampling and analysis were undertaken with reference to the following documents:

- NSW EPA 2022. *Contaminated Sites Sampling Design Guidelines,* NSW Environment Protection Authority.
- NEPM ASC 2013 *'National Environment Protection (Assessment of Site Contamination) Measure. Schedule B (2) Guideline on Data Collection, Sample Design and Reporting.'* National Environmental Protection Council, Adelaide.
- ASC NEPM 2013 *National Environment Protection (Assessment of Site Contamination) Measure 2013 Schedule B (1) Investigation Levels for Soil and Groundwater*.

9.1 Scope of Fieldworks

To clarify and quantify the existence of the potential contaminants, an indicative sampling analysis and quality plan (SAQP) was developed. The site works were performed on 9, 10, 11, 12 and 19 January 2024 in accordance with the SAQP and supervised by SE environmental scientist at all times.

The scope of the investigation was developed based upon the findings of the previous contamination assessments and the SAQP subsequently developed. Based upon this approach the following scope of works was performed:

- Completion of a site-specific Safe Work Method Statement in accordance with SE health and safety policy;
- Collection of a 10 L sample screened for asbestos containing materials greater than 7 mm from each sampling location;
- Completion of one-hundred and thirty-six (136) soil sampling locations within the cleared subject area (via 3.5 tonne excavator);
- Collection of discrete soil samples every 1.0 m recovered or change of strata from the soil test pits; and
- Analysis of one-hundred and thirty-six (136) primary soil samples.

9.2 Laboratory Analysis

All soil samples will be forwarded to a NATA accredited laboratory for analysis of the analytes listed below. Eurofins Laboratory shall be used for the analysis of primary samples.

10 FIELDWORK

10.1 Soil Sampling

Soil sampling was undertaken by SE on 9, 10, 11, 12 & 19 January 2024. A total of one-hundred and thirty-six (136) test pits were advanced across the accessible areas within the AEC01 (TP01, TP04–TP11, TP13–16, TP19-20, TP23), AEC02 (TP01-TP52) and AEC03 (TP02-TP10, TP18-TP24,TP27-30, TP32-34, TP 57-58, TP60-64, TP70-73, TP75-80, TP84) using a 3.5 tonne excavator to a depth of 1.0 m bgs. A grid-based inspection walkover was undertaken during the assessment to determine whether asbestos was present within the uppermost 10 cm of the soil stratigraphy within each AEC.

Samples for potential quantitative asbestos analysis were collected from the near surface, and in areas of observed contamination, varying in depth from 0.1 m to 0.4 m below ground surface level (BGSL) in line with the recommended sampling density outlined within the Western Australia Department of Health, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009).

A 10L bulk soil sample was collected from each test pit. Each 10 L soil sample was screened using a 7 mm aperture sieve. Oversized materials retained in sieve were visually assessed for potential asbestos containing materials (ACM). Potential ACM greater than 7mm was weighed and placed in separate laboratory supplied zip lock bags. A separate additional 500 mL sample was also collected from unaltered soils and placed in separate laboratory supplied zip lock bags.

Samples were collected at each sampling point and placed in laboratory supplied zip lock bags. The bags were labelled with the project number, sample identifier and date the samples were collected on. The location of each sampling point established was marked on a site plan set out in **Figures 3, 4** and **5**.

Upon completion of the sampling, each test pit was backfilled with excavated soils at the completion of the sampling task at each sampling point. Soil test pit logs were maintained in the field by an SE environmental scientist for all exploratory locations. Field observations such as lithology, odours, staining, depth of water etc. were noted on the logs. The logs are presented in **Appendix A**.

At the time of fieldworks, AEC01a was not investigated due to the proximity to sensitive receptors (active onsite childcare facility). AEC01a will require investigation in a future data gap assessment.

Roads and services within the site were to be preserved for accessibility during the demolition process. As such, SE could not access / sample where hardstand or potential services were located.

Each sampling point established was marked on a site plan. The locations of these sampling points are presented in **Figures 3, 4** and **5**.

10.2 Site Geology

Observations were made of soils encountered during sampling field work. These observations were recorded on environmental test pit logs. A copy of these logs is presented in **Appendix A**.

Inferred natural material was encountered within every *in-situ* sampling / investigative location.

Widespread filling was observed across the site ranging from depths of 0.0 – 1.7 m. Soils generally consisted of FILL: 0.0 – 1.7 m BGL – Clayey SAND, coarse grained, medium to dark brown, dry to moist OR CLAY, medium plasticity, grey, dry to moist.

Refusal / bedrock was not encountered at any test pit prior to reaching termination depth between 0.6 m and 1.7 m bgs.

Site Photograph 10.2.1. General soil stratigraphy encountered within AEC02, as observed within 'TP28' on 9 January 2024.

Site Photograph 10.2.2. General soil stratigraphy encountered within AEC02, as observed within 'TP06' on 11 January 2024.

Site Photograph 10.2.3. General soil stratigraphy encountered within AEC03, as observed within 'TP06' on 11 January 2024.

10.3 Odours

Olfactory evidence of contamination was not observed across the site or within any soil materials encountered during the investigation.

10.4 Staining

Visual evidence of staining was not observed across the site or within any of the soil samples collected.

10.5 Potential Asbestos Containing Materials

A Hazardous Building Material Survey was undertaken prior to this assessment and as such, potential asbestos containing materials within building structures on-site have been identified and outlined.

Visual evidence of potential asbestos containing materials (PACM) in the form of fibre cement fragments were observed within test pits advanced across all three (3) areas of environmental concern accessible and assessed as part of this assessment. PACM was limited to the soils within the 0.0 – 0.6 m below ground level. A summary of sampling locations where PACM was observed is presented in **Table 10.5.1**.

Table 10.5.1 Locations of observed PACM

Areas of Environmental Concern	Sampling Location
AEC01	TP17
AEC02	TP01, TP06, TP11, TP19, TP20, TP22, TP27, TP35, TP38, TP39, TP47, TP48
AEC03	TP19, TP28, TP42, TP57, TP68, TP70, TP72

11 LABORATORY ANALYSIS

All samples collected were transported to the analytical laboratory, using chain of custody (COC) protocols. A selection of these samples was scheduled for analysis, with reference to the relevant COPC identified for the AEC that the samples were collected from.

All soil samples were forwarded to the NATA accredited laboratory for analysis of the analytes listed below. Eurofins Environment were used for the analysis of primary samples.

Table 10.5.1 details the analysis undertaken for samples collected during the investigation.

Table 10.5.1 Laboratory Analytical Schedule

Sample ID	Analytical Suite	
	Asbestos Bulk ID	Asbestos WA DOH (0.001%)
AEC01 TP17-0.2-0.3, TP18-0.2-0.3, TP21-0.2-0.3, TP22-0.2-0.3 (*collected 11/01/2024*) TP01-0.2-0.3, TP04-0.2-0.3, TP05-0.2-0.3, TP06-0.2-0.3, TP07-0.2-0.3, TP08-0.2-0.3, TP09-0.2-0.3, TP10-0.2-0.3, TP11-0.2-0.3, TP13-0.2-0.3, TP14-0.2-0.3, TP15-0.2-0.3, TP16-0.2-0.3, TP19-0.2-0.3, TP20-0.2-0.3, TP23-0.2-0.3 *(collected 19/01/2024)*		X
AEC02 TP01-0.2-0.3, TP02-0.2-0.3, TP03-0.2-0.3, TP04-0.2-0.3, TP05-0.2-0.3, TP06-0.2-0.3, TP07-0.2-0.3, TP08-0.2-0.3, TP09-0.2-0.3, TP10-0.2-0.3, TP11-0.2-0.3, TP12-0.2-0.3 *(collected 11/01/2024)* TP13-0.2-0.3, TP14-0.2-0.3, TP15-0.2-0.3, TP16-0.2-0.3, TP17-0.2-0.3, TP18-0.2-0.3, TP19-0.2-0.3, TP20-0.2-0.3, TP21-0.2-0.3, TP22-0.2-0.3, TP23-0.2-0.3, TP24-0.2-0.3, TP25-0.2-0.3, TP26-0.2-0.3, TP27-0.2-0.3, TP28-0.2-0.3, TP29-0.2-0.3, TP30-0.2-0.3, TP31-0.2-0.3, TP32-0.2-0.3, TP33-0.2-0.3, TP34-0.2-0.3, TP35-0.2-0.3, TP36-0.2-0.3, TP37-0.2-0.3, TP38-0.2-0.3, TP39-0.2-0.3, TP40-0.2-0.3, TP41-0.2-0.3, TP42-0.2-0.3, TP43-0.2-0.3, TP44-0.2-0.3, TP45-0.2-0.3, TP46-0.2-0.3, TP47-0.2-0.3, TP48-0.2-0.3, TP49-0.2-0.3, TP50-0.2-0.3, TP51-0.2-0.3, TP52-0.2-0.3 *(collected 12/01/2024)*		X
AEC03 TP02-0.2-0.3, TP03-0.2-0.3, TP04-0.2-0.3, TP05-0.2-0.3, TP06-0.2-0.3, TP07-0.2-0.3, TP08-0.2-0.3, TP09-0.2-0.3, TP10-0.2-0.3, TP12-0.2-0.3, TP18-0.2-0.3, TP19-0.2-0.3, TP20-0.2-0.3, TP21-0.2-0.3, TP22-0.2-0.3, TP23-0.2-0.3, TP24-0.2-0.3, TP27-0.2-0.3, TP28-0.2-0.3 (*collected 9/01/2024)* TP29-0.2-0.3, TP30-0.2-0.3, TP32-0.2-0.3, TP33-0.2-0.3, TP34-0.2-0.3, TP35-0.2-0.3, TP39-0.2-0.3, TP40-0.2-0.3, TP41-0.2-0.3, TP42-0.2-0.3, TP43-0.2-0.3, TP44-0.2-0.3, TP57-0.2-0.3, TP58-0.2-0.3, TP60-0.2-0.3, TP61-0.2-0.3, TP62-0.2-0.3, TP63-0.2-0.3, TP64-0.2-0.3, TP66-0.2-0.3, TP67-0.2-0.3, TP68-0.2-0.3, TP70-0.2-0.3, TP71-0.2-0.3, TP72-0.2-0.3, TP73-0.2-0.3, TP75-0.2-0.3 (*collected 10/01/2024*) TP76-0.2-0.3, TP77-0.2-0.3, TP78-0.2-0.3, TP79-0.2-0.3, TP80-0.2-0.3, TP84-0.2-0.3 (*collected 11/01/2024*)		X
AEC02-TP35-FC	X	

A copy of the analytical laboratory certificates of analysis, is presented in **Appendix C.**

The sample analytical results were tabulated and presented in the attached **Results Tables**.

12 DATA QUALITY INDICATOR ASSESSMENT

12.1 Completeness

An assessment of the completeness of data collected was undertaken, and the results presented in **Table 12.1.1**.

Table 12.1.1 Completeness DQI

Field Considerations	Target	Actual	Comment
Critical locations sampled	167	132	Test pits omitted during fieldworks due to the presence of buried service alignment and existing hardstand barriers. AEC01a not assessed due to presence of a childcare centre. Performance against indicator considered acceptable.
Critical samples collected	167	132	Performance against indicator considered acceptable.
SOPs appropriate and complied with	100%	100%	Performance against indicator considered acceptable.
Field documentation complete	All sampling point logs, calibration logs and chain of custody forms	All sampling point logs, calibration logs and chain of custody forms	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Critical samples analysed according to DQO	Refer **Section 8.7.6**	100%	Performance against indicator considered acceptable.
Analytes analysed according to DQO	Refer **Section 8.7.6**	100%	Performance against indicator considered acceptable.
Appropriate laboratory analytical methods and LORs	Refer **Section 8.7.7**	100%	Performance against indicator considered acceptable.
Sample documentation complete	All sample receipt advices, all certificates of analysis	100%	Performance against indicator considered acceptable.
Sample extraction and holding times complied with	Refer **Section 8.7.7**	100%	Performance against indicator considered acceptable.

The data collected is considered to be adequately complete within the objectives and constraints of the project.

12.2 Comparability

An assessment of the comparability of data collected was undertaken, and the results presented in **Table 12.2.1**

Table 12.2.1 Comparability DQI

Field Considerations	Target	Actual	Comment
Same SOPs used on each occasion	100%	100%	Performance against indicator considered acceptable.
Climatic conditions	Samples stored in insulated containers with ice, immediately after collection	100%	Performance against indicator considered acceptable.
Same types of samples collected, and handled/preserved in same manner	All soil samples same size, all stored in insulated containers with ice	100%	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Same analytical methods used by primary laboratory	Refer **Section 8.7.7**	100%	Performance against indicator considered acceptable.
Same LORs at primary laboratory	Refer **Section 8.7.7**	100%	Performance against indicator considered acceptable.
Same laboratory for primary sample analysis	All primary samples to Eurofins MGT	100%	Performance against indicator considered acceptable.
Same analytical measurement units	Refer **Section 8.7.7**	100%	Performance against indicator considered acceptable.

The data collected is considered to be adequately comparable within the objectives and constraints of the project.

12.3 Representativeness

An assessment of the representativeness of data collected was undertaken, and the results presented in **Table 12.3.1.**

Table 12.3.1 Representativeness DQI

Field Considerations	Target	Actual	Comment
Appropriate media sampled according to DQO	Refer **Section 8.7.2**	100%	Performance against indicator considered acceptable.
Media identified in DQO sampled	Refer **Section 8.7.2**	100%	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Samples analysed according to DQO	Refer **Section 8.7.6**	Refer comments	Performance against indicator considered acceptable.

The data collected is considered to be adequately complete within the objectives and constraints of the project.

12.4 Precision

An assessment of the precision of data collected was undertaken, and the results presented in **Table 12.4.1.**

Table 12.4.1 Precision DQI

Field Considerations	Target	Actual	Comment
Field duplicate / triplicate RPD	Minimum 5% duplicates and triplicates	N/A	No field duplicates / triplicates collected as samples were submitted for quantitative asbestos analysis.
	No limit for analytical results <10 times LOR	N/A	
	50% for analytical results 10-20 times LOR	N/A	
	30% for analytical results >20 times LOR	N/A	
SOPs appropriate and complied with	100%	100%	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Laboratory duplicates	No exceedances of laboratory acceptance criteria	Nil	Performance against indicator considered acceptable.

The data collected is considered to be adequately precise within the objectives and constraints of the project.

12.5 Accuracy

An assessment of the precision of data collected was undertaken, and the results presented in **Table 12.5.1.**

Table 12.5.1 Accuracy DQI

Field Considerations	Target	Actual	Comment
Field trip blanks	Analyte concentration <LOR	Nil	No field blanks submitted as samples were not submitted for TRH/BTEXN analytes.
Field trip spike	Recoveries between 60% and 140%	Nil	No field spikes submitted as samples were not submitted for TRH/BTEXN analytes.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Laboratory method blank	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.
Matrix spike recovery	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.
Surrogate spike recovery	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.
Laboratory control sample recovery	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.

The data collected is considered to be adequately accurate within the objectives and constraints of the project.

13 DISCUSSION

A discussion on comparison of laboratory analytical results and field observations, in the context of the assessment criteria adopted for this project, is presented in **Sections 13.1** to **13.1.2**.

13.1 AEC01

13.1.1 Human Health (Residential A) – Asbestos

Asbestos Fines and Friable Asbestos
Friable Asbestos (FA) / Asbestos Fines (AF was detected in samples 'AEC01-TP05-0.2-0.3' (0.00022%) and AEC01-TP17-0.2-0.3' (0.00032%), however, AF / FA was not detected in soil samples above the laboratory limit of reporting or adopted health screening level (0.001 % w/w). However, friable asbestos was detected within previous sampling locations 'BH39' (0.043 % w/w, AG 2020), 'EBH1', 'EBH2', 'EBH3', 'EBH5' (Coffey 2011) and 'SS10' (0.02 % w/w, JBS&G 2018). The concentrations of AF detected within Coffey (2011) were not provided to SE at the time of the assessment and as such, the conservative assumption that the concentrations were above the adopted site criteria (0.001 % w/w) has been adopted.

Non-Friable Asbestos
Non-Friable Asbestos was not detected in the soil samples above the laboratory limit of reporting or adopted health screening level (0.01 % w/w) with the exception of sample 'AEC01-TP23-0.2-0.3' (0.058%).

Non-friable asbestos containing materials (ACM) were observed within shallow fill soils within the investigation areas. Following a review of the site history, SE attributes ACM contamination across the site to be the legacy of historic uncontrolled filling. Chrysotile and crocidolite asbestos was detected within the one (1) representative fibre cement sample collected and submitted to the laboratory for analysis ('AEC02-TP35-FC') which is considered to be representative of the fragments identified within 'AEC01-TP23-0.2-0.3'.

The gravimetric approach set out in Section 4.10 of NEPM (2013) was used to quantify the concentrations of non-friable asbestos containing materials in soil. To calculate the weight (%w/w of asbestos in soil), SE assumed 15% asbestos by weight in cement bonded asbestos fragments, and an assumed soil density of 1.65kg/L. These assumed values are considered to be adequately conservative within the context of this project. The sample size was 10 L, based on guidance in Section 4.10 of NEPM (2013). The estimation formula in Section 4.10 of NEPM (2013) is:

$$\%\ w/w\ asbestos\ in\ soil = \frac{\%\ asbestos\ content \times Non\text{-}friable\ ACM\ (kg)}{soil\ volume\ (L) \times soil\ density\ (kg/L)}$$

Presumed asbestos fibre cement fragments were observed within the following sample locations. The results of the calculations performed using this formula, are presented in **Table 13.1.1** below.

Table 13.1.1 Results of gravimetric estimation of non-friable asbestos contamination in soil.

Sample ID	Weight of non-friable ACM (g)	% w/w asbestos in soil	Health Screening Level (0.01% w/w)
AEC01-TP17-0.2-0.3	25	0.03	Unacceptable

13.1.2 Asbestos Contamination Extent within AEC01

The extents of the friable asbestos contamination within AEC01 covers an area of approximately 3,315 m^2 to an approximate depth of 0.5 m bgsl. SE note that during remediation works at the site, visual observations and results of validation sampling may indicate the presence of asbestos which may increase the extent of the AEC, however, are of the opinion that the extents outlined within **Figure 6** are representative of the extents expected on-site.

13.1.3 Aesthetics

There was no evidence of waste storage or aesthetic risk observed during fieldworks. Based on the presence of AF/FA within surficial soils at former sampling location 'SS10' (JBS&G 2018), further aesthetics management is warranted.

13.2 AEC02

13.2.1 Human Health (Residential A) – Asbestos

Asbestos Fines and Friable Asbestos

Friable Asbestos (FA) / Asbestos Fines (AF was detected in sample 'AEC02-TP11-0.2-0.3' (0.00023%), however, AF / FA was not detected in soil samples above the laboratory limit of reporting or adopted health screening level (0.001 % w/w). However, friable asbestos was detected within previous sampling locations 'BH21' (< 0.001 % w/w, AG 2020) and 'EBH24', 'EBH25' (Coffey 2011).

Non-Friable Asbestos

Non-Friable Asbestos was not detected in the soil samples above the laboratory limit of reporting or adopted health screening level (0.01 % w/w).

Non-friable asbestos containing materials (ACM) were observed within shallow fill soils within the investigation areas. Following a review of the site history, SE attributes ACM contamination across the site to be the legacy of historic uncontrolled filling. Chrysotile and crocidolite asbestos was detected within the one (1) representative fibre cement sample collected and submitted to the laboratory for analysis ('AEC02-TP35-FC').

The gravimetric approach set out in Section 4.10 of NEPM (2013) was used to quantify the concentrations of non-friable asbestos containing materials in soil. To calculate the weight (%w/w of asbestos in soil), SE assumed 15% asbestos by weight in cement bonded asbestos fragments, and an assumed soil density of 1.65kg/L. These assumed values are considered to be adequately conservative within the context of this project. The sample size was 10 L, based on guidance in Section 4.10 of NEPM (2013). The estimation formula in Section 4.10 of NEPM (2013) is:

$$\%\ w/w\ asbestos\ in\ soil = \frac{\%\ asbestos\ content \times Non\text{-}friable\ ACM\ (kg)}{soil\ volume\ (L) \times soil\ density\ (kg/L)}$$

Presumed asbestos fibre cement fragments were observed within the following sample locations. The results of the calculations performed using this formula, are presented in **Table 13.2.1** below.

Table 13.2.1 Results of gravimetric estimation of non-friable asbestos contamination in soil.

Sample ID	Weight of non-friable ACM (g)	% w/w asbestos in soil	Health Screening Level (0.01% w/w)
AEC02-TP01-0.2-0.3	130	**0.15**	**Unacceptable**
AEC02-TP06-0.2-0.3	4	0.004	Acceptable
AEC02-TP11-0.2-0.3	321	**0.37**	**Unacceptable**
AEC02-TP19-0.2-0.3	6	**0.01**	**Unacceptable**
AEC02-TP20-0.2-0.3	28	**0.03**	**Unacceptable**
AEC02-TP22-0.2-0.3	3	0.003	Acceptable
AEC02-TP27-0.2-0.3	27	**0.03**	**Unacceptable**
AEC02-TP35-0.2-0.3	3	0.003	Acceptable
AEC02-TP38-0.2-0.3	10	**0.01**	**Unacceptable**
AEC02-TP39-0.2-0.3	16	**0.02**	**Unacceptable**
AEC02-TP47-0.2-0.3	276	**0.30**	**Unacceptable**
AEC02-TP48-0.2-0.3	18	**0.02**	**Unacceptable**

13.2.2 Asbestos Contamination Extent within AEC02

The extents of the AF/FA asbestos contamination within AEC02 covers an area of approximately 200 m^2 to an approximate depth of 0.5 m bgsl within the vicinity of 'EBH25' (Coffey 2011) and 1.2 m bgsl within the vicinity of 'EBH24' (Coffey 2011). The extents of non-friable asbestos contamination within AEC02 covers an area of approximately 10,425 m^2 and extends to an approximate depth of 0.5m bgsl. SE note that during remediation works at the site, visual observations and results of validation sampling may indicate the presence of asbestos which may increase the extent of the AEC, however, are of the opinion that the extents outlined within **Figure 7** are representative of the extents expected on-site.

13.2.3 Aesthetics

There was no evidence of waste storage or aesthetic risk observed during fieldworks. Based on the presence of asbestos containing materials within surficial soil materials 'TP09' and 'TP/BH101' (AG 2020), further aesthetics management is warranted.

13.3 AEC03

13.3.1 Human Health (Residential A) – Asbestos

Asbestos Fines and Friable Asbestos
Friable Asbestos (FA) / Asbestos Fines (AF) was not detected within any soil samples within AEC03.

Non-Friable Asbestos
Non-Friable Asbestos was not detected in the soil samples above the laboratory limit of reporting or adopted health screening level (0.01 % w/w).

Non-friable asbestos containing materials (ACM) were observed within shallow fill soils within the investigation areas. Following a review of the site history, SE attributes ACM contamination across the site to be the legacy of historic uncontrolled filling. Chrysotile and crocidolite asbestos was detected within the one (1) representative fibre cement sample collected and submitted to the laboratory for analysis ('AEC02-TP35-FC') which is considered to be representative of the fragments identified during this assessment.

The concentrations of ACM detected within AG (2020) were not provided to SE at the time of the assessment and as such, the conservative assumption that the concentrations were above the adopted site criteria (0.01 % w/w) has been adopted.

The gravimetric approach set out in Section 4.10 of NEPM (2013) was used to quantify the concentrations of non-friable asbestos containing materials in soil. To calculate the weight (%w/w of asbestos in soil), SE assumed 15% asbestos by weight in cement bonded asbestos fragments, and an assumed soil density of 1.65kg/L. These assumed values are considered to be adequately conservative within the context of this project. The sample size was 10 L, based on guidance in Section 4.10 of NEPM (2013). The estimation formula in Section 4.10 of NEPM (2013) is:

$$\%\ w/w\ asbestos\ in\ soil = \frac{\%\ asbestos\ content \times Non\text{-}friable\ ACM\ (kg)}{soil\ volume\ (L) \times soil\ density\ (kg/L)}$$

Presumed asbestos fibre cement fragments were observed within the following sample locations. The results of the calculations performed using this formula, are presented in **Table 13.3.1** below.

Table 13.3.1 Results of gravimetric estimation of non-friable asbestos contamination in soil.

Sample ID	Weight of non-friable ACM (g)	% w/w asbestos in soil	Health Screening Level (0.01% w/w)
AEC03-TP19-0.2-0.3	66	**0.08**	**Unacceptable**
AEC03-TP28-0.2-0.3	209	**0.19**	**Unacceptable**
AEC03-TP42-0.2-0.3	5	**0.01**	**Unacceptable**
AEC03-TP57-0.2-0.3	51	**0.05**	**Unacceptable**
AEC03-TP68-0.2-0.3	310	**0.34**	**Unacceptable**
AEC03-TP70-0.2-0.3	152	**0.16**	**Unacceptable**
AEC03-TP72-0.2-0.3	2	0.002	Acceptable

13.3.2 Asbestos Contamination Extent within AEC03

The extent of non-friable asbestos contamination within AEC03 covers an area of approximately 1,185 m^2 to a depth of approximately 0.5 m bgsl. SE note that during remediation works at the site, visual observations and results of validation sampling may indicate the presence of asbestos which may increase the extent of the AEC, however, are of the opinion that the extents outlined within **Figure 8** are representative of the extents expected on-site.

13.3.3 Aesthetics

There was no evidence of waste storage or aesthetic risk observed during fieldworks. Based on the presence of asbestos containing materials within surficial soil materials 'BH59' (AG 2020), further aesthetics management is warranted.

14 REVISED CONCEPTUAL SITE MODEL

14.1 Areas of Environmental Concern

Following a review of site history and subsequent intrusive field analysis, the extent of previously identified areas of environmental concern (AEC) and contaminants of potential concern (COPC) have been identified. The AECs identified and associated COPC are presented in **Table 14.1.1** and **Figures 4, 5 & 6.**

Table 14.1.1 Revised AEC and COPC following assessment

ID	Area of Environmental Concern	Source	Contaminants of Concern	Affected mediums	Exposure risk	Remedial Volumes
AEC01	Friable Asbestos Impacted Fill Soils	Uncontrolled Filling	Friable Asbestos	Soil	Human Health & Aesthetics	3,315 m^2 x 0.5 m bgsl 1,658 m^3 / 2,985 tonnes
AEC01a	Lead, Cadmium and Zinc Impacted Fill Soils	Uncontrolled Filling	Lead, Cadmium and Zinc	Soil	Human Health and Ecological Health	TBC[a]
AEC02	Friable Asbestos Impacted Fill Soils	Uncontrolled Filling	Friable Asbestos	Soil	Human Health & Aesthetics	100 m^2 x 0.5 m bgsl (EBH24, Coffey 2011) 100 m^2 x 1.2 m bgsl (EBH25, Coffey 2011) 170 m^3 / 306 tonnes
	Non-Friable Asbestos Impacted Fill Soils	Uncontrolled Filling	Non-Friable Asbestos	Soil	Human Health & Aesthetics	10,425 m^2 x 0.5 m bgsl 5,212.5 m^3 / 9,382.5 tonnes
AEC03	Non-Friable Asbestos Impacted Fill Soils	Uncontrolled Filling	Asbestos	Soil	Human Health & Aesthetics	1,815 m^2 x 0.5 m bgsl 910 m^3 / 1,645 tonnes

Notes to Table: Tonnage calculated using a bulking factor of 1.8 tonnes/m^3, A – AEC not assessed as part of this assessment due to the presence of adjacent sensitive receptors. AEC01a will require further assessment in an additional data gap assessment.

The potential contamination pathways are considered to be as follows:

- Inhalation/ingestion of contaminants released in dust during future development by site workers; and
- Inhalation of contaminants during future use by site occupiers.

Relevant potential receptors are considered to include:

- Onsite construction and maintenance workers;
- Third parties during construction (adjacent site users and adjacent residents);
- Future residents/end users; and
- Neighbouring residential land users.

15 CONCLUSIONS AND RECOMMENDATIONS

Based on SE's assessment of the desktop review information, fieldwork data and laboratory analytical data, in the context of the proposed redevelopment scenario, SE makes the following conclusions:

- AEC01a was not accessible at the time of this data gap assessment and requires assessment within a future assessment prior to the start of remediation works;
- Friable Asbestos Containing Materials (ACM) were identified within AEC01 during this assessment and previous contamination assessments undertaken;
- Friable and Non-Friable Asbestos Containing Materials (ACM) were identified within AEC02 during this assessment and previous contamination assessments undertaken;
- Non-Friable Asbestos Containing Materials (ACM) were identified within AEC03 during this assessment and previous contamination assessments undertaken;
- Surficial asbestos identified within all three (3) AECs assessed currently present an unacceptable aesthetics risk and require further management/remediation;
- Based on the assessments undertaken as part of this investigation, SE has concluded that the site has friable and non-friable asbestos impacted soil materials requiring remediation and further management; and
- An addendum to the existing Remedial Action Plan (AG 2022) is required to outline the remediation methodologies required to remediate the newly identified extents of contamination identified.

Based on the conclusions stated above and the background data gathered during the course of this investigation, SE recommends:

- An addendum to the existing Remedial Action Plan prepared by AG (2022) is required to outline the remediation methodologies required to remediate the newly identified extents of asbestos contamination identified.
- Following removal of hazardous building materials (if identified) and subsequent demolition of the onsite structures, a clearance inspection should be carried out by an appropriately qualified occupational hygienist / NSW LAA;
- A supplementary contamination assessment is required within AEC01a prior to the start of remedial works at the site;
- Additional contamination assessments are required to be undertaken per the site RAP (AG 2022) prior to the start of remediation works at the site; and
- A waste classification assessment should be carried out on any soil materials proposed for disposal off-site as per the NSW EPA Waste Classification Guidelines (2014).

This report, including its conclusions and recommendations, must be read in conjunction with the limitations presented in **Section 16.**

16 STATEMENT OF LIMITATIONS

The findings presented in this report are based on specific searches of relevant, government historical databases and anecdotal information that were made available during the course of this investigation. To the best of our knowledge, these observations represent a reasonable interpretation of the general condition of the site at the time of report completion.

This report has been prepared solely for the use of the client to whom it is addressed, and no other party is entitled to rely on its findings.

No warranties are made as to the information provided in this report. All conclusions and recommendations made in this report are of the professional opinions of personnel involved with the project and while normal checking of the accuracy of data has been conducted, any circumstances outside the scope of this report or which are not made known to personnel and which may impact on those opinions is not the responsibility of Sydney Environmental Group Pty Ltd. Should information become available regarding conditions at the site including previously unknown sources of contamination, SE reserves the right to review the report in the context of the additional information.

This report must be reviewed in its entirety and in conjunction with the objectives, scope and terms applicable to SE's engagement. The report must not be used for any purpose other than the purpose specified at the time SE was engaged to prepare the report.

Logs, figures, and drawings are generated for this report based on individual SE consultant interpretations of nominated data, as well as observations made at the time site walkover/s were completed.

Data and/or information presented in this report must not be redrawn for its inclusion in other reports, plans or documents, nor should that data and/or information be separated from this report in any way.

Should additional information that may impact on the findings of this report be encountered or site conditions change, SE reserves the right to review and amend this report.

17 REFERENCES

Coffey (Coffey 2011), 'Phase 2 Environmental Site Assessment – Student Residence Development University of Western Sydney, Bankstown Campus', dated 25 August 2011, Ref: GEOTLCOV24163AG-AB;

Noel Arnolds and Associates (NAA 2011), 'Soil Contamination Investigation, University of Western Sydney – Bankstown Campus Bullecourt Avenue, Milperra NSW', dated October 2011, Ref: SJ0085:95458;

Environmental Investigation Services (EIS 2016), 'Preliminary Contamination Screening and Waste Classification, Proposed Oval Facilities, UWS Bankstown Campus, 2 Bullecourt Avenue, Milperra' dated 7 April 2016, no report ref provided;

JBS&G (JBS&G 2018), 'Phase 1 Environmental Assessment Report, Bullecourt Avenue, Milperra NSW', dated 30 January 2020, Ref: 9996-ER-1-1;

Alliance Geotechnical (AG 2020), 'Detailed Site Investigation, Western Sydney University – Milperra Campus, Bullecourt Avenue, Milperra NSW', dated 30 January 2020, Ref: 9996-ER-1-1; and

Alliance Geotechnical (AG 2022), 'Remedial Action Plan, Western Sydney University – Milperra Campus, Bullecourt Avenue, Milperra NSW', dated 30 January 2020, Ref: 9996-ER-2-1

NEPM ASC 2013, '*National Environmental Protection (Assessment of Site Contamination) Measure'*.

NSW EPA 2017, '*Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (3rd edition)'.*

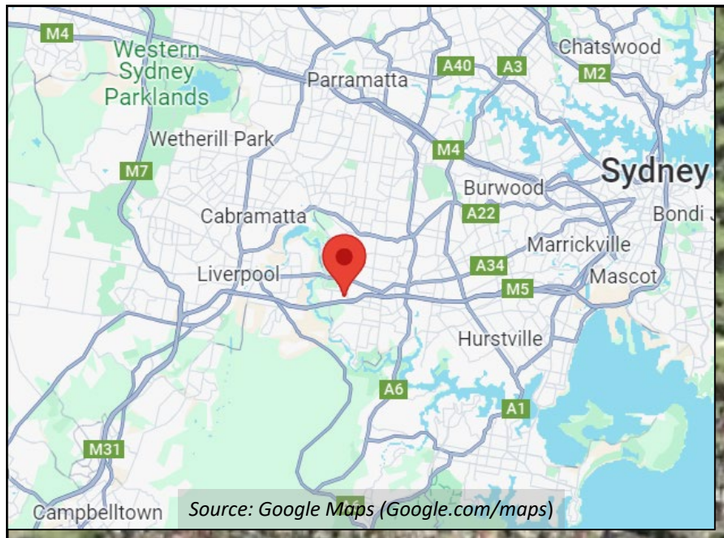
NSW EPA 2012, *'Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases'*

NSW EPA 2020, '*Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites'*.

NSW EPA 2022, '*Contaminated Sites: Sampling Design Guidelines'.*

WA DOH 2009, '*Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia'* dated May 2009.

FIGURES



Source: Google Maps (Google.com/maps)

Site

Subject Site
Western Sydney University - Milperra Campus, Milperra NSW

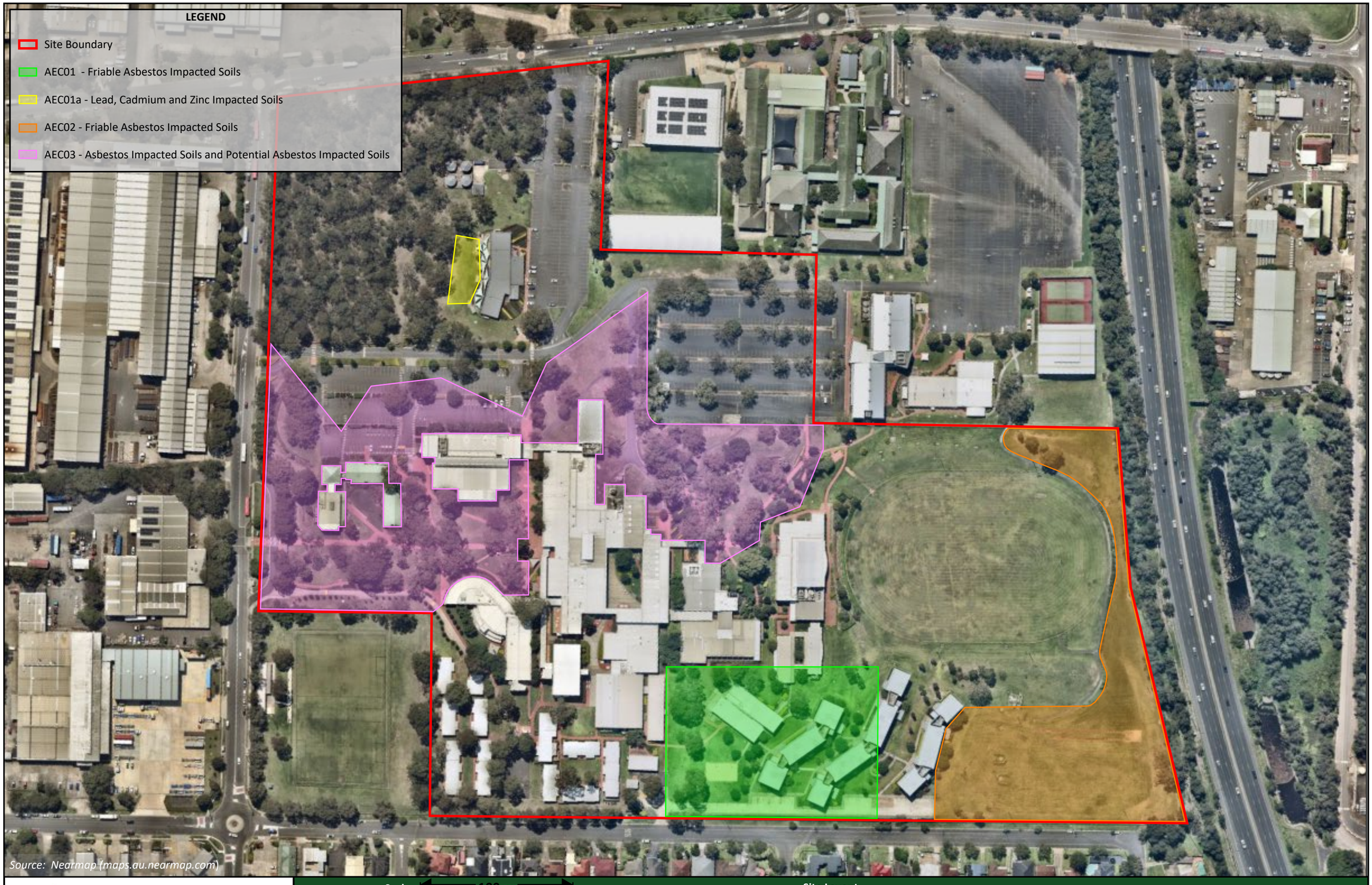
Source: Nearmap (maps.au.nearmap.com)

Sydney Environmental Group

Site Locality

Client Name:	**Mirvac Pty Ltd**	**Figure Number:**	**1**
Project Name:	**Supplementary Detailed Site Investigation**	**Figure Date:**	**22 February 2024**
Project Location:	**Western Sydney University – Milperra Campus, Milperra NSW**	**Report Number:**	**2300-DSI-01-220224.v1d**

N



Sydney Environmental Group	Scale:	100 m	Site Layout	
	Client Name:	Mirvac Pty Ltd	Figure Number:	2
	Project Name:	Supplementary Detailed Site Investigation	Figure Date:	22 February 2024
	Project Location:	Western Sydney University – Milperra Campus, Milperra NSW	Report Number:	2300-DSI-01-220224.v1d

Source: Nearmap (maps.au.nearmap.com)

Scale:	25 m	Sampling Plan - AEC01		
Client Name:	Mirvac Pty Ltd		Figure Number:	3
Project Name:	Supplementary Detailed Site Investigation		Figure Date:	22 February 2024
Project Location:	Western Sydney University – Milperra Campus, Milperra NSW		Report Number:	2300-DSI-01-220224.v1d

Sydney Environmental Group

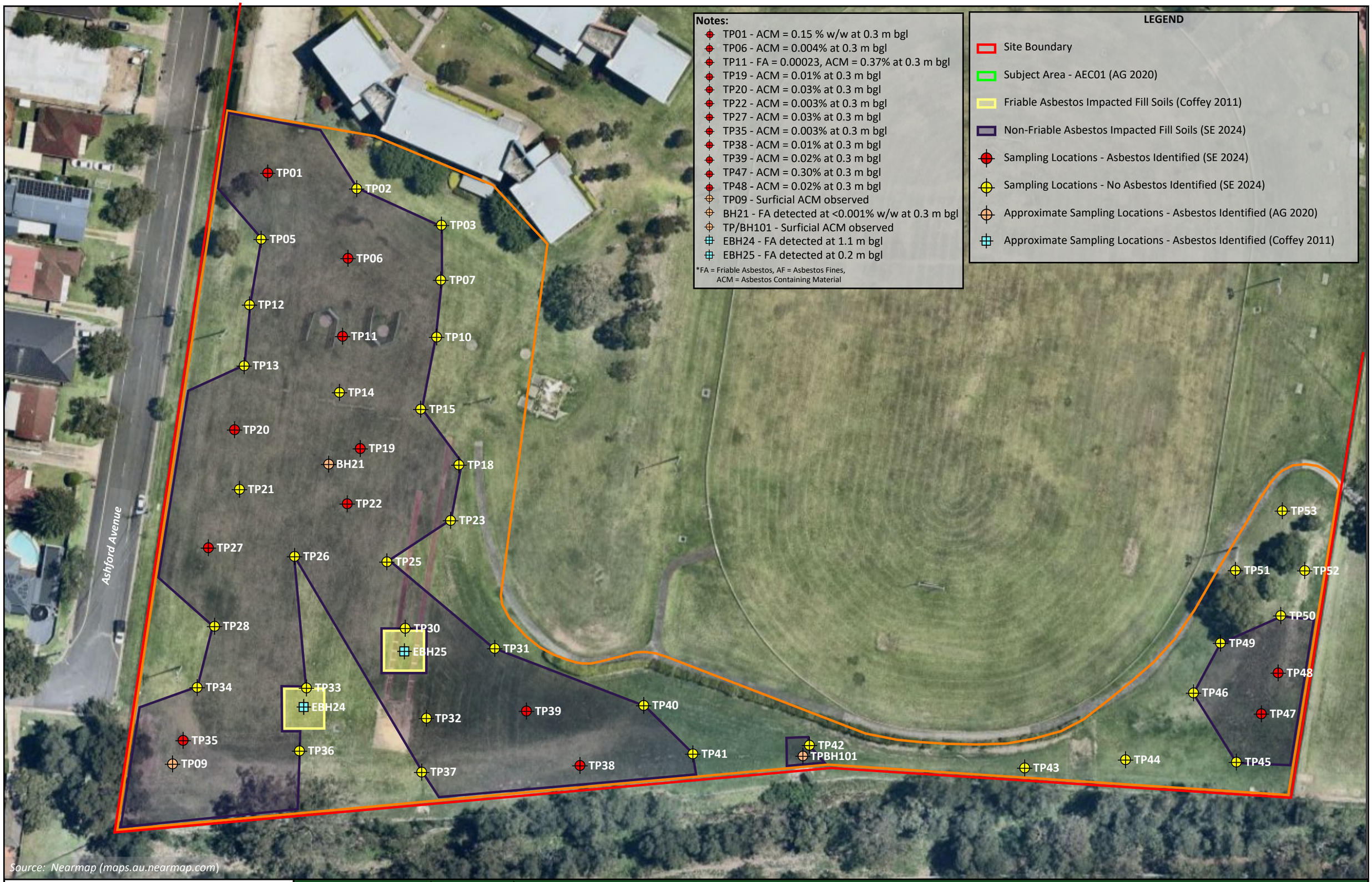
Scale:	25 m	Sampling Plan - AEC02	
Client Name:	Mirvac Pty Ltd	N	Figure Number: 4
Project Name:	Supplementary Detailed Site Investigation		Figure Date: 22 February 2024
Project Location:	Western Sydney University – Milperra Campus, Milperra NSW		Report Number: 2300-DSI-01-220224.v1d

Sydney Environmental Group

Sydney Environmental Group	Scale: 50 m	Sampling Plan - AEC03	
	Client Name:	Mirvac Pty Ltd	Figure Number: 5
	Project Name:	Supplementary Detailed Site Investigation	Figure Date: 22 February 2024
	Project Location:	Western Sydney University – Milperra Campus, Milperra NSW	Report Number: 2300-DSI-01-220224.v1d

Scale:	25 m	Asbestos Extent within AEC01	
Client Name:	Mirvac Pty Ltd	Figure Number:	6
Project Name:	Supplementary Detailed Site Investigation	Figure Date:	22 February 2024
Project Location:	Western Sydney University – Milperra Campus, Milperra NSW	Report Number:	2300-DSI-01-220224.v1d

Sydney Environmental Group



Notes:

- TP01 - ACM = 0.15 % w/w at 0.3 m bgl
- TP06 - ACM = 0.004% at 0.3 m bgl
- TP11 - FA = 0.00023, ACM = 0.37% at 0.3 m bgl
- TP19 - ACM = 0.01% at 0.3 m bgl
- TP20 - ACM = 0.03% at 0.3 m bgl
- TP22 - ACM = 0.003% at 0.3 m bgl
- TP27 - ACM = 0.03% at 0.3 m bgl
- TP35 - ACM = 0.003% at 0.3 m bgl
- TP38 - ACM = 0.01% at 0.3 m bgl
- TP39 - ACM = 0.02% at 0.3 m bgl
- TP47 - ACM = 0.30% at 0.3 m bgl
- TP48 - ACM = 0.02% at 0.3 m bgl
- TP09 - Surficial ACM observed
- BH21 - FA detected at <0.001% w/w at 0.3 m bgl
- TP/BH101 - Surficial ACM observed
- EBH24 - FA detected at 1.1 m bgl
- EBH25 - FA detected at 0.2 m bgl

*FA = Friable Asbestos, AF = Asbestos Fines, ACM = Asbestos Containing Material

LEGEND

- Site Boundary
- Subject Area - AEC01 (AG 2020)
- Friable Asbestos Impacted Fill Soils (Coffey 2011)
- Non-Friable Asbestos Impacted Fill Soils (SE 2024)
- Sampling Locations - Asbestos Identified (SE 2024)
- Sampling Locations - No Asbestos Identified (SE 2024)
- Approximate Sampling Locations - Asbestos Identified (AG 2020)
- Approximate Sampling Locations - Asbestos Identified (Coffey 2011)

Source: Nearmap (maps.au.nearmap.com)

Sydney Environmental Group

Scale:	25 m	Asbestos Extent within AEC02	
Client Name:	Mirvac Pty Ltd	Figure Number:	7
Project Name:	Supplementary Detailed Site Investigation	Figure Date:	22 February 2024
Project Location:	Western Sydney University – Milperra Campus, Milperra NSW	Report Number:	2300-DSI-01-220224.v1d

N

Notes:

- TP19 - ACM = 0.085 % w/w at 0.3 m bgl
- TP28 - ACM = 0.191 % w/w at 0.3 m bgl
- TP42 - ACM = 0.006 % w/w at 0.3 m bgl
- TP57 - ACM = 0.053 % w/w at 0.3 m bgl
- TP68 - ACM = 0.344 % w/w at 0.3 m bgl
- TP70 - ACM = 0.156 % w/w at 0.3 m bgl
- TP71 - ACM = 0.002 % w/w at 0.3 m bgl
- TP53 - ACM = > 0.01 % w/w at 0.3 m bgl
- TP56 - ACM = > 0.01 % w/w at 0.3 m bgl
- BH59 - Surficial ACM observed

*FA = Friable Asbestos, AF = Asbestos Fines, ACM = Asbestos Containing Material

LEGEND

- Site Boundary
- Subject Area - AEC03 (AG 2020)
- AEC05 - Building Footprints (AG 2020)
- Inaccessible Areas
- Non-Friable Asbestos Impacted Fill Soils
- Sampling Locations - Asbestos Identified (SE 2024)
- Sampling Locations - No Asbestos Identified (SE 2024)
- Approximate Sampling Locations - Asbestos Identified (AG 2020)
- Approximate Sampling Locations - Asbestos Identified (Coffey 2011)

TP01, TP02, TP03, TP04, TP05, TP06, TP07, TP08, TP09, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP19, TP20, TP21, TP22, TP23, TP24, TP25, TP26, TP27, TP28, TP29, TP30, TP31, TP32, TP33, TP34, TP35, TP36, TP37, TP38, TP39, TP40, TP41, TP42, TP43, TP44, TP45, TP46, TP47, TP48, TP49, TP50, TP51, TP52, TP53, TP54, TP55, TP56, TP57, TP58, TP59, TP60, TP61, BH69, TP62, TP63, TP64, TP65, TP66, TP67, TP68, TP69, TP70, TP71, TP72, TP73, TP74, TP75, TP56, TP53, TP76, TP77, TP78, TP79, TP80, TP81, TP82, TP83, TP84

Scale:	50 m	Asbestos Extent within AEC03	
Client Name:	Mirvac Pty Ltd	Figure Number:	5
Project Name:	Supplementary Detailed Site Investigation	Figure Date:	22 February 2024
Project Location:	Western Sydney University – Milperra Campus, Milperra NSW	Report Number:	2300-DSI-01-220224.v1d

Sydney Environmental Group

TABLES

Sample ID	Date Sampled	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - FA/AF	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - Bonded ACM	Laboratory Results	Laboratory Results		On-site gravimetric results			
				Asbestos Detected/ Non-Detected	Percentage of AF/FA <7mm, %w/w	Percentage of Bonded ACM >7mm (500ml), %w/w	Weight of Sample (10L), g	Onsite weight of ACM fragment >7mm, g	Asbestos	Percentage of Bonded ACM >7mm (10L), %w/w
AEC01-TP01-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC01-TP04-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC01-TP05-0.2-0.3	19/01/2024	0.001%	0.01%	Asbestos Detected	**0.00022%**	<0.01%	13600	-	-	-
AEC01-TP06-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13700	-	-	-
AEC01-TP07-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13100	-	-	-
AEC01-TP08-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC01-TP09-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13100	-	-	-
AEC01-TP10-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14500	-	-	-
AEC01-TP11-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13800	-	-	-
AEC01-TP13-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14200	-	-	-
AEC01-TP14-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13400	-	-	-
AEC01-TP15-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12900	-	-	-
AEC01-TP16-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC01-TP17-0.2-0.3	11/01/2024	0.001%	0.01%	Asbestos Detected	**0.00032%**	<0.01%	11500	25	3.75	**0.033%**
AEC01-TP18-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14100	-	-	-
AEC01-TP19-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13300	-	-	-
AEC01-TP20-0.2-0.3	19/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13800	-	-	-
AEC01-TP21-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	11800	-	-	-
AEC01-TP22-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	15000	-	-	-
AEC01-TP23-0.2-0.3	19/01//2024	0.001%	0.01%	Asbestos Detected	<0.001%	**0.058%**	12700	-	-	-
AEC02-TP01-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13000	130	19.5	**0.150%**
AEC02-TP02-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	11000	-	-	-
AEC02-TP03-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	11500	-	-	-
AEC02-TP04-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC02-TP05-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13300	-	-	-
AEC02-TP06-0.2-0.3	11/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13400	4	0.6	**0.004%**
AEC02-TP07-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13100	-	-	-
AEC02-TP08-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13000	-	-	-
AEC02-TP09-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC02-TP10-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC02-TP11-0.2-0.3	11/01/2024	0.001%	0.01%	Asbestos Detected	**0.00023%**	<0.01%	13000	321	48.15	**0.370%**
AEC02-TP12-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	11300	-	-	-
AEC02-TP13-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC02-TP14-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC02-TP15-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13600	-	-	-
AEC02-TP16-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12500	-	-	-
AEC02-TP17-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12600	-	-	-
AEC02-TP18-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13400	-	-	-
AEC02-TP19-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13700	6	0.9	**0.007%**
AEC02-TP20-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	12800	28	4.2	**0.033%**
AEC02-TP21-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12900	-	-	-
AEC02-TP22-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13400	3	0.45	**0.003%**
AEC02-TP23-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13500	-	-	-
AEC02-TP24-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14400	-	-	-
AEC02-TP25-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC02-TP26-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13400	-	-	-
AEC02-TP27-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	12600	27	4.05	**0.032%**
AEC02-TP28-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13000	-	-	-
AEC02-TP29-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13700	-	-	-
AEC02-TP30-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13000	-	-	-
AEC02-TP31-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13600	-	-	-
AEC02-TP32-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC02-TP33-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14800	-	-	-
AEC02-TP34-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC02-TP35-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	14000	3	0.45	**0.003%**
AEC02-TP36-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC02-TP37-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC02-TP38-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13100	10	1.5	**0.011%**
AEC02-TP39-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13000	16	2.4	**0.018%**
AEC02-TP40-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13700	-	-	-
AEC02-TP41-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13400	-	-	-
AEC02-TP42-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC02-TP43-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14100	-	-	-
AEC02-TP44-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12000	-	-	-
AEC02-TP45-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC02-TP46-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	15000	-	-	-
AEC02-TP47-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13800	276	41.4	**0.300%**
AEC02-TP48-0.2-0.3	12/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	14500	18	2.7	**0.019%**
AEC02-TP49-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13400	-	-	-

Sample ID	Date Sampled	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - FA/AF	Asbestos Health Screening Level NEPM ASC 2013 (% w/w) HIL A - Bonded ACM	Laboratory Results	Laboratory Results		On-site gravimetric results			
				Asbestos Detected/ Non-Detected	Percentage of AF/FA <7mm, %w/w	Percentage of Bonded ACM >7mm (500ml), %w/w	Weight of Sample (10L), g	Onsite weight of ACM fragment >7mm, g	Asbestos	Percentage of Bonded ACM >7mm (10L), %w/w
AEC02-TP50-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	0.004%	13900	-	-	-
AEC02-TP51-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC02-TP52-0.2-0.3	12/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	15100	-	-	-
AEC03-TP02-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	11500	-	-	-
AEC03-TP03-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12300	-	-	-
AEC03-TP04-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13500	-	-	-
AEC03-TP05-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14200	-	-	-
AEC03-TP06-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC03-TP07-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC03-TP08-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	11500	-	-	-
AEC03-TP09-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	15300	-	-	-
AEC03-TP10-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13000	-	-	-
AEC03-TP12-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14500	-	-	-
AEC03-TP18-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14700	-	-	-
AEC03-TP19-0.2-0.3	9/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	11700	66	9.9	**0.085%**
AEC03-TP20-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13700	-	-	-
AEC03-TP21-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC03-TP22-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13700	-	-	-
AEC03-TP23-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC03-TP24-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12600	-	-	-
AEC03-TP27-0.2-0.3	9/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13600	-	-	-
AEC03-TP28-0.2-0.3	9/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	16400	209	31.35	**0.191%**
AEC03-TP29-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14600	-	-	-
AEC03-TP30-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC03-TP32-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13000	-	-	-
AEC03-TP33-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC03-TP34-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13800	-	-	-
AEC03-TP35-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC03-TP39-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14200	-	-	-
AEC03-TP40-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13800	-	-	-
AEC03-TP41-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC03-TP42-0.2-0.3	10/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	11700	5	0.75	**0.006%**
AEC03-TP43-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14100	-	-	-
AEC03-TP44-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14800	-	-	-
AEC03-TP57-0.2-0.3	10/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	14500	51	7.65	**0.053%**
AEC03-TP58-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	11000	-	-	-
AEC03-TP60-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12700	-	-	-
AEC03-TP61-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12700	-	-	-
AEC03-TP62-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14500	-	-	-
AEC03-TP63-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12500	-	-	-
AEC03-TP64-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12500	-	-	-
AEC03-TP66-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13800	-	-	-
AEC03-TP67-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13100	-	-	-
AEC03-TP68-0.2-0.3	10/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13500	310	46.5	**0.344%**
AEC03-TP70-0.2-0.3	10/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	14600	152	22.8	**0.156%**
AEC03-TP71-0.2-0.3	10/01/2024	0.001%	0.01%	Asbestos Detected	<0.001%	<0.01%	13100	2	0.3	**0.002%**
AEC03-TP72-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12200	-	-	-
AEC03-TP73-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14000	-	-	-
AEC03-TP75-0.2-0.3	10/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12600	-	-	-
AEC03-TP76-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14900	-	-	-
AEC03-TP77-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12800	-	-	-
AEC03-TP78-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	14100	-	-	-
AEC03-TP79-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12500	-	-	-
AEC03-TP80-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	13200	-	-	-
AEC03-TP84-0.2-0.3	11/01/2024	0.001%	0.01%	-	<0.001%	<0.01%	12600	-	-	-

Legend

	Highlighted concentration exceeds the adopted site criteria - Asbestos Health Screening Level (w/w) - NEPM ASC 2013 AF/FA
	Highlighted concentration exceeds the adopted site criteria - Asbestos Health Screening Level (w/w) - NEPM ASC 2013 Bonded ACM
ACM	Asbestos Containing Material
FA and AF	Fibrous Asbestos and Asbestos Fines
NL	Not Limiting
-	Detected at below the limit of reporting

APPENDIX A

TEST PIT LOGS

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP01

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP01-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low plasticity, grey with orange mottling, dry-moist.	
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP04

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP04-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low-medium plasticity, grey with yellow mottling, moist.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1			CLS	NATURAL: CLAY, medium plasticity, grey with red mottling, moist.	
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP05

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP05-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist, trace sandstone.	
0.3			FILL	FILL: CLAY, low-medium plasticity, grey with orange mottling, moist.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1			CLS	NATURAL: CLAY, medium plasticity, grey with red mottling, moist.	
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP06

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra SCA
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP06-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5					
0.6					
0.7			FILL	FILL: Silty CLAY, low plasticity, red-brown, dry-moist.	
0.8					Foreign materials including potential concrete, brick, and glass observed.
0.9					
1					
1.1					No contamination indicators observed.
1.2					
1.3				Termination Depth at: 1.3 m on compacted fill	
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP07

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP07-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, red-brown, dry.	
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP08

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP08-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4			FILL	FILL: CLAY, low plasticity, red with grey mottling, moist.	
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP09

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP09-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low plasticity, red with grey mottling, moist.	
1.2				Termination Depth at: 1.2 m on compacted fill	

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP10

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP10-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5					
0.6			FILL	FILL: Sandy CLAY, low plasticity, red-brown with grey mottling, dry.	
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP11

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, grey-brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP11-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, grey-brown, dry-moist.	
0.3					
0.4			FILL	FILL: CLAY, low plasticity, red-brown with grey mottling, dry.	
0.5					
0.6					
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP13

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, brown, dry.	No contamination indicators observed.
0.2	AEC01-TP13-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, brown, dry.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, red-brown, dry.	
0.6					
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP14

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey-brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP14-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, grey-brown, dry-moist.	
0.3					
0.4			FILL	FILL: CLAY, low plasticity, red-brown, dry.	Foreign materials including Asbestos Containing Material (ACM) observed.
0.5					
0.6					No contamination indicators observed.
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP15

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey-brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP15-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, grey-brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, red-brown, moist.	
0.6					
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

produced by ESlog.ESdat.net on 23 Feb 2024

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP16

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP16-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					Foreign materials including Asbestos Containing Material (ACM) observed.
0.4			FILL	FILL: CLAY, low plasticity, orange with red and brown mottling, dry.	
0.5					
0.6					No contamination indicators observed.
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP17

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP17-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					Foreign materials including Asbestos Containing Material (ACM), wood, and textile observed.
0.4					
0.5					No contamination indicators observed.
0.6					
0.7			FILL	FILL: CLAY, low plasticity, orange with red and yellow mottling, dry.	
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill.	
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP18

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP18-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low-medium plasticity, orange with grey mottling, dry.	
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP19

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra SCA
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP19-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, red-orange, dry.	
0.6					
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP20

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP20-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, orange with grey mottling, dry.	
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP21

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.7 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP21-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					Foreign materials including brick, glass, and plastic observed.
0.4			FILL	FILL: CLAY, low plasticity, orange with grey mottling, dry.	
0.5					No contamination indicators observed.
0.6					
0.7				Termination Depth at: 0.7 m refusal on stormwater conduit	
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP22

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP22-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, red-brown, dry.	
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC01 TP23

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 19 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC01-TP23-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					Foreign materials including Asbestos Containing Material (ACM) observed.
0.4					
0.5			FILL	FILL: CLAY, low plasticity, red-brown, dry.	No contamination indicators observed.
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP01

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP01-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including potential Asbestos Containing Material (ACM), terracotta, and asphalt observed.
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low-medium plasticity, grey with yellow mottling, moist.	No contamination indicators observed.
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP02

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP02-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low-medium plasticity, grey with yellow mottling, moist.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP03

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP03-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low-medium plasticity, grey with yellow mottling, moist.	
0.4					Foreign materials including glass observed.
0.5					No contamination indicators observed.
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP04

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP04-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					Foreign materials including brick observed.
0.5					
0.6					
0.7			FILL	FILL: CLAY, low-medium plasticity, grey with yellow mottling, moist.	No contamination indicators observed.
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP05

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP05-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist, trace sandstone.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low-medium plasticity, grey with orange and yellow mottling, moist.	
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

produced by ESlog.ESdat.net on 21 Feb 2024

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP06

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP06-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including potential Asbestos Containing Material (ACM) and glass observed.
0.3					
0.4					
0.5			FILL	FILL: CLAY, low-medium plasticity, grey with orange and yellow mottling, moist.	No contamination indicators observed.
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP07

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP07-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					Foreign materials including plastic observed.
0.5					No contamination indicators observed.
0.6					
0.7			FILL	FILL: CLAY, low-medium plasticity, orange with yellow mottling, moist.	
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP08

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP08-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, grey with orange and yellow mottling, moist.	
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP09

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP09-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: SAND, fine-coarse grained, grey-brown, dry-moist.	
0.4					
0.5			FILL	FILL: CLAY, low plasticity, grey with orange and yellow mottling, moist.	
0.6					
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP10

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP10-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including terracotta observed.
0.3			FILL	FILL: Sandy CLAY, low plasticity, red-brown with grey mottling, dry.	
0.4					
0.5			FILL	NATURAL: CLAY, low plasticity, yellow-grey, moist.	No contamination indicators observed.
0.6					
0.7					
0.8				Termination Depth at: 0.8 m on compacted fill	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

ENVIRONMENTAL TESTPIT AEC02 TP11

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.7 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, grey-brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP11-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, grey-brown, dry-moist.	Foreign materials including potential Asbestos Containing Material (ACM), and terracotta observed.
0.3					
0.4			FILL	FILL: CLAY, low plasticity, yellow-grey, moist.	No contamination indicators observed.
0.5					
0.6					
0.7				Termination Depth at: 0.7 m on compacted fill	
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP12

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.7 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey-brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP12-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, grey-brown, dry-moist.	Foreign materials including Asbestos Containing Material (ACM), and terracotta observed.
0.3					
0.4			FILL	FILL: CLAY, low-medium plasticity, yellow-grey, moist.	No contamination indicators observed.
0.5					
0.6					
0.7				Termination Depth at: 0.7 m on compacted fill	
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP13

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, brown, dry.	No contamination indicators observed.
0.2	AEC02-TP13-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, brown, dry.	
0.3					
0.4			FILL	FILL: CLAY, medium plasticity, yellow-grey, moist.	
0.5					
0.6					
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP14

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.7 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey-brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP14-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, grey-brown, dry-moist.	
0.3			FILL	FILL: CLAY, low plasticity, yellow-grey, moist.	
0.4					
0.5					
0.6					
0.7				Termination Depth at: 0.7 m on compacted fill	
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP15

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.7 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey-brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP15-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, grey-brown, dry-moist.	
0.3			FILL	FILL: CLAY, low plasticity, yellow-grey, moist.	
0.4					
0.5					
0.6					
0.7				Termination Depth at: 0.7 m on compacted fill	
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP16

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.5 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2			FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3	AEC02-TP16-0.2-0.3		FILL	FILL: CLAY, low plasticity, orange with red and brown mottling, moist, trace gravels.	
0.4					
0.5				Termination Depth at: 0.5 m on compacted fill	
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP17

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP17-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low plasticity, orange with grey mottling, dry.	
0.4					
0.5					
0.6					
0.7					
0.8			FILL	FILL: CLAY, low plasticity, orange, dry, trace gravels.	
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP18

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP18-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, medium plasticity, yellow-grey, dry-moist.	
0.6			FILL	FILL: CLAY, medium plasticity, red-brown, moist.	
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP19

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP19-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including Geotextile Fabric, Asbestos Containing Material (ACM), plastic, tile, and ceramics observed.
0.3					
0.4					
0.5			FILL	FILL: CLAY, medium plasticity, red-orange, moist.	No contamination indicators observed.
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP20

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP20-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including Geotextile fabric, Asbestos Containing Material (ACM), and glass observed.
0.3					
0.4					
0.5			FILL	FILL: CLAY, medium plasticity, yellow-orange, moist.	No contamination indicators observed.
0.6					
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP21

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP21-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5					
0.6					
0.7					Foreign materials including metal observed.
0.8					
0.9					
1			FILL	FILL: CLAY, low-medium plasticity, red-brown with yellow and orange mottling, moist, trace sand.	No contamination indicators observed.
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP22

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP22-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including geotextile fabric, Asbestos Containing Material (ACM), glass, brick, terracotta, and plastic observed.
0.8			FILL	FILL: CLAY, low-medium plasticity, dark grey-brown, moist, trace rocks and shale.	No contamination indicators observed.
1.4				Termination Depth at: 1.4 m on compacted fill	

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP23

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP23-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					Foreign materials including road base, asphalt, and concrete observed.
0.5			FILL	FILL: CLAY, low plasticity, red-orange, moist.	No contamination indicators observed.
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP24

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP24-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low plasticity, grey with orange mottling, moist.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP25

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP25-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4			FILL	FILL: CLAY, low plasticity, grey, dry.	
0.5					
0.6			FILL	FILL: CLAY, medium plasticity, red-orange, moist.	
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP26

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.6 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP26-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, dark brown, dry-moist.	Foreign materials including geotextile fabric, plastic, glass, and brick observed.
0.3			FILL	FILL: CLAY, low plasticity, grey with brown and orange mottling, dry.	No contamination indicators observed.
1			FILL	FILL: CLAY, low-medium plasticity, dark grey, moist, trace gravels.	
1.6				Termination Depth at: 1.6 m on compacted fill	

Disclaimer This log is intended for environmental not geotechnical purposes.

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP27

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP27-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, dark brown, dry-moist.	Foreign materials including geotextile fabric, Asbestos Containing Material (ACM), plastic, glass, shade cloth, metal, and terracotta observed.
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low-medium plasticity, yellow-brown, moist.	No contamination indicators observed.
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP28

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP28-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including geotextile fabric, Asbestos Containing Material (ACM), terracotta, and glass observed.
0.3			FILL	FILL: CLAY, low plasticity, grey, moist, with trace shale.	No contamination indicators observed.
1.1	AEC02-TP28-1.1-1.2				
1.4				Termination Depth at: 1.4 m on compacted fill	

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP29

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP29-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4			FILL	FILL: CLAY, low plasticity, grey with orange mottling, dry.	
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1			FILL	FILL: CLAY, medium plasticity, grey, moist.	
1.2	AEC02-TP29-1.2-1.3				
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP30

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP30-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8			FILL	FILL: CLAY, low plasticity, orange with grey mottling, moist, trace rocks.	
0.9					
1					
1.1					
1.2	AEC02-TP30-1.1-1.2				
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP31

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP30-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					Foreign materials including metal and glass observed.
0.4					
0.5					No contamination indicators observed.
0.6					
0.7					
0.8			FILL	FILL: CLAY, low plasticity, orange with grey mottling, moist, trace rocks.	
0.9					
1					
1.1					
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP32

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP32-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low plasticity, grey with orange mottling, moist, trace sand.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP33

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP33-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low plasticity, orange-brown with grey mottling, moist.	
0.7					
0.8					
0.9					
1					
1.1	AEC02-TP33-1.1-1.2				
1.2					
1.3				Termination Depth at: 1.3 m - Refusal due to bedrock.	
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP34

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP34-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including geotextile fabric, plastic, and metal observed.
0.3					
0.4			FILL	FILL: CLAY, low plasticity, orange with grey mottling, moist, trace shale.	No contamination indicators observed.
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1	AEC02-TP34-1.2-1.3				
1.2					
1.3				Termination Depth at: 0.9 m - Refusal due to claystone bedrock.	
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP35

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP35-0.2-0.3		FILL	FILL: Clayey Silty SAND, coarse grained, grey-orange, dry, with rocks.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1	AEC02-TP35-1.2-1.3				Foreign materials including potential Asbestos Containing Material (ACM) observed.
1.2					No contamination indicators observed.
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP36

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP36-0.2-0.3		FILL	FILL: Clayey Silty SAND, coarse grained, grey-orange, dry, with rocks.	
0.3			FILL	FILL: CLAY, low plasticity, grey with orange mottling, moist, trace claystone and shale.	Foreign materials including terracotta and metal observed.
0.4					No contamination indicators observed.
0.5					
0.6					
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP37

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP37-0.2-0.3		FILL	FILL: CLAY, low-medium plasticity, red-orange with grey mottling, moist.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8				Termination Depth at: 0.8 m on compacted fill	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP38

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2			FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including geotextile fabric and Asbestos Containing Material (ACM) observed.
0.3	AEC02-TP38-0.2-0.3		FILL	FILL: Sandy CLAY, low plasticity, red-orange with grey mottling, moist.	No contamination indicators observed.
0.4					
0.5					
0.6					
0.7					
0.8				Termination Depth at: 0.8 m on compacted fill	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP39

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP39-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist, trace gravel.	Foreign materials including geotextile fabric, plastic and metal observed.
0.3			FILL	FILL: CLAY, low plasticity, pale grey-brown, dry, trace sand.	
0.4					No contamination indicators observed.
0.8					Foreign materials including potential Asbestos Containing Material (ACM) observed.
0.9					No contamination indicators observed.
1			FILL	NATURAL: CLAY, low plasticity, orange with grey-brown mottling, moist.	
1.4				Termination Depth at: 1.4 m on compacted fill	

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP40

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP40-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including geotextile fabric and metal observed.
0.3					No contamination indicators observed.
0.4					
0.5			FILL	FILL: CLAY, low plasticity, orange-brown, moist, trace sandstone and sand, with claystone.	
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2	AEC02-TP40-1.2-1.3				
1.3				Termination Depth at: 1.3 m on compacted fill	
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP41

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP41-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, low plasticity, orange-brown, moist.	Foreign materials including metal observed.
0.4					No contamination indicators observed.
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2	AEC02-TP41-1.2-1.3				
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP42

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP42-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	Foreign materials including Asbestos Containing Material (ACM) observed.
0.3					
0.4			FILL	FILL: CLAY, low plasticity, orange-brown, moist, trace sand.	No contamination indicators observed.
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3				Termination Depth at: 1.3 m on compacted fill	
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP43

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, red-brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP43-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, red-brown, dry-moist.	
0.3			FILL	FILL: CLAY, low-medium plasticity, red-brown with grey mottling, moist.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP44

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, red-brown, dry-moist.	No contamination indicators observed.
0.2	AEC02-TP44-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, red-brown, dry-moist.	
0.3					
0.4				Termination Depth at: 0.4 m - Refusal due to retaining wall.	
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP45

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Sandy Silty CLAY with high organics, low plasticity, orange with grey mottling, dry, trace claystone.	No contamination indicators observed.
0.2	AEC02-TP45-0.2-0.3		FILL	FILL: Sandy Silty CLAY, low plasticity, orange with grey mottling, dry, with claystone.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m - Refusal due to claystone bedrock.	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP46

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry.	No contamination indicators observed.
0.2	AEC02-TP46-0.2-0.3		FILL	FILL: CLAY, low plasticity, grey with orange mottling, dry.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP47

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry.	No contamination indicators observed.
0.2	AEC02-TP47-0.2-0.3		FILL	FILL: CLAY, low plasticity, grey with orange mottling, dry.	Foreign material including geotextile fabric, potential Asbestos Containing Material (ACM), and brick observed.
0.3					
0.4					No contamination indicators observed.
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m - Refusal due to excavator limit.	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP48

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.7 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry.	No contamination indicators observed.
0.2	AEC02-TP48-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, medium brown, dry.	Foreign materials including potential Asbestos Containing Material (ACM) observed.
0.3			FILL	FILL: CLAY, low plasticity, orange with grey mottling, dry, with shale.	No contamination indicators observed.
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2	AEC02-TP48-1.2-1.3				
1.3					
1.4			FILL	FILL: CLAY, medium plasticity, grey, dry-moist.	
1.5					
1.6					
1.7				Termination Depth at: 1.7 m. Refusal due to excavator limit.	
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP49

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry.	No contamination indicators observed.
0.2	AEC02-TP49-0.2-0.3		FILL	FILL: CLAY, low plasticity, grey with orange mottling, dry.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP50

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.5 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry.	No contamination indicators observed.
0.2	AEC02-TP50-0.2-0.3		FILL	FILL: CLAY, low plasticity, grey with orange mottling, dry.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5				Termination Depth at: 1.5 m on compacted fill	
1.6					
1.7					
1.8					

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ENVIRONMENTAL TESTPIT AEC02 TP51

PROJECT NUMBER 2300	**DATE** 12 January 2024	**LOGGED BY** LL
PROJECT NAME WSU Milperra DSI	**EXCAVATION CO.** Smartscan Locators	**CHECKED BY** LM
CLIENT Mirvac Group Pty Ltd	**OPERATOR** Tyler	
ADDRESS Western Sydney University, Milperra Campus	**EXCAVATION METHOD** 3.5 t Excavator	
	TOTAL DEPTH 1.1 m	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry.	No contamination indicators observed.
0.2	AEC02-TP51-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, medium brown, dry.	
0.3			FILL	FILL: CLAY, low plasticity, red-brown, dry.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC02 TP52

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 12 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LM

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry.	No contamination indicators observed.
0.2	AEC02-TP52-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine-coarse grained, medium brown, dry.	
0.3			FILL	FILL: CLAY, low plasticity, orange with grey motting, dry.	
0.7			FILL	FILL: Sandy Silty CLAY, low plasticity, grey-brown, dry.	
1.2				Termination Depth at: 1.2 m on compacted fill	

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP02

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP02-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					Foreign materials including tile, ceramics and brick observed.
0.5					
0.6					No contamination indicators observed.
0.7					
0.8					
0.9			FILL	FILL: CLAY, low plasticity, orange brown, moist.	
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP03

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP03-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist, trace shale.	
0.3					
0.4					
0.5			FILL	FILL: CLAY with low organics, low plasticity, orange brown, moist.	
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP04

PROJECT NUMBER 2300	**DATE** 9 January 2024	**LOGGED BY** LL
PROJECT NAME WSU Milperra DSI	**EXCAVATION CO.** Smartscan Locators	**CHECKED BY** LH
CLIENT Mirvac Group Pty Ltd	**OPERATOR** Tyler	
ADDRESS Western Sydney University, Milperra Campus	**EXCAVATION METHOD** 3.5 t Excavator	
	TOTAL DEPTH 1.0 m	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP04-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, dark brown, dry-moist.	
0.3					
0.4					
0.5			FILL	NATURAL: CLAY, low plasticity, orange brown, moist.	
0.6					
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP05

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP05-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist.	
0.3					
0.4					Foreign materials including glass and terracotta observed.
0.5					
0.6					No contamination indicators observed.
0.7					
0.8					
0.9					
1					
1.1			CL	NATURAL: CLAY, low plasticity, red brown, dry.	
1.2					
1.3					
1.4				Termination Depth at: 1.4 m	
1.5					
1.6					
1.7					
1.8					
1.9					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP06

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.8 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP06-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8				Termination Depth at: 1.8 m - Excavation limit	
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP07

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.5 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP07-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist, trace sand.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2			FILL	FILL: CLAY, low plasticity, pale orange brown, dry.	
1.3					
1.4					
1.5				Termination Depth at: 1.5 m on compacted fill	
1.6					
1.7					
1.8					
1.9					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP08

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP08-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist, trace sand, gravel.	
0.3					
0.4					
0.5			FILL	FILL: Clayey SAND, coarse grained, pale brown, dry-moist, trace sand, gravel.	
0.6					
0.7					
0.8					
0.9			CL	NATURAL: CLAY, low plasticity, orange brown with pale brown mottling, dry.	
1					
1.1					
1.2				Termination Depth at: 1.2 m	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP09

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP09-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist, trace sand, gravel.	
0.3					
0.4					
0.5			FILL	FILL: Clayey SAND, coarse grained, pale brown, dry-moist, trace sand, gravel.	
0.6					
0.7					
0.8					
0.9			CL	NATURAL: CLAY, low plasticity, orange brown with pale brown mottling, dry.	
1					
1.1					
1.2				Termination Depth at: 1.2 m	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP10

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP10-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, pale brown, dry-moist, trace sand, gravel.	
0.3					
0.4					
0.5					
0.6					
0.7			CL	NATURAL: CLAY, low plasticity, orange brown with pale brown mottling, dry.	
0.8					
0.9					
1				Termination Depth at: 1.0 m	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP12

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP12-0.2-0.3		FILL	FILL: Clayey SAND with low organics, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			CL	NATURAL: CLAY, low plasticity, orange brown, dry-moist.	
0.6					
0.7					
0.8				Termination Depth at: 0.8 m	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP18

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP18-0.2-0.3		FILL	FILL: Clayey SAND, coarse grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			CL	NATURAL: CLAY, medium plasticity, orange brown, moist.	
0.6					
0.7					
0.8				Termination Depth at: 0.8 m	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP19

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry.	No contamination indicators observed.
0.2	AEC03-TP19-0.2-0.3		FILL	FILL: Clayey SAND, coarse grained, pale brown, dry.	Foreign materials including potential Asbestos Containing Material (ACM), concrete, and terracotta observed.
0.5			CL	NATURAL: CLAY, low plasticity, orange brown, dry-moist.	No contamination indicators observed.
0.8				Termination Depth at: 0.8 m	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP20

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry.	No contamination indicators observed.
0.2	AEC03-TP20-0.2-0.3		FILL	FILL: Clayey SAND, coarse grained, pale brown, dry, gravels.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, orange brown, dry-moist.	
0.6					
0.7					
0.8				Termination Depth at: 0.8 m on compacted fill	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP21

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP21-0.2-0.3		FILL	FILL: Clayey SAND, coarse grained, pale brown, dry, gravels.	Foreign materials including glass, ceramics, and plastic observed.
0.8			CL	NATURAL: CLAY, low plasticity, orange brown, dry-moist.	No contamination indicators observed.
1.1				Termination Depth at: 1.1 m	

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP22

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP22-0.2-0.3		FILL	FILL: Clayey SAND, coarse grained, pale brown, dry, trace gravels.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8			FILL	FILL: CLAY, low plasticity, orange brown, moist-dry.	
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP23

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP23-0.2-0.3		FILL	FILL: Clayey SAND, coarse grained, pale brown, dry, trace gravels.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8			FILL	FILL: CLAY, low plasticity, orange brown with pale brown mottling, dry-moist.	
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP24

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP24-0.2-0.3		FILL	FILL: Clayey SAND, coarse grained, pale brown, dry, trace gravels.	
0.3					Foreign materials including concrete observed.
0.4					No contamination indicators observed.
0.5					
0.6					
0.7					
0.8			FILL	FILL: CLAY, low plasticity, orange brown with pale brown mottling, dry-moist.	
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP27

PROJECT NUMBER 2300	**DATE** 9 January 2024	**LOGGED BY** LL
PROJECT NAME WSU Milperra DSI	**EXCAVATION CO.** Smartscan Locators	**CHECKED BY** LH
CLIENT Mirvac Group Pty Ltd	**OPERATOR** Tyler	
ADDRESS Western Sydney University, Milperra Campus	**EXCAVATION METHOD** 3.5 t Excavator	
	TOTAL DEPTH 0.8 m	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	Foreign materials including brick observed.
0.2	AEC03-TP27-0.2-0.3				
0.3			FILL	FILL: Clayey SAND, fine grained, medium brown, dry.	No contamination indicators observed.
0.4					
0.5			CL	NATURAL: Sandy CLAY, low medium plasticity, orange with brown mottling, dry-moist.	
0.6					
0.7					
0.8				Termination Depth at: 0.8 m	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

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Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP28

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 9 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP28-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry.	
0.3					Foreign materials including potential Asbestos Containing Material (ACM), terracotta and brick observed.
0.4					
0.5					
0.6					
0.7			CL	NATURAL: CLAY, low plasticity, orange brown with pale brown mottling, dry.	No contamination indicators observed.
0.8					
0.9					
1				Termination Depth at: 1.0 m	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP29

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP29-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry-moist.	
0.3					
0.4			FILL	FILL: SAND, pale yellow, fine grained, dry-moist.	
0.5					
0.6			FILL	FILL: CLAY, low plasticity, orange, moist.	
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP30

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP30-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry-moist.	
0.3					
0.4			FILL	FILL: SAND, pale yellow, fine grained, dry-moist.	
0.5					
0.6					
0.7			FILL	FILL: CLAY, low plasticity, orange, moist.	
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP32

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.3 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, grey brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP32-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, grey brown, dry-moist.	
0.3				Termination Depth at: 0.3 m - Inaccessible due to service lines	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP33

PROJECT NUMBER 2300	**DATE** 10 January 2024	**LOGGED BY** LL
PROJECT NAME WSU Milperra DSI	**EXCAVATION CO.** Smartscan Locators	**CHECKED BY** LH
CLIENT Mirvac Group Pty Ltd	**OPERATOR** Tyler	
ADDRESS Western Sydney University, Milperra Campus	**EXCAVATION METHOD** 3.5 t Excavator	
	TOTAL DEPTH 0.3 m	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP33-0.2-0.3		FILL	FILL: Clayey SAND, with low organics, fine grained, grey brown, dry-moist.	
0.3				Termination Depth at: 0.3 m - Inaccessible due to service lines	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP34

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP34-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, grey brown, dry-moist.	
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low plasticity, red brown, dry.	
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP35

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, grey brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP35-0.2-0.3		FILL	FILL: Clayey SAND, with low organics, fine grained, grey brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: SAND, fine grained, grey yellow, dry-moist.	
0.6					
0.7					
0.8			FILL	FILL: CLAY, low plasticity, red brown, dry.	
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP39

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP39-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry-moist.	
0.3					
0.4			FILL	FILL: SAND, fine grained, grey yellow, dry-moist.	
0.5					
0.6					
0.7			FILL	FILL: CLAY, low plasticity, orange, dry.	
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP40

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP40-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry-moist.	
0.3					
0.4			FILL	FILL: SAND, fine grained, grey yellow, dry-moist.	
0.5					
0.6			FILL	FILL: CLAY, low plasticity, orange, dry.	
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP41

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP41-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry-moist.	
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low plasticity, orange, dry.	
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP42

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.1			FILL	FILL: Clayey SAND with low organics, fine grained, medium brown, dry-moist, trace sand.	
0.2	AEC03-TP42-0.2-0.3				
0.3					
0.4					
0.5					
0.6					
0.7			FILL	FILL: CLAY, low plasticity, orange, dry.	
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP43

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP43-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry-moist.	
0.3					
0.4					Foreign materials including brick and plastic observed.
0.5					No contamination indicators observed.
0.6			FILL	FILL: CLAY, low plasticity, orange with yellow brown mottling, dry.	
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP44

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP44-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine grained, medium brown, dry-moist.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, orange with yellow brown mottling, dry.	
0.6					
0.7					
0.8				Termination Depth at: 0.8 m on compacted fill	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP57

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, dark brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP57-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine grained, dark brown, dry-moist.	
0.3					
0.4			FILL	FILL: Silty CLAY, low plasticity, orange with yellow brown mottling, dry-moist, trace rocks.	Foreign materials including potential Asbestos Containing Material (ACM), metal, and plastic observed.
0.5					
0.6					No contamination indicators observed.
0.7					
0.8					
0.9					
1			FILL	FILL: CLAY, low plasticity, grey with yellow mottling, dry-moist.	
1.1					
1.2					
1.3				Termination Depth at: 1.3 m on compacted fill	
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

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ENVIRONMENTAL TESTPIT AEC03 TP58

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, pale brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP58-0.2-0.3		FILL	FILL: Clayey SAND with low organics, fine grained, pale brown, dry-moist.	
0.3					
0.4					
0.5					
0.6					
0.7			FILL	FILL: CLAY, low plasticity, orange with yellow mottling, dry.	
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP60

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.8 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP60-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, pale brown, dry.	
0.3					
0.4					
0.5			FILL	FILL: CLAY, low plasticity, orange brown with yellow mottling, dry.	
0.6					
0.7					
0.8				Termination Depth at: 0.8 m on compacted fill	
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP61

PROJECT NUMBER 2300	**DATE** 10 January 2024	**LOGGED BY** LL
PROJECT NAME WSU Milperra DSI	**EXCAVATION CO.** Smartscan Locators	**CHECKED BY** LH
CLIENT Mirvac Group Pty Ltd	**OPERATOR** Tyler	
ADDRESS Western Sydney University, Milperra Campus	**EXCAVATION METHOD** 3.5 t Excavator	
	TOTAL DEPTH 0.9 m	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP61-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, pale brown, dry.	
0.3			FILL	FILL: Sandy CLAY, low plasticity, orange brown, dry.	
0.4					
0.5					
0.6			FILL	FILL: CLAY, low plasticity, orange brown, dry.	
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

ENVIRONMENTAL TESTPIT AEC03 TP62

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.6 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP62-0.2-0.3		FILL	FILL: Clayey SAND, with low organics, fine grained, medium brown, dry.	
0.3			FILL	FILL: CLAY with low organics, low plasticity, orange brown, dry.	
0.4					
0.5					
0.6				Termination Depth at: 0.6 m on compacted fill	
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

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ENVIRONMENTAL TESTPIT AEC03 TP64

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.9 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP64-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry.	
0.3			FILL	FILL: CLAY, low plasticity, orange brown, dry, trace sand.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9				Termination Depth at: 0.9 m on compacted fill	
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP66

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP66-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry, trace gravels and rocks.	
0.3			FILL	FILL: CLAY, low plasticity, orange brown, dry, trace sand.	
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

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ENVIRONMENTAL TESTPIT AEC03 TP67

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 0.6 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, fine-coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP67-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry-moist.	
0.3			FILL	FILL: CLAY, medium plasticity, orange with yellow mottling, dry-moist.	
0.4					
0.5					
0.6				Termination Depth at: 0.6 m on compacted fill	
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP68

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.4 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP68-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry.	Foreign materials including potential Asbestos Containing Material (ACM), glass, brick, metal, and cable were observed.
0.3					
0.4					
0.5			FILL	FILL: CLAY, high plasticity, orange with grey mottling, moist.	
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					
1.3					
1.4				Termination Depth at: 1.4 m on compacted fill	
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP70

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.0 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP70-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry.	Foreign materials including potential Asbestos Containing Metal (ACM), plastic, metal and terracotta observed.
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low plasticity, orange with grey mottling, dry.	
0.7					
0.8					
0.9					
1				Termination Depth at: 1.0 m on compacted fill	
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP71

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra SCA
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.3 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP71-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry.	
0.3					
0.4			FILL	FILL: CLAY, low plasticity, orange, dry.	
0.5					
0.6					
0.7					Foreign materials including metal and glass observed.
0.8					
0.9					No contamination indicators observed.
1					
1.1					
1.2					
1.3				Termination Depth at: 1.3 m - Refusal due to tree root	
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP72

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.5 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP72-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, pale brown, dry.	
0.3					
0.4			FILL	FILL: CLAY, low plasticity, orange brown, dry.	
0.5					Foreign materials including potential Asbestos Containing Material (ACM), tar, metal and glass observed.
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2					No contamination indicators observed.
1.3					
1.4					
1.5				Termination Depth at: 1.5 m on compacted fill	
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP73

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP73-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, medium brown, dry.	
0.3					Foreign materials including brick observed.
0.4					
0.5					No contamination indicators observed.
0.6			FILL	FILL: CLAY with claystone inclusion, low plasticity, orange brown, dry.	
0.7					
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m - Refusal due to claystone bedrock	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

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ENVIRONMENTAL TESTPIT AEC03 TP75

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 10 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.5 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP75-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, pale brown, dry, trace gravels.	
0.3					Foreign materials including timber observed.
0.4					
0.5					No contamination indicators observed.
0.6					
0.7					
0.8					
0.9					
1					
1.1					
1.2			FILL	FILL: CLAY, low plasticity, red with grey mottling, dry.	
1.3					
1.4					
1.5				Termination Depth at: 1.5 m on compacted fill	
1.6					
1.7					
1.8					
1.9					

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ENVIRONMENTAL TESTPIT AEC03 TP76

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP76-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, pale brown, dry.	
0.3					
0.4					
0.5					
0.6					
0.7			FILL	FILL: CLAY, low plasticity, grey with orange mottling, dry.	
0.8					
0.9					Foreign materials including tile observed.
1					
1.1					No contamination indicators observed.
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP77

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP77-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, brown, dry, trace rocks.	
0.3					
0.4					
0.5					Foreign materials including terracotta observed.
0.6			FILL	FILL: CLAY, low plasticity, red brown, dry.	
0.7					No contamination indicators observed.
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m - Refusal due to bedrock.	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP78

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, moist.	No contamination indicators observed.
0.2	AEC03-TP78-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, brown, moist-dry.	
0.3					
0.4					
0.5					
0.6					
0.7					
0.8			FILL	FILL: CLAY, high plasticity, orange, moist.	
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP79

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP79-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, brown, dry.	
0.3					Foreign materials including terracotta observed.
0.4					
0.5					No contamination indicators observed.
0.6			FILL	FILL: CLAY, low plasticity, red brown, dry.	
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m - Refusal due to bedrock.	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP80

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.2 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP80-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, brown, dry.	
0.3					
0.4					
0.5					
0.6					
0.7			FILL	FILL: CLAY, low plasticity, red brown, dry.	
0.8					
0.9					
1					
1.1					
1.2				Termination Depth at: 1.2 m on compacted fill	
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

Sydney Environmental Group

ENVIRONMENTAL TESTPIT AEC03 TP84

PROJECT NUMBER 2300
PROJECT NAME WSU Milperra DSI
CLIENT Mirvac Group Pty Ltd
ADDRESS Western Sydney University, Milperra Campus

DATE 11 January 2024
EXCAVATION CO. Smartscan Locators
OPERATOR Tyler
EXCAVATION METHOD 3.5 t Excavator
TOTAL DEPTH 1.1 m

LOGGED BY LL
CHECKED BY LH

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.1			FILL	FILL: Clayey SAND with high organics, coarse grained, medium brown, dry-moist.	No contamination indicators observed.
0.2	AEC03-TP84-0.2-0.3		FILL	FILL: Clayey SAND, fine grained, brown, dry.	
0.3					
0.4					
0.5					
0.6			FILL	FILL: CLAY, low plasticity, red brown, dry.	
0.7					
0.8					
0.9					
1					
1.1				Termination Depth at: 1.1 m on compacted fill	
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					

APPENDIX B

SITE ADOPTED CRITERIA

1 SITE ADOPTED ASSESSMENT CRITERIA

Assessment criteria considered appropriate for the site were derived from a number of sources including the RAP, and relevant legislation and guidelines.

1.1 Soil Criteria

The assessment of potentially contaminated land involves the evaluation of potential human health hazards and environmental impacts. The receptors (or potential receptors) of concern may be within the site being assessed, or outside the site boundaries due to potential off-site migration of contaminants.

The subject site is proposed for low-density residential use. Consequently, the issues of concern for contamination within the site are considered to be the risk of harm to human health and ecological systems.

Table 1.1.1 Health Screening Levels for Asbestos – Residential A

Analyte	Health Screening Level – Residential A (% w/w)
Non-friable Asbestos	0.01
Friable Asbestos (Asbestos Fines / Fibrous Asbestos)	0.001
All Forms of Asbestos	No visible asbestos on surface soils

SE note however that all soils where non-friable and friable asbestos is identified will be considered to pose an unacceptable risk and need to be removed from the site. The reasoning behind this assessment is as follows:

- NATA does not accredit laboratories with a detection less than 0.01%, which is more than the friable asbestos criteria provided in the NEPM (2013) guidelines of 0.001%;
- Allowing small amounts of known bonded asbestos to remain at the Site (i.e. at concentrations below the NEPM Commercial/Industrial D criteria of 0.05%), would mean a risk remained that visible asbestos may occur by future excavation work and the NEPM (2013) criteria of 'No visible asbestos for surface soil' would not be met; and
- Allowing small amounts of known asbestos to remain at the Site would mean that such contaminated soil would need to be classified as 'Special Waste – Asbestos' if ever soil needed to be excavated and removed from Site in the future, such as may occur for a swimming pool excavation.

APPENDIX C

LABORATORY DOCUMENTATION

Sydney Environmental Group Pty Ltd
Unit 63/45 Huntley St
Alexandria
NSW 2015

Attention:	Mitchell Kirby
Report	1058859-AID
Project Name	WSU MILPERRA CAMPUS SCA
Project ID	2300
Received Date	Jan 11, 2024
Date Reported	Jan 16, 2024

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name WSU MILPERRA CAMPUS SCA
Project ID 2300
Date Sampled Jan 09, 2024 to Jan 11, 2024
Report 1058859-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC03-TP29-0.2-0.3	24-Ja0010505	Jan 10, 2024	Approximate Sample 821g Sample consisted of: Brown coarse-grained sandy soil, brick and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP30-0.2-0.3	24-Ja0010506	Jan 10, 2024	Approximate Sample 829g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP32-0.2-0.3	24-Ja0010507	Jan 10, 2024	Approximate Sample 925g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP33-0.2-0.3	24-Ja0010508	Jan 10, 2024	Approximate Sample 734g Sample consisted of: Brown coarse-grained sandy soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP34-0.2-0.3	24-Ja0010509	Jan 10, 2024	Approximate Sample 820g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP35-0.2-0.3	24-Ja0010510	Jan 10, 2024	Approximate Sample 843g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP39-0.2-0.3	24-Ja0010514	Jan 10, 2024	Approximate Sample 633g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP40-0.2-0.3	24-Ja0010515	Jan 10, 2024	Approximate Sample 773g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC03-TP41-0.2-0.3	24-Ja0010516	Jan 10, 2024	Approximate Sample 674g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP42-0.2-0.3	24-Ja0010517	Jan 10, 2024	Approximate Sample 757g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP43-0.2-0.3	24-Ja0010518	Jan 10, 2024	Approximate Sample 834g Sample consisted of: Brown coarse grained sandy clayey soil, corroded metal, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP44-0.2-0.3	24-Ja0010519	Jan 10, 2024	Approximate Sample 771g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP60-0.2-0.3	24-Ja0010520	Jan 10, 2024	Approximate Sample 920g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP61-0.2-0.3	24-Ja0010521	Jan 10, 2024	Approximate Sample 823g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP62-0.2-0.3	24-Ja0010522	Jan 10, 2024	Approximate Sample 714g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP64-0.2-0.3	24-Ja0010524	Jan 10, 2024	Approximate Sample 991g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP57-0.2-0.3	24-Ja0010525	Jan 10, 2024	Approximate Sample 610g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP58-0.2-0.3	24-Ja0010526	Jan 10, 2024	Approximate Sample 677g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP66-0.2-0.3	24-Ja0010527	Jan 10, 2024	Approximate Sample 835g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP02-0.2-0.3	24-Ja0010528	Jan 09, 2024	Approximate Sample 811g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP03-0.2-0.3	24-Ja0010529	Jan 09, 2024	Approximate Sample 661g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC03-TP04-0.2-0.3	24-Ja0010530	Jan 09, 2024	Approximate Sample 894g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP05-0.2-0.3	24-Ja0010531	Jan 09, 2024	Approximate Sample 841g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP06-0.2-0.3	24-Ja0010532	Jan 09, 2024	Approximate Sample 774g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP07-0.2-0.3	24-Ja0010533	Jan 09, 2024	Approximate Sample 833g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP08-0.2-0.3	24-Ja0010534	Jan 09, 2024	Approximate Sample 813g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP09-0.2-0.3	24-Ja0010535	Jan 09, 2024	Approximate Sample 1052g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP10-0.2-0.3	24-Ja0010536	Jan 09, 2024	Approximate Sample 781g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP12-0.2-0.3	24-Ja0010537	Jan 09, 2024	Approximate Sample 774g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP18-0.2-0.3	24-Ja0010538	Jan 09, 2024	Approximate Sample 764g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP19-0.2-0.3	24-Ja0010539	Jan 09, 2024	Approximate Sample 755g Sample consisted of: Brown coarse grained sandy clayey soil, brick, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP20-0.2-0.3	24-Ja0010540	Jan 09, 2024	Approximate Sample 746g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP21-0.2-0.3	24-Ja0010541	Jan 09, 2024	Approximate Sample 600g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP22-0.2-0.3	24-Ja0010542	Jan 09, 2024	Approximate Sample 792g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC03-TP23-0.2-0.3	24-Ja0010543	Jan 09, 2024	Approximate Sample 759g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP24-0.2-0.3	24-Ja0010544	Jan 09, 2024	Approximate Sample 818g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP27-0.2-0.3	24-Ja0010545	Jan 09, 2024	Approximate Sample 561g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP28-0.2-0.3	24-Ja0010546	Jan 09, 2024	Approximate Sample 768g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP67-0.2-0.3	24-Ja0010547	Jan 10, 2024	Approximate Sample 880g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP68-0.2-0.3	24-Ja0010548	Jan 10, 2024	Approximate Sample 870g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP70-0.2-0.3	24-Ja0010549	Jan 10, 2024	Approximate Sample 760g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP71-0.2-0.3	24-Ja0010550	Jan 10, 2024	Approximate Sample 739g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP72-0.2-0.3	24-Ja0010551	Jan 10, 2024	Approximate Sample 848g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP73-0.2-0.3	24-Ja0010552	Jan 10, 2024	Approximate Sample 778g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP75-0.2-0.3	24-Ja0010553	Jan 10, 2024	Approximate Sample 793g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP76-0.2-0.3	24-Ja0010554	Jan 11, 2024	Approximate Sample 800g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP77-0.2-0.3	24-Ja0010555	Jan 11, 2024	Approximate Sample 943g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC03-TP78-0.2-0.3	24-Ja0010556	Jan 11, 2024	Approximate Sample 738g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP79-0.2-0.3	24-Ja0010557	Jan 11, 2024	Approximate Sample 893g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP80-0.2-0.3	24-Ja0010558	Jan 11, 2024	Approximate Sample 779g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC03-TP84-0.2-0.3	24-Ja0010559	Jan 11, 2024	Approximate Sample 839g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC01-TP17-0.2-0.3	24-Ja0010560	Jan 11, 2024	Approximate Sample 722g Sample consisted of: Brown coarse grained sandy clayey soil, brick, cement and rocks	AF: Chrysotile and amosite asbestos detected in fibre cement material. Approximate raw weight of AF = 0.023g* Estimated asbestos content in AF = 0.0023g* Total estimated asbestos concentration in AF = 0.00032% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC01-TP18-0.2-0.3	24-Ja0010561	Jan 11, 2024	Approximate Sample 928g Sample consisted of: Brown coarse grained sandy clayey soil, brick, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC01-TP21-0.2-0.3	24-Ja0010562	Jan 11, 2024	Approximate Sample 858g Sample consisted of: Brown coarse grained sandy clayey soil, brick, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC01-TP22-0.2-0.3	24-Ja0010563	Jan 11, 2024	Approximate Sample 851g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP01-0.2-0.3	24-Ja0010564	Jan 11, 2024	Approximate Sample 738g Sample consisted of: Brown coarse grained sandy clayey soil, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP02-0.2-0.3	24-Ja0010565	Jan 11, 2024	Approximate Sample 727g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP03-0.2-0.3	24-Ja0010566	Jan 11, 2024	Approximate Sample 765g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC02-TP04-0.2-0.3	24-Ja0010567	Jan 11, 2024	Approximate Sample 817g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP05-0.2-0.3	24-Ja0010568	Jan 11, 2024	Approximate Sample 803g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP06-0.2-0.3	24-Ja0010569	Jan 11, 2024	Approximate Sample 802g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP07-0.2-0.3	24-Ja0010570	Jan 11, 2024	Approximate Sample 884g Sample consisted of: Brown coarse grained sandy clayey soil, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP08-0.2-0.3	24-Ja0010571	Jan 11, 2024	Approximate Sample 836g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP09-0.2-0.3	24-Ja0010572	Jan 11, 2024	Approximate Sample 813g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP10-0.2-0.3	24-Ja0010573	Jan 11, 2024	Approximate Sample 917g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP11-0.2-0.3	24-Ja0010574	Jan 11, 2024	Approximate Sample 869g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	FA: Chrysotile asbestos detected in weathered fibre cement material. Approximate raw weight of FA = 0.0068g Estimated asbestos content in FA = 0.0020g* Total estimated asbestos concentration in FA = 0.00023% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP12-0.2-0.3	24-Ja0010575	Jan 11, 2024	Approximate Sample 651g Sample consisted of: Brown coarse grained sandy clayey soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP14-0.2-0.3	24-Ja0010576	Jan 11, 2024	Approximate Sample 861g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP15-0.2-0.3	24-Ja0010577	Jan 11, 2024	Approximate Sample 820g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC02-TP16-0.2-0.3	24-Ja0010578	Jan 11, 2024	Approximate Sample 841g Sample consisted of: Brown coarse grained sandy clayey soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Jan 12, 2024	Indefinite

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Contact Name: Mitchell Kirby

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines	CANCELLED	HOLD
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	AEC03-TP29-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010505	X		
2	AEC03-TP30-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010506	X		
3	AEC03-TP32-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010507	X		
4	AEC03-TP33-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010508	X		
5	AEC03-TP34-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010509	X		
6	AEC03-TP35-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010510	X		
7	AEC03-TP36-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010511		X	
8	AEC03-TP37-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010512		X	

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
9	AEC03-TP38-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010513		X	
10	AEC03-TP39-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010514	X		
11	AEC03-TP40-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010515	X		
12	AEC03-TP41-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010516	X		
13	AEC03-TP42-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010517	X		
14	AEC03-TP43-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010518	X		
15	AEC03-TP44-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010519	X		
16	AEC03-TP60-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010520	X		
17	AEC03-TP61-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010521	X		
18	AEC03-TP62-	Jan 10, 2024		Soil	S24-Ja0010522	X		

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
18	AEC03-TP62-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010522			
19	AEC03-TP63-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010523		X	
20	AEC03-TP64-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010524	X		
21	AEC03-TP57-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010525	X		
22	AEC03-TP58-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010526	X		
23	AEC03-TP66-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010527	X		
24	AEC03-TP02-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010528	X		
25	AEC03-TP03-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010529	X		
26	AEC03-TP04-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010530	X		
27	AEC03-TP05-	Jan 09, 2024		Soil	S24-Ja0010531	X		

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
	0.2-0.3							
28	AEC03-TP06-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010532	X		
29	AEC03-TP07-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010533	X		
30	AEC03-TP08-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010534	X		
31	AEC03-TP09-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010535	X		
32	AEC03-TP10-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010536	X		
33	AEC03-TP12-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010537	X		
34	AEC03-TP18-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010538	X		
35	AEC03-TP19-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010539	X		
36	AEC03-TP20-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010540	X		

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Sample Detail						Asbestos - WA guidelines	CANCELLED	HOLD
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
37	AEC03-TP21-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010541	X		
38	AEC03-TP22-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010542	X		
39	AEC03-TP23-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010543	X		
40	AEC03-TP24-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010544	X		
41	AEC03-TP27-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010545	X		
42	AEC03-TP28-0.2-0.3	Jan 09, 2024		Soil	S24-Ja0010546	X		
43	AEC03-TP67-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010547	X		
44	AEC03-TP68-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010548	X		
45	AEC03-TP70-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010549	X		
46	AEC03-TP71-	Jan 10, 2024		Soil	S24-Ja0010550	X		

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
	0.2-0.3							
47	AEC03-TP72-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010551	X		
48	AEC03-TP73-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010552	X		
49	AEC03-TP75-0.2-0.3	Jan 10, 2024		Soil	S24-Ja0010553	X		
50	AEC03-TP76-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010554	X		
51	AEC03-TP77-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010555	X		
52	AEC03-TP78-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010556	X		
53	AEC03-TP79-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010557	X		
54	AEC03-TP80-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010558	X		
55	AEC03-TP84-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010559	X		

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
56	AEC01-TP17-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010560	X		
57	AEC01-TP18-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010561	X		
58	AEC01-TP21-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010562	X		
59	AEC01-TP22-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010563	X		
60	AEC02-TP01-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010564	X		
61	AEC02-TP02-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010565	X		
62	AEC02-TP03-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010566	X		
63	AEC02-TP04-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010567	X		
64	AEC02-TP05-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010568	X		
65	AEC02-TP06-	Jan 11, 2024		Soil	S24-Ja0010569	X		

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Sydney Environmental Group Pty Ltd
Address: Unit 63/45 Huntley St
Alexandria
NSW 2015

Project Name: WSU MILPERRA CAMPUS SCA
Project ID: 2300

Order No.:
Report #: 1058859
Phone: 1300 884 164
Fax:

Received: Jan 11, 2024 5:18 PM
Due: Jan 16, 2024
Priority: 3 Day
Contact Name: Mitchell Kirby

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines	CANCELLED	HOLD
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
	0.2-0.3							
66	AEC02-TP07-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010570	X		
67	AEC02-TP08-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010571	X		
68	AEC02-TP09-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010572	X		
69	AEC02-TP10-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010573	X		
70	AEC02-TP11-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010574	X		
71	AEC02-TP12-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010575	X		
72	AEC02-TP14-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010576	X		
73	AEC02-TP15-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010577	X		
74	AEC02-TP16-0.2-0.3	Jan 11, 2024		Soil	S24-Ja0010578	X		

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web: www.eurofins.com.au
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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Sydney Environmental Group Pty Ltd
Address: Unit 63/45 Huntley St
Alexandria
NSW 2015

Project Name: WSU MILPERRA CAMPUS SCA
Project ID: 2300

Order No.:
Report #: 1058859
Phone: 1300 884 164
Fax:

Received: Jan 11, 2024 5:18 PM
Due: Jan 16, 2024
Priority: 3 Day
Contact Name: Mitchell Kirby

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines	CANCELLED	HOLD
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
75	AEC03-TP06-1.1-1.2	Jan 09, 2024		Soil	S24-Ja0010579			X
Test Counts						70	4	1

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V = r x t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**). This estimate is not NATA-accredited.
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to “non-bonded / friable”.
AFM	Airborne Fibre Monitoring, e.g., by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total %w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average %w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

1/4

RECORD

ABN 50 005 085 521

☑ Sydney Laboratory — Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066 — 02 9900 8400 — EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory — Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172 — 07 3902 4600 — EnviroSampleQLD@eurofins.com

☐ Melbourne Laboratory — 2 Kingston Town Close, Oakleigh, VIC 3166 — 03 8564 5000 — EnviroSampleVic@eurofins.com

Company	Sydney Environmental Group	Project №	2300	Project Manager	Mitch Kirby
Address	U63, 45 Huntley Street Alexandria NSW	Project Name	WSU Milperra Campus SCA	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Lachlan Mulhearn			Sampler(s)	LM & LL
Phone №	1300 884 164			Handed over by	LM & LL
Special Directions				Primary Email	enviro@sydneyenvironmental.com.au
Purchase Order				Secondary Email	Mitch@ "Lachlan@ "Lawrence@
Quote ID №					

Analyses (Note: Where metals are requested please specify "Total" or "Filtered"). SUITE code must be used to advise SUITE analysis.

№	Client Sample ID	Sampled Date (dd/mm/yy)	Matrix (Solid (S) Water (W))	SEG Contam Suite 1 (TRH, BTEX, PAH, Metals, Asbestos ID)	SEG Contam Suite 2 (TRH, BTEX, PAH, Metals, OCP, PCB, Asbestos ID)	SEG Contam Suite 3 (TRH, BTEX, PAH, Metals, OCP, OPP, PCB, Asbestos ID)	SEG ENM Suite 1 (TRH, BTEX, PAH, Metals, pH, EC, Asbestos ID)	Salinity Assessment Suite (L2 Aggressivity Suite, ESP %)	Asbestos ID AS4964 (0.01%)	Asbestos ID NEPM & WA (0.001%)	B7 Suite (TRH, BTEX, PAH, Metals)	B13 Suite (OCP, PCB)	Containers: 1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	AECO3-TP29-0.2-0.3	10/1/24	S							X											
2	" - TP30-0.2-0.3																				
3	" - TP32-0.2-0.3																				
4	" - TP33-0.2-0.3																				
5	" - TP34-0.2-0.3																				
6	" - TP35-0.2-0.3																				
7	" - TP39-0.2-0.3																				
8	" - TP40-0.2-0.3																				
9	" - TP41-0.2-0.3																				
10	" - TP42-0.2-0.3																				
11	" - TP43-0.2-0.3																				
12	" - TP44-0.2-0.3																				
13	" - TP60-0.2-0.3																				
14	" - TP61-0.2-0.3																				
15	" - TP62-0.2-0.3																				
16	" - TP63-0.2-0.3																				
17	" - TP64-0.2-0.3																				
18	" - TP57-0.2-0.3																				
19	" - TP58-0.2-0.3																				
20	" - TP66-0.2-0.3	V	V																		
	Total Counts									20											

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)

☐ Overnight ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 5 Day ☐ Other (

Method of Shipment	☐ Courier (#) ☐ Hand Delivered ☐ Postal	Name	Lachlan Mulhearn	Signature		Date	11/01/24	Time	16:30
Eurofins | mgt Laboratory Use Only	Received By	Ribom AJ	SYD | BNE | MEL | PER | ADL |	Signature		Date	11/1	Time	5:48	Temperature	N/A
	Received By	Smaydi	SYD | BNE | MEL | PER | ADL |	Signature		Date		Time	PM	Report №	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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Note: Metals = As, Cd, Cr, Cu, Hg, Ni, Pb, and Zn), TRH = Total Recoverable Hydrocarbons, PAH = Polycyclic Aromatic Hydrocarbons, PCB = Polychlorinated Biphenyls, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene

1058859

2/4

RECORD
ABN 50 005 085 521

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☐

☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Sydney Environmental Group	Project №	2300	Project Manager	MK
Address	U63, 45 Huntley Street Alexandria NSW	Project Name	WSU Milperra Campus SCA	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Lachlan Mulhearn	Sampler(s)	LM & LL	Handed over by	LM & LL
Phone №	1300 884 164	Primary Email	enviro@sydneyenvironmental.com.au	Secondary Email	"Mitch@" "Lachlan@" "Lawrence@"
Special Directions					
Purchase Order					
Quote ID №					

Analyses (Note: Where metals are requested, please specify "Total" or "Filtered". If SUITE code must be used to attract SUITE pricing.)

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)
☐ Overnight ☐ Same Day
☐ 1 Day ☐ 2 Day
☒ 3 Day ☐ 5 Day
☐ Other (

№	Client Sample ID	Sampled Date (dd/mm/yy)	Matrix (Solid (S) Water (W))	SEG Contam Suite 1 (TRH, BTEX, PAH, Metals, Asbestos ID)	SEG Contam Suite 2 (TRH, BTEX, PAH, Metals, OCP, PCB, Asbestos ID)	SEG Contam Suite 3 (TRH, BTEX, PAH, Metals, OCP, OPP, PCB, Asbestos ID)	SEG ENM Suite 1 (TRH, BTEX, PAH, Metals, pH, EC, Asbestos ID)	Salinity Assessment Suite (L2 Aggresivity Suite, ESP %)	Asbestos ID AS4964 (0.01%)	Asbestos ID NEPM & WA (0.001%)	B7 Suite (TRH, BTEX, PAH, Metals)	B13 Suite (OCP, PCB)	HOLD	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	AEC03-TP02-0.2-0.3	9/01/24	S							X												
2	" - TP03-0.2-0.3																					
3	" - TP04-0.2-0.3																					
4	" - TP05-0.2-0.3																					
5	" - TP06-0.2-0.3																					
6	" - TP06-1.0-1.2													X								
7	" - TP07-0.2-0.3									X												
8	" - TP08-0.2-0.3																					
9	" - TP09-0.2-0.3																					
10	" - TP10-0.2-0.3																					
11	" - TP12-0.2-0.3																					
12	" - TP18-0.2-0.3																					
13	" - TP19-0.2-0.3																					
14	" - TP20-0.2-0.3																					
15	" - TP21-0.2-0.3																					
16	" - TP22-0.2-0.3																					
17	" - TP23-0.2-0.3																					
18	" - TP24-0.2-0.3																					
19	" - TP27-0.2-0.3																					
20	" - TP28-0.2-0.3																					
	Total Counts									19			1									

Method of Shipment	☒ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Lachlan Mulhearn	Signature	[signature]	Date 11/1/24	Time 16:30
Eurofins | mgt Laboratory Use Only	Received By	SYD | BNE | MEL | PER | ADL |	Signature		Date		Time	:	Temperature
	Received By	SYD | BNE | MEL | PER | ADL |	Signature		Date		Time	:	Report №

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Note: Metals = As, Cd, Cr, Cu, Hg, Ni, Pb, and Zn), TRH = Total Recoverable Hydrocarbons, PAH = Polycyclic Aromatic Hydrocarbons, PCB = Polychlorinated Biphenyls, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene

3/9

RECORD

☑ Sydney Laboratory
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☐ Brisbane Laboratory
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07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Sydney Environmental Group	Project №	2300	Project Manager	Mitchell Kirby	Sampler(s)	Lawrence
Address	U63, 45 Huntley Street Alexandria NSW	Project Name	WSU Milperra campus SCA	EDD Format (ESdat, EQuIS, Custom)		Handed over by	
Contact Name	Lawrence					Primary Email	enviro@sydneyenvironmental.com.au mitchell@
Phone №	1300 884 164					Secondary Email	lawrence@ lachlan@
Special Directions							
Purchase Order							
Quote ID №							

Analyses: SEG Contam Suite 1 (TRH, BTEX, PAH, Metals, Asbestos ID); SEG Contam Suite 2 (TRH, BTEX, PAH, Metals, OCP, PCB, Asbestos ID); SEG Contam Suite 3 (TRH, BTEX, PAH, Metals, OCP, OPP, PCB, Asbestos ID); SEG ENM Suite 1 (TRH, BTEX, PAH, Metals, pH, EC, Asbestos ID); Salinity Assessment Suite (L2 Aggresivity Suite, ESP %); Asbestos ID AS4964 (0.01%); Asbestos ID NEPM & WA (0.001%); B7 Suite (TRH, BTEX, PAH, Metals); B13 Suite (OCP, PCB)

Containers: 1L Plastic; 250mL Plastic; 125mL Plastic; 200mL Amber Glass; 40mL VOA vial; 500mL PFAS Bottle; Jar (Glass or HDPE); Other (Asbestos AS4964/WA/Gemuel bags)

Turnaround Time (TAT) Requirements: ☐ Overnight ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day (circled) ☐ 5 Day ☐ Other (

№	Client Sample ID	Sampled Date (dd/mm/yy)	Matrix (Solid (S) Water (W))	SEG Contam Suite 1	SEG Contam Suite 2	SEG Contam Suite 3	SEG ENM Suite 1	Salinity Assessment Suite	Asbestos ID AS4964 (0.01%)	Asbestos ID NEPM & WA (0.001%)	B7 Suite	B13 Suite	Sample Comments / Dangerous Goods Hazard Warning
1	AEC03-TP67-0.2-0.3	10/1/24	S							X			
2	AEC03-TP68-0.2-0.3	↓	↓							↓			
3	AEC03-TP70-0.2-0.3	↓	↓							↓			
4	AEC03-TP71-0.2-0.3	↓	↓							↓			
5	AEC03-TP72-0.2-0.3	↓	↓							↓			
6	AEC03-TP73-0.2-0.3	↓	↓							↓			
7	AEC03-TP75-0.2-0.3	↓	↓							↓			
8	AEC03-TP76-0.2-0.3	11/1/24	↓							↓			
9	AEC03-TP77-0.2-0.3	↓	↓							↓			
10	AEC03-TP78-0.2-0.3	↓	↓							↓			
11	AEC03-TP79-0.2-0.3	↓	↓							↓			
12	AEC03-TP80-0.2-0.3	↓	↓							↓			
13	AEC03-TP84-0.2-0.3	↓	↓							↓			
14													
15													
16													
17													
18													
19													
20													
	Total Counts												

Method of Shipment	☐ Courier (#) ☐ Hand Delivered ☐ Postal	Name: Lawrence	Signature	Date: 11/1/24	Time
Eurofins | mgt Laboratory Use Only — Received By	Riham Al	SYD | BNE | MEL | PER | ADL |	Signature	Date: 11/1	Time: 5:48
Received By	Smaydi	SYD | BNE | MEL | PER | ADL |	Signature	Date	Time: pm
Temperature	N/A	Report №			

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt

Note: Metals = As, Cd, Cr, Cu, Hg, Ni, Pb, and Zn), TRH = Total Recoverable Hydrocarbons, PAH = Polycyclic Aromatic Hydrocarbons, PCB = Polychlorinated Biphenyls, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene

9/9

RECORD

☑ Sydney Laboratory
Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐

☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Sydney Environmental Group	Project №	2300
Address	U63, 45 Huntley Street Alexandria NSW	Project Name	WSU Milperra Campus SCA
Contact Name	Lawrence	Project Manager	Mitchell Kirby
Phone №	1300 884 164	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	Lawrence
Purchase Order		Handed over by	Lawrence
Quote ID №		Primary Email	enviro@sydneyenvironmental.com.au mitchell@
		Secondary Email	lawrence@ lachlan@

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked): ☐ Overnight ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day (circled) ☐ 5 Day ☐ Other (

Containers: 1L Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL VOA vial, 500mL PFAS Bottle, Jar (Glass or HDPE), Other (Asbestos AS4964/WA Guidelines)

Analyses (Note: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.)

№	Client Sample ID	Sampled Date (dd/mm/yy)	Matrix (Solid (S) Water (W))	SEG Contam Suite 1 (TRH, BTEX, PAH, Metals, Asbestos ID)	SEG Contam Suite 2 (TRH, BTEX, PAH, Metals, OCP, PCB, Asbestos ID)	SEG Contam Suite 3 (TRH, BTEX, PAH, Metals, OCP, OPP, PCB, Asbestos ID)	SEG ENM Suite 1 (TRH, BTEX, PAH, Metals, pH, EC, Asbestos ID)	Salinity Assessment Suite (L2 Aggresivity Suite, ESP %)	Asbestos ID AS4964 (0.01%)	Asbestos ID NEPM & WA (0.001%)	B7 Suite (TRH, BTEX, PAH, Metals)	B13 Suite (OCP, PCB)	Sample Comments / Dangerous Goods Hazard Warning
1	AEC01-TP17-0.2-0.3	11/1/24	S							X			
2	AEC01-TP18-0.2-0.3	↓	↓							↓			
3	AEC01-TP21-0.2-0.3	↓	↓							↓			
4	AEC01-TP22-0.2-0.3	↓	↓							↓			
5	AEC02-TP01-0.2-0.3	↓	↓							↓			
6	AEC02-TP02-0.2-0.3	↓	↓							↓			
7	AEC02-TP03-0.2-0.3	↓	↓							↓			
8	AEC02-TP04-0.2-0.3	↓	↓							↓			
9	AEC02-TP05-0.2-0.3	↓	↓							↓			
10	AEC02-TP06-0.2-0.3	↓	↓							↓			
11	AEC02-TP07-0.2-0.3	↓	↓							↓			
12	AEC02-TP08-0.2-0.3	↓	↓							↓			
13	AEC02-TP09-0.2-0.3	↓	↓							↓			
14	AEC02-TP10-0.2-0.3	↓	↓							↓			
15	AEC02-TP11-0.2-0.3	↓	↓							↓			
16	AEC02-TP12-0.2-0.3	↓	↓							↓			
17	AEC02-TP14-0.2-0.3	↓	↓							↓			
18	AEC02-TP15-0.2-0.3	↓	↓							↓			
19	AEC02-TP16-0.2-0.3	↓	↓							↓			
20													
	Total Counts												

Method of Shipment: ☐ Courier (#) (circled) ☐ Hand Delivered ☐ Postal — Name: Lawrence — Signature: [signature] — Date: 11/1/24 — Time:

Eurofins | mgt Laboratory Use Only							
Received By	Biban Al	SYD (circled) | BNE | MEL | PER | ADL |	Signature	Date 11/1	Time 5:18	Temperature	N/A
Received By	Smaydi	SYD | BNE | MEL | PER | ADL |	Signature [signature]	Date	Time —:— pm	Report №	

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Note: Metals = As, Cd, Cr, Cu, Hg, Ni, Pb, and Zn), TRH = Total Recoverable Hydrocarbons, PAH = Polycyclic Aromatic Hydrocarbons, PCB = Polychlorinated Biphenyls, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Sydney Environmental Group Pty Ltd
Unit 63/45 Huntley St
Alexandria
NSW 2015

Attention:	Lachlan Mulhearn
Report	1059273-AID
Project Name	WSU MILPERRA CAMPUS SCA
Project ID	2300
Received Date	Jan 12, 2024
Date Reported	Jan 18, 2024

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name WSU MILPERRA CAMPUS SCA
Project ID 2300
Date Sampled Jan 12, 2024
Report 1059273-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC02-TP13_0.2_0.3	24-Ja0013279	Jan 12, 2024	Approximate Sample 977g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP17_0.2_0.3	24-Ja0013280	Jan 12, 2024	Approximate Sample 798g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP18_0.2_0.3	24-Ja0013281	Jan 12, 2024	Approximate Sample 918g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP19_0.2_0.3	24-Ja0013282	Jan 12, 2024	Approximate Sample 834g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP20_0.2_0.3	24-Ja0013283	Jan 12, 2024	Approximate Sample 923g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP21_0.2_0.3	24-Ja0013284	Jan 12, 2024	Approximate Sample 756g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP22_0.2_0.3	24-Ja0013285	Jan 12, 2024	Approximate Sample 921g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP23_0.2_0.3	24-Ja0013286	Jan 12, 2024	Approximate Sample 721g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC02-TP24_0.2_0.3	24-Ja0013287	Jan 12, 2024	Approximate Sample 847g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP25_0.2_0.3	24-Ja0013288	Jan 12, 2024	Approximate Sample 865g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP26_0.2_0.3	24-Ja0013289	Jan 12, 2024	Approximate Sample 828g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP27_0.2_0.3	24-Ja0013290	Jan 12, 2024	Approximate Sample 795g Sample consisted of: Brown coarse grained sandy clayey soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP28_0.2_0.3	24-Ja0013291	Jan 12, 2024	Approximate Sample 748g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP28_1.1_1.2	24-Ja0013292	Jan 12, 2024	Approximate Sample 719g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP29_0.2_0.3	24-Ja0013293	Jan 12, 2024	Approximate Sample 833g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP29_1.2_1.3	24-Ja0013294	Jan 12, 2024	Approximate Sample 653g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP30_0.2_0.3	24-Ja0013295	Jan 12, 2024	Approximate Sample 895g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP30_1.1_1.2	24-Ja0013296	Jan 12, 2024	Approximate Sample 717g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP31_0.2_0.3	24-Ja0013297	Jan 12, 2024	Approximate Sample 791g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP32_0.2_0.3	24-Ja0013298	Jan 12, 2024	Approximate Sample 731g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP33_0.2_0.3	24-Ja0013299	Jan 12, 2024	Approximate Sample 885g Sample consisted of: Brown coarse-grained sandy soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC02-TP33_1.1_1.2	24-Ja0013300	Jan 12, 2024	Approximate Sample 731g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP34_0.2_0.3	24-Ja0013301	Jan 12, 2024	Approximate Sample 810g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP34_1.2_1.3	24-Ja0013302	Jan 12, 2024	Approximate Sample 767g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP35_0.2_0.3	24-Ja0013303	Jan 12, 2024	Approximate Sample 752g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP35_1.2_1.3	24-Ja0013304	Jan 12, 2024	Approximate Sample 682g Sample consisted of: Brown coarse grained sandy clayey soil, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP36_0.2_0.3	24-Ja0013305	Jan 12, 2024	Approximate Sample 755g Sample consisted of: Brown coarse grained sandy clayey soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP37_0.2_0.3	24-Ja0013306	Jan 12, 2024	Approximate Sample 647g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP38_0.2_0.3	24-Ja0013307	Jan 12, 2024	Approximate Sample 743g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP39_0.2_0.3	24-Ja0013308	Jan 12, 2024	Approximate Sample 821g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP40_0.2_0.3	24-Ja0013309	Jan 12, 2024	Approximate Sample 756g Sample consisted of: Brown coarse grained sandy clayey soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP40_1.2_1.3	24-Ja0013310	Jan 12, 2024	Approximate Sample 799g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP41_0.2_0.3	24-Ja0013311	Jan 12, 2024	Approximate Sample 736g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP41_1.2_1.3	24-Ja0013312	Jan 12, 2024	Approximate Sample 756g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AEC02-TP42_0.2_0.3	24-Ja0013313	Jan 12, 2024	Approximate Sample 750g Sample consisted of: Brown coarse grained sandy clayey soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP43_0.2_0.3	24-Ja0013314	Jan 12, 2024	Approximate Sample 687g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP44_0.2_0.3	24-Ja0013315	Jan 12, 2024	Approximate Sample 736g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP45_0.2_0.3	24-Ja0013316	Jan 12, 2024	Approximate Sample 719g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP46_0.2_0.3	24-Ja0013317	Jan 12, 2024	Approximate Sample 772g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP47_0.2_0.3	24-Ja0013318	Jan 12, 2024	Approximate Sample 742g Sample consisted of: Brown coarse grained sandy clayey soil, cement, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP48_0.2_0.3	24-Ja0013319	Jan 12, 2024	Approximate Sample 869g Sample consisted of: Brown coarse grained sandy clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP48_1.2_1.3	24-Ja0013320	Jan 12, 2024	Approximate Sample 756g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP49_0.2_0.3	24-Ja0013321	Jan 12, 2024	Approximate Sample 736g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP50_0.2_0.3	24-Ja0013322	Jan 12, 2024	Approximate Sample 764g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP51_0.2_0.3	24-Ja0013323	Jan 12, 2024	Approximate Sample 806g Sample consisted of: Brown coarse grained sandy clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AEC02-TP52_0.2_0.3	24-Ja0013324	Jan 12, 2024	Approximate Sample 826g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Jan 15, 2024	Indefinite

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Company Name: Sydney Environmental Group Pty Ltd
Address: Unit 63/45 Huntley St
Alexandria
NSW 2015

Project Name: WSU MILPERRA CAMPUS SCA
Project ID: 2300

Order No.:
Report #: 1059273
Phone: 1300 884 164
Fax:

Received: Jan 12, 2024 6:27 PM
Due: Jan 18, 2024
Priority: 3 Day
Contact Name: Lachlan Mulhearn

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines
Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	AEC02-TP13_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013279	X
2	AEC02-TP17_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013280	X
3	AEC02-TP18_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013281	X
4	AEC02-TP19_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013282	X
5	AEC02-TP20_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013283	X
6	AEC02-TP21_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013284	X
7	AEC02-TP22_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013285	X
8	AEC02-TP23_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013286	X

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
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NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Sydney Environmental Group Pty Ltd
Address: Unit 63/45 Huntley St
Alexandria
NSW 2015

Project Name: WSU MILPERRA CAMPUS SCA
Project ID: 2300

Order No.:
Report #: 1059273
Phone: 1300 884 164
Fax:

Received: Jan 12, 2024 6:27 PM
Due: Jan 18, 2024
Priority: 3 Day
Contact Name: Lachlan Mulhearn

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines
Sydney Laboratory - NATA # 1261 Site # 18217						X
9	AEC02-TP24_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013287	X
10	AEC02-TP25_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013288	X
11	AEC02-TP26_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013289	X
12	AEC02-TP27_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013290	X
13	AEC02-TP28_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013291	X
14	AEC02-TP28_1.1_1.2	Jan 12, 2024		Soil	S24-Ja0013292	X
15	AEC02-TP29_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013293	X
16	AEC02-TP29_1.2_1.3	Jan 12, 2024		Soil	S24-Ja0013294	X
17	AEC02-TP30_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013295	X
18	AEC02-	Jan 12, 2024		Soil	S24-Ja0013296	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Sydney Environmental Group Pty Ltd
Address: Unit 63/45 Huntley St
Alexandria
NSW 2015

Project Name: WSU MILPERRA CAMPUS SCA
Project ID: 2300

Order No.:
Report #: 1059273
Phone: 1300 884 164
Fax:

Received: Jan 12, 2024 6:27 PM
Due: Jan 18, 2024
Priority: 3 Day
Contact Name: Lachlan Mulhearn

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines
Sydney Laboratory - NATA # 1261 Site # 18217						X
18	AEC02-TP30_1.1_1.2	Jan 12, 2024		Soil	S24-Ja0013296	
19	AEC02-TP31_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013297	X
20	AEC02-TP32_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013298	X
21	AEC02-TP33_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013299	X
22	AEC02-TP33_1.1_1.2	Jan 12, 2024		Soil	S24-Ja0013300	X
23	AEC02-TP34_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013301	X
24	AEC02-TP34_1.2_1.3	Jan 12, 2024		Soil	S24-Ja0013302	X
25	AEC02-TP35_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013303	X
26	AEC02-TP35_1.2_1.3	Jan 12, 2024		Soil	S24-Ja0013304	X
27	AEC02-	Jan 12, 2024		Soil	S24-Ja0013305	X

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Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines
Sydney Laboratory - NATA # 1261 Site # 18217						X
	TP36_0.2_0.3					
28	AEC02-TP37_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013306	X
29	AEC02-TP38_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013307	X
30	AEC02-TP39_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013308	X
31	AEC02-TP40_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013309	X
32	AEC02-TP40_1.2_1.3	Jan 12, 2024		Soil	S24-Ja0013310	X
33	AEC02-TP41_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013311	X
34	AEC02-TP41_1.2_1.3	Jan 12, 2024		Soil	S24-Ja0013312	X
35	AEC02-TP42_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013313	X
36	AEC02-TP43_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013314	X

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Sample Detail						Asbestos - WA guidelines
Sydney Laboratory - NATA # 1261 Site # 18217						X
37	AEC02-TP44_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013315	X
38	AEC02-TP45_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013316	X
39	AEC02-TP46_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013317	X
40	AEC02-TP47_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013318	X
41	AEC02-TP48_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013319	X
42	AEC02-TP48_1.2_1.3	Jan 12, 2024		Soil	S24-Ja0013320	X
43	AEC02-TP49_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013321	X
44	AEC02-TP50_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013322	X
45	AEC02-TP51_0.2_0.3	Jan 12, 2024		Soil	S24-Ja0013323	X
46	AEC02-	Jan 12, 2024		Soil	S24-Ja0013324	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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NSW 2015

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Contact Name: Lachlan Mulhearn

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - WA guidelines
Sydney Laboratory - NATA # 1261 Site # 18217						X
	TP52_0.2_0.3					
Test Counts						46

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V = r x t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**). This estimate is not NATA-accredited.
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to “non-bonded / friable”.
AFM	Airborne Fibre Monitoring, e.g., by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total %w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average %w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

RECORD
ABN 50 005 085 521

☒ **Sydney Laboratory** Unit F3 Bld.F, 16 Mars Rd. Lane Cove West. NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com
☐ **Brisbane Laboratory** Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com
☐
☐ **Melbourne Laboratory** 2 Kingston Town Close, Oakleigh, VIC 3166 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Sydney Environmental Group	Project №	2300	Project Manager	Mitch Kirby
Address	U63, 45 Huntley Street Alexandria NSW	Project Name	WSU Milperra Campus SCA	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Lachlan Mulhearn				
Phone №	1300 884 164				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	LM & LL
Handed over by	LM & LL
Primary Email	enviro@sydneyenvironmental.com.au
Secondary Email	"Lachlan@~ "Mitch@~ "Lawrence@~

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)
☐ Overnight ☐ Same Day
☐ 1 Day ☐ 2 Day
☒ 3 Day ☐ 5 Day
☐ Other (

Analyses (Note: Where metals are requested, please specify "Total" or "Filtered") SUITE codes must be used to attract SUITE pricing.

№	Client Sample ID	Sampled Date (dd/mm/yy)	Matrix (Solid (S) Water (W))	SEG Contam Suite 1 (TRH, BTEX, PAH, Metals, Asbestos ID)	SEG Contam Suite 2 (TRH, BTEX, PAH, Metals, OCP, PCB, Asbestos ID)	SEG Contam Suite 3 (TRH, BTEX, PAH, Metals, OCP, OPP, PCB, Asbestos ID)	SEG ENM Suite 1 (TRH, BTEX, PAH, Metals, pH, EC, Asbestos ID)	Salinity Assessment Suite (L2 Aggresivity Suite, ESP %)	Asbestos ID AS4964 (0.01%)	Asbestos ID NEPM & WA (0.001%)	B7 Suite (TRH, BTEX, PAH, Metals)	B13 Suite (OCP, PCB)	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	AEC02-TP13-0.2-0.3									X											
2	" - TP17-0.2-0.3									↓											
3	" -TP18-0.2-0.3									↓											
4	" -TP19-0.2-0.3									↓											
5	" -TP20-0.2-0.3									↓											
6	" -TP21-0.2-0.3									↓											
7	" -TP22-0.2-0.3									↓											
8	" -TP23-0.2-0.3									↓											
9	" -TP24-0.2-0.3									↓											
10	" -TP25-0.2-0.3									↓											
11	" -TP26-0.2-0.3									↓											
12	" -TP27-0.2-0.3									↓											
13	" -TP28-0.2-0.3									↓											
14	" -TP28-1.1-1.2									↓											
15	" -TP29-0.2-0.3									↓											
16	" -TP29-1.2-1.3									↓											
17	" -TP30-0.2-0.3									↓											
18	" -TP30-1.1-1.2									↓											
19	" -TP31-0.2-0.3									↓											
20	" -TP32-0.2-0.3									↓											
	Total Counts									20											

Method of Shipment	☐ Courier (#) ☐ Hand Delivered ☐ Postal	Name	Lachlan Mulhearn	Signature	[signature]	Date 12/1/24	Time 17:00
Eurofins | mgt Laboratory Use Only	Received By Moorcroft SYD | BNE | MEL | PER | ADL |	Signature	[signature]	Date	12/1	Time 6:26pm	Temperature 7.4
	Received By SYD | BNE | MEL | PER | ADL |	Signature		Date		Time	Report №

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt
Note: Metals = As, Cd, Cr, Cu, Hg, Ni, Pb, and Zn), TRH = Total Recoverable Hydrocarbons, PAH = Polycyclic Aromatic Hydrocarbons, PCB = Polychlorinated Biphenyls, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene

1054273

2/3

RECORD

ABN 50 005 085 521

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03 8564 5000 EnviroSampleVic@eurofins.com

Company	Sydney Environmental Group	Project №	2300
Address	U63, 45 Huntley Street Alexandria NSW	Project Name	WSU Milperra Campus SCA
Contact Name	Lachlan Mulhearn	Project Manager	Mitch Kirby
Phone №	1300 884 164	EDD Format (ESdat, EQuIS, Custom)	
Special Directions		Sampler(s)	LM + ZL
Purchase Order		Handed over by	LM 3LL
Quote ID №		Primary Email	enviro@sydneyenvironmental.com.au
		Secondary Email	"Lachlan@" "Mitch@" "Lawrence@"

Analyses (Note: Where metals are requested, please specify "Total" or "Filtered"; SUITE code must be used to attract SUITE pricing.)

№	Client Sample ID	Sampled Date (dd/mm/yy)	Matrix (Solid (S) Water (W))	SEG Contam Suite 1 (TRH, BTEX, PAH, Metals, Asbestos ID)	SEG Contam Suite 2 (TRH, BTEX, PAH, Metals, OCP, PCB, Asbestos ID)	SEG Contam Suite 3 (TRH, BTEX, PAH, Metals, OCP, OPP, PCB, Asbestos ID)	SEG ENM Suite 1 (TRH, BTEX, PAH, Metals, pH, EC, Asbestos ID)	Salinity Assessment Suite (L2 Aggresivity Suite, ESP %)	Asbestos ID AS4964 (0.01%)	Asbestos ID NEPM & WA (0.001%)	B7 Suite (TRH, BTEX, PAH, Metals)	B13 Suite (OCP, PCB)
1	AEC02 - TP33 - 0.2-0.3	12/1/24	S							X		
2	" - TP33 - 1.1-1.2											
3	" - TP34 - 0.2-0.3											
4	" - TP34 - 1.2-1.3											
5	" - TP35 - 0.2-0.3											
6	" - TP35 - 1.2-1.3											
7	" - TP36 - 0.2-0.3											
8	" - TP37 - 0.2-0.3											
9	" - TP38 - 0.2-0.3											
10	" - TP39 - 0.2-0.3											
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
	Total Counts											

Containers: 1L Plastic; 250mL Plastic; 125mL Plastic; 200mL Amber Glass; 40mL VOA Vial; 500mL PFAS Bottle; Jar (Glass or HDPE); Other (Asbestos AS4964, WA Guidelines); Sample Comments / Dangerous Goods Hazard Warning

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- ☐ 5 Day
- ☐ Other (

Method of Shipment	☐ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Lachlan Mulhearn	Signature		Date	12/1/23	Time	17:00
Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL |	Signature		Date		Time	:__	Temperature	
	Received By		SYD | BNE | MEL | PER | ADL |	Signature		Date		Time	:__	Report №	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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Note: Metals = As, Cd, Cr, Cu, Hg, Ni, Pb, and Zn), TRH = Total Recoverable Hydrocarbons, PAH = Polycyclic Aromatic Hydrocarbons, PCB = Polychlorinated Biphenyls, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene

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3/3

RECORD

ABN 50 005 085 521

☒ Sydney Laboratory
Unit F3 Bld F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1, 21 Smallwood Pl, Murarrie, QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐

☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Sydney Environmental Group	Project №	2300	Project Manager	Mitchell Kirby
Address	U63, 45 Huntley Street Alexandria NSW	Project Name	WSU Milperra campus SCA	EDD Format (ESdat, EQuIS, Custom)	
Contact Name	Lawrence			Sampler(s)	Lawrence
Phone №	1300 884 164			Handed over by	
Special Directions				Primary Email	enviro@sydneyenvironmental.com.au Mitchell P
Purchase Order				Secondary Email	Lawrence & Lachlan P
Quote ID №					

Analyses (Note: Where multiple tests requested, please specify "Total" or "Filtered". SUITE codes must be used to reflect SUITE analysis.)

Containers: 1L Plastic; 250mL Plastic; 125mL Plastic; 200mL Amber Glass; 40mL VOA vial; 500mL PFAS Bottle; Jar (Glass or HDPE); Other (Asbestos AS4964, WA Guidelines)

Turnaround Time (TAT) Requirements (Default will be 5 days if not stated): ☐ Overnight ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 5 Day ☐ Other (

№	Client Sample ID	Sampled Date (dd/mm/yy)	Matrix (Solid (S) Water (W))	SEG Contam Suite 1 (TRH, BTEX, PAH, Metals, Asbestos ID)	SEG Contam Suite 2 (TRH, BTEX, PAH, Metals, OCP, PCB, Asbestos ID)	SEG Contam Suite 3 (TRH, BTEX, PAH, Metals, OCP, OPP, PCB, Asbestos ID)	SEG ENM Suite 1 (TRH, BTEX, PAH, Metals, pH, EC, Asbestos ID)	Salinity Assessment Suite (L2 Aggresivity Suite, ESP %)	Asbestos ID AS4964 (0.01%)	Asbestos ID NEPM & WA (0.001%)	B7 Suite (TRH, BTEX, PAH, Metals)	B13 Suite (OCP, PCB)	Sample Comments / Dangerous Goods Hazard Warning
1	AEC02-TP40-0.2-0.3	12/1/24	S							X			
2	AEC02-TP40-1.2-1.3												
3	AEC02-TP41-0.2-0.3												
4	AEC02-TP41-1.2-1.3												
5	AEC02-TP42-0.2-0.3												
6	AEC02-TP43-0.2-0.3												
7	AEC02-TP44-0.2-0.3												
8	AEC02-TP45-0.2-0.3												
9	AEC02-TP46-0.2-0.3												
10	AEC02-TP47 0.2-0.3												
11	AEC02-TP48-0.2-0.3												
12	AEC02-TP48-1.2-1.3												
13	AEC02-TP49-0.2-0.3												
14	AEC02-TP50-0.2-0.3												
15	AEC02-TP51-0.2-0.3												
16	AEC02-TP52-0.2-0.3												
17													
18													
19													
20													
	Total Counts												

Method of Shipment	☐ Courier ( ) ☐ Hand Delivered ☐ Postal	Name	Lawrence	Signature		Date	12/1/24 Time
Eurofins | mgt Laboratory Use Only	Received By	SYD | BNE | MEL | PER | ADL		Signature		Date 12/1 Time 6:24 pm	Temperature 3.3
	Received By	SYD | BNE | MEL | PER | ADL		Signature		Date	Time — Report №

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