Data Gap Assessment – Upgrades to Melrose Park Public School

110 Wharf Road, Melrose Park NSW

Prepared for: JohnStaff Pty Ltd on behalf of Department of Education

A101023.0436.01 | A101023.0436.01.DGA.Melrose_v2f | Date: 1/04/2025

ADE CONSULTING GROUP

Document Information

Report Title:	Data Gap Assessment – Upgrades to Melrose Park
Prepared for:	JohnStaff Pty Ltd on behalf of NSW Department of Education
Project Address:	110 Wharf Road, Melrose Park NSW
File Reference:	A101023.0436.01
Report Reference:	A101023.0436.01.DGA.Melrose_v2f

Document Control

Version	Date	Author	Revision description	Reviewer
V1d	24/01/2025	Nicholas Maricic	Draft for client review	Andrew Hunt
V1f	06/03/2025	Karin Azzam	Final for issue	Sam Goldsmith
V2f	01/04/2025	Karin Azzam	Minor Updates	Sam Goldsmith

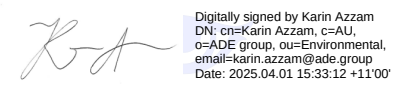
Distribution

Version	Date	Format	No. of Copies	Distributed To
V2f	01/04/2025	PDF	1	Johnstaff Pty Ltd

For and on behalf of

ADE Consulting Group Pty Ltd
ABN: 14 617 358 808
Unit 6/7 Millenium Ct
Silverwater NSW 2128

Prepared and issued by:



Karin Azzam
Environmental Consultant

Reviewed by:

Sam Goldsmith
April 1, 2025

Sam Goldsmith
Senior Environmental Consultant

T. 1300 796 922| E. info@ade.group

CONTENTS

Tables

Figures

Appendices

Abbreviations

Abbreviation	Definition
ACM	Asbestos Containing Material
ADE	ADE Consulting Group Pty Ltd
AHD	Australian Height Datum
AS	Australian Standard
BGL	Below Ground Level
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
COC	Chain of Custody
CoPCs	Contaminants of Potential Concern
CSM	Conceptual Site Model
DP	Deposited Plan
BYDA	Before You Dig Australia
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EILs	Ecological Investigation Levels
EPA	Environment Protection Authority
EMP	Environmental Management Plan
ESLs	Ecological Screening Levels
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LEP	Local Environmental Plan
LGA	Local Government Area
m BGL	meters Below Ground Level
NATA	National Association of Testing Authorities
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW	New South Wales
NSW EPA	New South Wales Environment Protection Authority
OPPs	Organophosphorus Pesticides
OCPs	Organochlorine Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PFAS	Per-fluoroalkyl substances
PQL	Practical Quantification Limit
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SAC	Site Assessment Criteria

Executive Summary

Background and Objective

ADE Consulting Group Pty Ltd (ADE) was engaged by JohnStaff Pty Ltd (JohnStaff) on behalf of the NSW Department of Education (DoE) to undertake a data gap assessment (DGA) at Melrose Park Public School (MPPS) at 110 Wharf Road, Melrose Park NSW 2114 (the "site") to investigate the nature and extent of contamination (if any) within a sporting or playing field situated in the south-western portion (the "investigation area").

This DGA is a supplementary investigation to the Detailed Site Investigation (DSI) following revision to the proposed development area and has been prepared to complement a pre-existing review of environmental factors (REF) for the upgrade of the MPPS (the 'activity'). The purpose of the REF was to assess the potential environmental impacts of the activity prescribed by State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP and in consideration of the stakeholder and community participation plan.

The primary objective of this DGA is to evaluate whether unacceptable contamination may exist within the revised development area and determine whether further investigation, remediation or management is required prior to the proposed activity. A secondary objective is to provide preliminary advice regarding the off-site management of material which may be surplus to project design requirements during the activity.

Scope of Works

The scope of work consisted of:

- Preliminary works including a review and summary of the findings from the Phase I - detailed site investigation (DSI) undertaken by ADE in 2023 (ADE, 2023) and development of a soil sampling plan.
- Site inspection and an intrusive investigation involving the advancement of 17 test pits across the investigation area using an excavator to enable assessment of the sub-surface lithology and collection of representative soil samples for laboratory analysis.
- Data evaluation and provision of this DGA report with findings and recommendations from the assessment.

Summary of key findings

The key findings of the investigation are listed below:

- No buildings have existed on the investigation area since its original use as a rural property and throughout the history of Melrose Park Public School since 1945 where it has been used as an open playing and sports field.
- The school is surrounded by low to medium density residential properties to the east and commercial industrial properties to the North, South and West.
- The investigation area is underlain by shallow topsoil and fill comprised of a Silty Sandy Clay which is overlying natural residuals Clay.
- Observations of the sub-surface soils at the locations assessed did not note any visual / olfactory indications of contamination or asbestos.
- Analytical soils results were reported below adopted site assessment criteria (SAC).

- In-situ soil materials appear to be chemically consistent with the criteria assigned for 'General Solid Waste (non-putrescible)' as per the NSW EPA (2014) Waste Classification Guidelines.

Conclusions and Recommendations

Based on the analytical results collected from soil samples analysed across the investigation area, the in-situ soils represent a 'low risk' of contamination and are considered suitable for the proposed development and ongoing land-use as a primary school.

The following recommendations to mitigate potential environmental and pollution risks during the activity are made:

- Mitigation measures include the preparation of suitably management plans for construction and potential unexpected finds prior to site preparation and bulk earth works commencing and may include but not necessarily be limited to:
    - Construction environment management plan.
    - Soil and water management plan.
    - Noise and vibration management plan.
- Waste generated by the activity must be disposed in accordance with the POEO Act.

A final classification in accordance with NSW EPA (2014) Waste Classification Guidelines should be completed considering the minimum sampling densities for the volume of material, ensuring waste is disposed to suitably licenced facilities.

1 Introduction

ADE Consulting Group Pty Ltd (ADE) was engaged by JohnStaff Pty Ltd (JohnStaff) on behalf of the NSW Department of Education (DoE) to undertake a data gap assessment (DGA) at Melrose Park Public School (MPPS) at 110 Wharf Road, Melrose Park NSW 2114 (the "site").

ADE understands that the site will be redeveloped to provide new classrooms and core facilities at MPPS to meet anticipated enrolment growth in the area.

ADE has previously completed a preliminary site investigation (PSI) in 2023 (ADE, 2023) and detailed site investigation (DSI) in 2024 (ADE, 2024) for the central and eastern portion of the site. This DGA is a supplementary investigation to the DSI (ADE, 2024) following revision to the design plans for the upgrades to MPPS (the "activity") and is a targeted investigation of an area in the western portion of the site (the "investigation area") currently in use as a playing field. This DGA is required to investigate the nature and extent of contamination (if any) within the investigation area prior to the activity.

This DGA has been prepared to accompany a Review of Environmental Factors (REF) for the activity proposed by the Department of Education under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPP TI). To support the REF, environmental factors in the *Guidelines for Division 5.1 assessments* by the Department of Planning, Housing and Infrastructure that are relevant to this report have been considered and summarised in **Section 2** of this report.

The site locality and investigation area have been presented in **Figure 1** and **Figure 2** in **Appendix A**.

1.1 Activity Description

The activity is for upgrades to Melrose Park Public School within a one to three-storey built form, including

- Demolition of existing school buildings;
- Site preparation works including tree removal;
- Construction of the following buildings:
    - **Block A**: One (1) storey building comprising;
        - universal pre-school (UPS)
        - outdoor play area for the UPS; and
        - detached storeroom;
    - **Block B1**: Two (2) storey building comprising:
        - staff and administration areas;
        - library;
        - 4 special programs rooms;
        - Pedestrian bridge to Block B2;
    - **Block B2:** Three (3) storey building comprising:
        - 23 classrooms;
        - amenities/services cores; and
        - pedestrian bridge to Block B3;
    - **Block B3:** Three (3) storey building comprising:
        - 12 classrooms; and
        - amenities/services cores;

- **Block C**: One (1) storey building comprising:
  - hall;
  - amenities;
  - canteen;
  - OSHC; and
  - COLA;

- Construction of two (2) car parking areas; and
- Landscaping works.

Refer to **Appendix B** for site plans showing the footprint of the activity.

1.2 Activity Site

Melrose Park Public School is located at 110 Wharf Road, Melrose Park and is legally known as Lot 3 in DP 535298 with an approximate site area of 2.5 hectares. The site has a frontage to Wharf Road (east), Mary Street (south), and Waratah Street (west). The site is adjoined by 2-3 storey light industrial development to the north, 1-2 storey industrial and commercial developments to the south, residential dwellings to the east and industrial and commercial development to the west. The site locality is presented in **Figure 1** (**Appendix A**).

1.3 Objectives

The objectives of the DGA were to:

- Support the REF for the proposed activity by determining whether unacceptable contamination may exist within the activity area and determine whether further investigation, remediation or management is required prior to commencing the activity.
- Provide preliminary advice regarding the offsite management of material as waste which may be surplus to requirements.

1.4 Scope of Work

The scope of work required to achieve the objectives of the investigation involved the following:

- Completing a desktop review to identify historical land uses and the former/current environment condition of the investigation area.
- Undertaking a walkover to identify potential sources of contamination, including within surrounding land-uses.
- Perform a suitable intrusive sampling regime to assess and characterise soil material within the investigation area per email proposal sent on 10 January 2025.
- Deliver a DGA report which outlines the investigation methodology and interpretation of results, including conclusions and recommendations with reference to the inferred land-use suitability setting.

1.5 Legislation and Guidelines

This report has been prepared in accordance with the following guidelines and legislation:

- Contaminated Land Management Act 1997 (CLM Act)
- Environmental Planning and Assessment Act 1979 (EP&A Act)

- National Environment Protection Council (NEPC) – National Environment Protection (Assessment of Site Contamination) Measure 1999 (as Amended 2013) (ASC NEPM, 2013)
- Protection of the Environment Operations Act 1997 (POEO Act).
- Work Health and Safety Act 2011 (WHS Act).
- Work Health and Safety Regulation 2017,

The investigation was carried out in compliance with the following principal acts and regulations, and national and international guidance:

- Protection of the Environment Operations (Waste) Regulation 2014
- NSW Environment Protection Authority (EPA). 2014. Waste Classification Guidelines – Part 1: Classifying Waste (NSW EPA, 2014).
- NSW EPA. 2017. Contaminated Land Management: *Guidelines for the NSW Site Auditor Scheme, 3rd edition* (NSW EPA, 2017).
- NSW EPA. 2020. Guidelines for Consultants Reporting on Contaminated Land, (NSW EPA, 2020)
- NSW EPA. 2022. Sampling Design guidelines for contaminated land (NSW EPA, 2022)
- Western Australian Department of Health (DoH). 2009. Guidelines for the assessment, remediation and management of asbestos contaminated sites (WA DoH, 2009).
    - ADE note the WA DoH guidelines were updated in 2021, however the updated version has not been endorsed by the NSW EPA.
- State Environmental Planning Policy (Resilience and Hazards) 2021

2 Review of environmental factors

This report examines and takes into account relevant environmental factors in the *Guidelines for Division 5.1 assessments* (the Guidelines) by the Department of Planning, Housing and Infrastructure and *Environmental Planning and Assessment Regulations 2021* under Section 170, Section 171 and Section 171A of the EP&A Regulation as outlined in **Table 1** below.

Table 1: Summary of Relevant Section of the Part 5 Guidelines and EP&A Regulation

Regulation / Guideline Section	Requirement	Response	Report Section
(j) risk to safety of the environment	(j1) whether the development will have adverse environmental impacts (flood or stormwater runoff, storm surge, bushfire, ongoing maintenance of landscaping within the Asset Protection Zone, contamination leak, wind speeds, extreme heat, urban heat, climate change adaptation) on the surrounding area, particularly in sensitive environmental, cultural areas or residential neighbourhoods. (j2) impacts on soil resources and related infrastructure and riparian lands on and near the site, soil erosion, salinity and acid sulfate soils, surface water resources (quality and quantity), hydrology, dependent ecosystems, drainage lines, downstream assets and watercourses, groundwater resources.	From ASC NEPM (2013): *"The purpose of site assessment is to determine the human health and ecological risks associated with the presence of site contamination and to inform any remediation or management plan to make the site fit for the current or proposed land use".* Based on the data obtained during the DSI (ADE, 2024) and this DGA, ADE considers that there is a low and acceptable risk from contamination at the site and that the site is suitable for its ongoing as a primary school. This is based upon the generic land-use scenario provided in ASC NEPM (2013) and Tier 1 threshold criteria. The activity's impact on soil resources is not anticipated to increase and mitigation measures have been	Section 12.6 Site suitability statement. Section 4 Environmental setting,
(l) pollution of the environment	(l) any pollution during construction and post construction e.g., air (including odours and greenhouse gases) water (including runoff patterns, flooding/ tidal regimes, water quality health); soil (including contamination, erosions, instability risks); noise and vibration (including consideration of sensitive receptors); light pollution; waste, including hazardous waste. (l2) impact of contamination spill, movement or disturbance during and post construction, and into the long term.	The site was not considered to be significantly contaminated. To manage potential risks associated with construction activities including pollutions events such as sediment runoff, mitigation measures were proposed.	Section 13 Mitigation Measures

Regulation / Guideline Section	Requirement	Response	Report Section
	(l3) impact of potential rainfall or flood event during construction (e.g. storage of fuel for construction vehicles, stockpiles of soil, etc). (l4) dangerous goods and hazardous material associated with the development (i.e. labs).		

2.1 REF Review Checklist

The following REF Review Checklist items provided by the DoE (and relevant to this report) have been presented in **Table 2** below, along with the associated section of the report.

Table 2: REF review checklist of relevant items

Item	Comment
Details of: - **The proposed activity.**	Section 1.1
- **Relevant legislation and policies.**	Section 1.5
- **Relevant plans**	Appendix B
A description of the site and surrounding environment.	Section 3
Preparation of a DSI that concludes there is a low risk of contamination and that the site is suitable for the use of the site as a school	Section 12
Address all the potential sources of contamination mentioned	Section 6 and Section 11
Summarise investigations undertaken and conclude that contamination risk has been appropriately addressed.	Executive Summary and Section 12
DSI concluded that the proposal would not be likely to result in significant environmental effects as a result of contamination and/or contamination management.	Section 12
Mitigation measures recommended	Section 13

3 Site Identification and Surrounding Environment

3.1 Location and details

MPPS is located at 110 Wharf Road, Ermington and is situated within the local government area (LGA) of the City of Parramatta. The site is legally defined as Lot 3 of Deposited Plan (DP) 535298 and is currently zoned as 'SP2 – Infrastructure Educational Establishment' as per the Parramatta Local Government Environmental Plan (PLEP) 2023.

The investigation area is an open green space for use as a playing field within the MPPS school grounds with an approximate area of 6,188 m^2 and is proposed to be developed into a new carpark and pedestrian walkways under the revised developmental plans. The investigation area details have been summarised in **Table 3**.

Table 3: Site identification

Site Details	Description
Site address:	110 Wharf Road, Ermington 2114 NSW
Title identification:	Lot 3 in Deposited Plan (DP) 535298
Site area:	0.62 ha
Area of Investigation	6188.88 m2
Council Area:	City of Parramatta Council
Land Use Zoning:	SP2- Infrastructure Educational Establishment
Current Site Owner:	Department of Education, NSW
Current/Future Land Use:	Educational purposes/school (primary school)
Local Environmental Plan	Parramatta Local Government Environmental Plan (PLEP) 2023

3.2 Surrounding features

The surrounding land uses are summarised in **Table 4.**

Table 4: Surrounding land uses.

Direction	Description
North	Commercial industrial buildings housing various businesses border the sampling area to the north. Hope Street is to the immediate north. Beyond Hope Street is the site for the new Melrose Park development.
East	Low density residential properties situated along Wharf Road, followed by Lancaster Avenue, Jennifer Park Playground and Cobham Avenue. The Ryde Parramatta Golf Club is situated further to the east.
South	Beyond the southern school boundary is Mary Street, followed by a dermatologist and a timber supplies business. South of these buildings is a small car park at the southern end of Wharf Road that leads to a boat jetty. The Parramatta River is approximately 300 m south of the site boundary and flows east.

Direction	Description
West	Waratah Street lies immediately beyond the school boundary, which features various light to medium commercial industrial properties. Approximately 200 m west lies Ford and Hyundai service centres.

4 Environmental setting

The site's environmental setting was developed from a desktop study conducted as part of the Preliminary Site Investigation (PSI), (ADE, 2023) and included a review of site topography, geology, soil landscapes, hydrogeology, and other relevant information from readily available sources. The environmental setting has been summarised in **Table 5**.

Table 5: Environmental setting,

Attribute	Description
Topography	The site is located on the western side of Wharf Road. The site surface was generally flat with a slight dip in elevation occurring towards the west side of the site. Relative levels (RL) of the site were 14 meters Australian Height Datum (AHD) in the north of the site and 10m AHD on the western border.
Site drainage	The site surface was mostly covered in grass with many buildings having open or raised undersides. Stormwater drains were observed from buildings flowing directly into the soil. Rainwater is likely to collect in gutters and downpipes, followed by pooling on the ground surface, then vertical percolation through the topsoil and underlying residual soil materials. Rainwater transported through overland flow is likely to be transported along local roads and stormwater systems towards the south-west part of the site, before ultimately discharging into Paramatta River.
Nearest surface water features	The investigation area sits approximately 300m south of the Parramatta River, with Archer Creek situated roughly 400m to the east of the site.
Local geology and soil	The Sydney 1:100,000 Soil Landscape Series Sheet 9130 (NSW Department of Climate Change. Energy, the Environment and Water, 1983), indicates that the site overlies soil of the Residual Lucas Heights (REIh) landscape comprising of gently undulating crests and ridges on plateau surfaces of the Mittagong Formation. Local relief 30m, slopes <10%. The Mittagong formation comprises of interbedded shale, laminate and fine to medium grained quartz sandstone. Soils typically consist of hard setting yellow podzolic soils and yellow sloths at moderately deep depths (50-150cm). (Chapman and Murphy, 2002). The Sydney 1:100,000 Geological Series Map indicates the site is underlain by the Wianamatta group (Rh) which consists of Medium to coarse-grained quartz sandstone, very minor shale and laminate lenses.
Hydrogeology & Groundwater	The underlying soil in the area generally consists of porous, extensive aquifers of low to moderate productivity. There were no registered groundwater wells at the site or within a 500 m radius of the site. Groundwater is generally anticipated to flow in a south to south-westerly direction, towards Parramatta River, consistent with local topography.

	The Sharing and Enabling Environmental Data (SEED) interactive mapping tool published by the NSW Department of Planning, Industry and Environment show that the site and surrounding area does not encroach on any aquatic, terrestrial or subterranean Groundwater Dependent Ecosystems (GDE). The closest GDE is the riparian area associated with Parramatta Road situated approximately 100 m south of the southern site boundary.
Acid sulfate soil risk	The probability of acid sulfate soil risk at the site is low. The site is mapped outside of any known occurrence of acid sulfate soils in the Parramatta Local Environmental Plan 2023 (LEP). A review of the Acid Sulfate Soils (ASS) (LEP, 2023) identified the Site to be located upon Class 5 acid sulfate soils risk management zone, meaning that "development consent is required for the carrying out of works within 500m of adjacent Class 1, 2, 3 or 4 land that is below 5m AHD and by which the water table is likely to be lowered below 1m AHD on adjacent Class 1, 2, 3 or 4 land". The site is situated approximately 100 m north from Archer Park that forms part of the riparian zone of Parramatta River and which is Class 2 land where PASS may be found on and below the natural ground surface.

5 Site History and Previous Environmental Investigations

5.1 Site history

Melrose Park Public School was first established in 1945 and has been used solely for education purposes since. Over the last approximately 80 years, the school has seen ongoing development to meet the increased demand including demountable structures, amenities (such as outdoor play equipment, overhead shade etc.), a library, a school hall, a kitchen garden and a bathroom block. Industrial expansion in neighbouring properties has continuously occurred since the 1960s.

5.2 Previous Environmental Investigations

From the findings of the previously completed PSI (ADE, 2023) and DSI (ADE 2024), the investigation area was inferred to pose a low contamination risk. The school site itself has no historical contamination sources, and potential risks identified mainly stem from offsite factors. A summary of previously completed investigations has been provided in the following sections.

5.2.1 (ADE, 2023). Phase I - Preliminary Site Investigation

In 2023, ADE completed a PSI (ADE, 2023) for Melrose Park Public School which included a review of available desktop information (including historic aerials and land titles), a site inspection to assess for potential sources of contamination on and off-site and development of a CSM for the proposed redevelopment. The key findings from ADE (2023) are articulated below:

- The area of the school was primarily used for rural residential or agricultural purposes until 1945 when Melrose Park Public School was established.
- Sources of potential contamination included:
    - Due to the nature of construction from the 1940s to 1960's and the prevalent use of asbestos and lead materials during this time period, potential asbestos containing material (ACM) and or lead-containing products may have impacted the surficial and/or upper soil profile.

- Potential uncontrolled / uncharacterised imported fill materials of unknown origin which was likely used to engineer surfaces and foundations for current structures. Importation of fill of unknown origin across the site could potentially contain various contaminants of concern including heavy metals, OCPs, OPPs, PCBs, PAHs, TRHs and BTEX.
- OCPs / OPPs from general pest control as well as pesticides that could have been sprayed or injected on or underneath concrete slabs including arsenic to treat timbers.
- Potential oil and grease contamination due to significant run-off or flooding from adjacent major roads.
- Contamination due to degradation of student waste or "littering" into bushland area, for example aerosol sprays crayons, etc.
- Potential asbestos containing cement roof of warehouse immediately to the north of the site. Over time, asbestos roofs can deteriorate and release small amounts of asbestos fibres.
- Potential impact from petrol or oil spillage from used car dealership immediately north of the site.
- Former chemical, pharmaceutical and veterinary production and waste generation at the former Reckitt Benckiser and Pfizer facilities to the north and upgradient of the site.

- An asbestos register last revised by Greencap on 25 July 202 was reviewed by ADE. The register noted that no previous historical fibro in ground investigations or events have been recorded against the school. The register noted that the following three buildings contain asbestos:
- The Library/Administration timber clad building (B00A) located in the southeast corner of the site: ACM present in the eaves, walls and ceiling linings as well as fragments in underfloor voids.
- The general learning timber building (B00B), located adjacent to B00A: ACM present in eaves, linings and in fragments in underfloor void.
- The small services brick clad building (B00D): located in the eastern portion of the site, just north of the assembly area: Asbestos containing sheeting in the eaves, linings and ceilings.

ADE (2023) concluded there is a low to medium potential for contamination to have occurred on-site as a result of the past and present land uses with the site being suitable for the proposed development pending an intrusive investigation.

5.2.2 ADE (2024). Phase II - Detailed Site Investigation

In 2024, ADE completed a DSI (ADE, 2024a) for Melrose Park Public School that included an intrusive investigation of the eastern portion of the school grounds. The subject area comprised the central and eastern portion of MPPS, with a combined area of approximately 1.5 hectares (ha). The DSI included the following components:

- Review of the site's history, including a review of the PSI (ADE, 2023);
- Desktop study of the site's condition and its surrounding environment;
- Site walkover and visual inspection;
- Limited intrusive investigation; and
- Preparation of a DSI report outlining the findings of the investigation.

The soil investigation program including the collection and analysis of samples from a total of twenty-seven (27) locations:

- Sixteen (16) test pits advanced to depths ranging from 0.45 to 0.95 meters below ground level (m BGL) via mechanical excavation.
- One (1) borehole manually advanced to 0.25 mBGL by hand auger.

- Nine (9) boreholes advanced to depths ranging from 1.3 to 4.42 mBGL for a combination of soil contamination assessment and geotechnical purposes.
- One (1) borehole advanced to 12.33 mBGL for a combination of soil contamination assessment and geotechnical purposes.
- A soil vapour screening program involving the installation of two (2) soil vapour wells and the field measurement from those wells at BH05 and BH07.

Semi-quantitative field screening was also completed for volatile organic compounds (VOCs) in soil, undertaken at each sampling location using a calibrated photo-ionisation detector (PID).

ADE reported the following findings from the DSI:

- The soil sampling undertaken during this investigation reported concentrations of contaminants of potential concern (CoPCs) below the adopted site acceptance criteria for the proposed land use;
- The site surface was free from any visual signs of contamination (staining, olfactory). Similarly, no staining or odours were detected in the test pits excavated.
- No evidence of infrastructure associated contaminating activities was identified at the site;

Following the desktop study and the intrusive assessment, ADE considered there was a low risk of contamination in soil that has occurred due to past and current activities undertaken at the site, and the site was considered suitable for the ongoing land-use as a primary school.

5.3 Assessment of historical information integrity

The veracity of the information obtained as part of the site history is considered to be moderate to high. The site history assessment is generally considered to be of moderate to high integrity.

6 Preliminary Conceptual Site Model

A conceptual site model (CSM) is an iterative method required by ASC NEPM (2013) that defines the potential sources of contamination, the methods/ pathways through which exposure/ migration may occur and the receptors (human and environmental) that may foreseeably be exposed to contamination. Where any of the source, pathway or receptor is missing, then the risk linkage status can be considered incomplete, and there is no unacceptable risk.

6.1 Potential Contamination Sources

The following potential contamination sources for the investigation area were identified as follows;

- Potential ACM and or lead containing products used during historic construction may be present within the upper soil profile.
- Potential for contamination via imported fill materials used in the construction of the sports field.
- Potential pesticide/herbicide contamination of the surficial and/or upper soil profile due to ongoing maintenance works.

6.2 Chemicals of potential concern

The chemicals of potential concern (COPCs) were chosen for due diligence to account for a wide range of potential environmental contamination and, ensuring the most sensitive receptors are adequately protected from potential health risks and include:

- Heavy metals
- Total recoverable hydrocarbons (TRHs)
- Benzene, toluene, ethylbenzene and xylenes (BTEX)
- Polycyclic aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyls (PCBs)
- Organochlorine and organophosphorus pesticides (OCPs/OPPs)
- Asbestos
    - Bonded
    - Friable asbestos (FA) / asbestos fines (AF).

6.3 Potential Exposure Pathways

6.3.1 Human

The potential pathways by which contamination could reach potential human receptors are considered to be:

- Direct contact (dermal).
- Ingestion (incidental/ occasional).
- Inhalation (dust/ volatilised organic compounds/ soil particles/ fibres)

6.3.2 Ecological

Potential risk pathways for ecological receptors could include:

- Discharge into nearby surface water of Archer Creek or Parramatta River.

6.4 Sensitive receptors

Potential human receptors for the investigation area include:

- Current and future users of the investigation area including students and staff.
- Residents of neighbouring properties and surrounding users.
- Construction / landscaping workers involved with any future works onsite.
- Current and future maintenance workers undertaking sub-surface maintenance works.

Potential ecological receptors for the investigation area include:

- Flora and fauna that inhabit or travel through the investigation area.
- Soil processes including organisms and fauna within the top 2 metre soil profile (i.e. the rhizosphere/ root growing zone).
- Nearby surface water bodies (Archer Creek and Parramatta River).

6.5 Source-Pathway-Receptor linkages

The risk linkage status between the potential sources of contamination and sensitive receptors was summarised within **Table 4.** The statuses considered were:

- Complete (i.e., there is a real risk from contamination to sensitive receptors)
- Potentially complete (i.e., there is a potential risk…)
- Potentially incomplete (i.e., there is unlikely to be a risk)
- Incomplete (i.e., there is no unacceptable risk).

The preliminary CSM has been summarised in **Table 6** below.

Table 6: Preliminary Site Model Summary

Potential contamination sources and COPC	Potential Exposure pathways	Receptor	SPR Linkage – risk status	Notes
Hazardous building materials (**Asbestos containing material used in nearby structures and potential use of lead paint**).	**Human** - Dermal contact, ingestion, inhalation	**Human** – current and future investigation area users, primary school children, teachers, workers neighbours & visitors	Potentially Incomplete - Low Risk	• Investigation of potential asbestos / lead paint in surface soils requires investigation to establish whether any risk linkages exist that may require further investigation and/or management.
	Ecological – Vertical and lateral migration of potential contaminants through the soil, leaching and migration via groundwater, Plant uptake	**Ecological** - Rhizome soils, investigation area fauna, underlying soil processes and soil fauna, groundwater, off site surface water		
Potential for uncontrolled fill material (**Uncontrolled** or **uncharacterised imported fill materials - potentially historically used to fill the investigation area during the construction of current structures.** **Heavy metals, TRH, BTEX, PAH, pesticides, asbestos**).	**Human** - Dermal contact, ingestion, inhalation	**Human** – current and future investigation area users, primary school children, teachers, workers neighbours & visitors	Potentially Incomplete - Low Risk	• Residual contaminants / hazardous materials in uncontrolled imported fill material (if any) requires investigation to establish whether any risk linkages exist that may require further investigation and/or management.
	Ecological – Vertical and lateral migration of potential contaminants through the soil, leaching and migration via groundwater, Plant uptake	**Ecological** – Investigation area fauna, underlying soil processes and soil fauna, groundwater, off site surface water		
Historical potential for herbicides and pesticide applications (Potential for historical applications during ongoing maintenance of the school's outdoor spaces or used in historic agricultural operations OCPs, OPPs, Arsenic).	**Human** - Dermal contact, ingestion, inhalation	**Human** – current and future investigation area users, primary school children, teachers, workers neighbours & visitors	Potentially Incomplete - Low Risk	• Prior to becoming a school c.1945, the investigation area was used for rural residential / agricultural purposes. • The general upkeep of school buildings and gardens may include the use of pesticides and herbicides. • Residual impact from historical chemical / fuel usage from agricultural / gardening operations requires investigation to establish whether any risk linkages exist that may require further investigation and/or management. • As the proposed works are not anticipated to intercept groundwater, groundwater as a receptor and a pathway has been noted as an incomplete linkage.
	Ecological – Vertical and lateral migration of potential contaminants through the soil, leaching and migration via groundwater, Plant uptake	**Ecological** – Investigation area fauna, underlying soil processes and soil fauna, groundwater, off site surface water		

7 Site Assessment Criteria

The site assessment criteria were developed as per the following environmental legislation, guidelines, code of practices and industrial advice:

- NEPC. (2013). The National Environmental Protection Measure (ASC NEPM), 2013 Amendment.
- Western Australian Department of Health [WA DoH]. (2009). Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia. Perth, Australia.

Despite the fact that the future proposed land-use is for a primary school, the Tier 1 screening criteria for a land use scenario under ASC NEPM (NEPC, 2013) for a "residential with garden access, including primary schools (Setting A)" were conservatively adopted to be most protective of the identified sensitive receptors. This report applies the relevant criteria investigation levels to identify contaminants and/or areas of contamination that potentially pose a risk to human or environmental health.

7.1 Health-based investigation levels

The health investigation levels (HILs) are applicable for assessing human-health risk via all relevant pathways of exposure. The HIL A criteria is the most conservative HIL criteria and is based on the protection of human receptors in residential land use scenarios with garden/accessible soil, which also includes childcare centres, preschools and primary schools. The adopted HIL values are summarised in **Table 7**.

Table 7. Health investigations levels for soil contaminants.

Analyte	HIL A (mg/kg)
Arsenic (total)	100
Cadmium	20
Chromium (VI)	100
Copper	6,000
Lead	300
Mercury (inorganic)	40
Nickel	400
Zinc	7,400
Carcinogenic PAHs (as BaP TEQ[1])	3
Total PAHs	300
Total PCBs	1
DDT+DDE+DDD	260
Aldrin and Dieldrin	7
Chlordane	50
Endosulfan	300
Endrin	10
Heptachlor	7
Hexachlorobenzene	10
Methoxychlor	400
Chlorpyrifos	170
Cyanide (free)	250
Phenols	3,000

Notes to Table 5

1-Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their TEFs (potency relative to B(a)P) adopted by CCME 2008 (refer Schedule B7). The B(a)P TEQ is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF, given below, and summing these products.

Table 8. Toxic equivalency factor (TEF) of individual PAH species.

PAH species	TEF	PAH species	TEF
Benzo(a)anthracene	0.1	Benzo(g,h,i)perylene	0.01
Benzo(a)pyrene	1	Chrysene	0.01
Benzo(b+j)fluoranthene	0.1	Dibenz(a,h)anthracene	1
Benzo(k)fluoranthene	0.1	Indeno(1,2,3-c,d)pyrene	0.1

7.2 Health screening levels

Health screening levels (HSLs) have been developed for selected petroleum compounds and fractions and apply to human health risk assessment via inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. The soil texture for applications of HSLs at the investigation area is “clay”.

ASC NEPM (2013) presents HSL A (Low density residential) Tier 1 screening criteria for BTEX, naphthalene, TRH fractions C6-C10 and C10-C16 for vapour intrusion. Values for clay with depth criterion to < 1 metres was used. The HSL A criteria are summarised in **Table 9**.

Table 9. Health screening levels for soil contaminants

Analyte	HSL A (mg/kg) Low density residential (Clay)	HSL A – Direct Contact (mg/kg) Low Density Residential
Benzene	0.7	100
Toluene	480	14,000
Ethylbenzene	NL	4,500
Xylene	110	12,000
Naphthalene	5	1,400
TRH: C6 – C10(F1)	50	4,400
TRH: C10 – C16 (F2)	280	3,300
TRH: C16 – C34 (F3)	NA	4,500
TRH: C34 – C40 (F4)	NA	6,300

Notes to Table 7
*To obtain F1, subtract the sum of BTEX from the C_6-C_{10} fraction.
*NL – No limit.

The HSL-A criteria outlined within the ASC NEPM (NEPC, 2013), based on the guidance provided in the WA DoH Guidelines (WA DoH, 2009), was adopted to assess the presence of asbestos in soil. These are shown in **Table 8.**

The guidelines specify that the surface should be free of visible asbestos (refer to **Table 8**). The concentrations for bonded ACM concentrations in soil are based on the following equation which is presented in Schedule B1 of NEPM (2013):

$$\frac{\text{\% w/w asbestos in soil} = \text{\% asbestos content x bonded ACM (kg)}}{\text{Soil volume (L) x soil density (kg/L)}}$$

Table 10. Health screening levels for asbestos contamination in soil.

Analyte	HSL A (mg/kg)
Bonded ACM[1]	0.01% w/w
FA and AF (friable asbestos)[2]	0.001% w/w
All forms of asbestos	No visible asbestos for surface soil

Notes to Table 8
*ACM – Bonded asbestos containing material
*FA – Fibrous asbestos; AF – Asbestos fines

7.3 Management Limits

Consideration of Management Limits for petroleum hydrocarbons will be undertaken to assess whether the reported soil conditions have the potential to pose a risk to buried infrastructure, or the formation of non-aqueous phase liquid (NAPL). Values for fine grained soils from Table 1 B (7) of Schedule B1 will be adopted as a conservative approach.

A summary of the adopted TRH management limits for this investigation area is provided in **Table 11**.

Table 11. Management limits for TRH fraction in soil.

Chemical	Management Limits for TRH (mg/kg dry soil) Residential, parklands and public open space (Fine texture soil)
F1 C_6-C_{10}	800
F2 C_{10}-C_{16}	1,000
F3 >C_{16}-C_{34}	3,500
F4 >C_{34}-C_{40}	10,000

7.4 Ecological Investigation Levels

The ASC NEPM (2013) presents the methodology for deriving terrestrial EILs using both fresh and aged (i.e. >2 years old) contamination for soil with “urban residential/ public open space” land use scenario.

The methodology has been developed to protect soil processes, soil biota (flora and fauna) and terrestrial invertebrates and vertebrates and the resultant EILs are applied to the top 2m of the soil profile, where the majority of processes occur, and organisms reside.

As there is no proposed change in the land-use for the investigation area, the adopted scenario is for Urban Residential and Open Space/ Recreation. Investigation area specific EILs have been derived in this DGI and comprise the sum of ambient background concentrations (ABCs) and added contaminant limits (ACLs).

The ACL concentrations ascertained for representative locations are usually based on the site-specific results for either pH alone, or pH and cation exchange capacity (CEC) for metals (Cr, Cu, Ni & Zn). The specific soil properties analysed at one sample location in a previous investigation by ADE (2024a), in natural silty clay and used to calculate the EILs are listed below:

Table 12. CEC, pH and clay content values that used to calculate investigation area-specific EILs.

Sample ID	CEC (meq/100g)	pH	Clay Content (%)
TP1112-0.4 – 0.92	4.4	4.8	44
TP106-0.3-1.1	2.6	5.1	54
TP108-0.5-1.0	3.7	5.1	61
Average	**3.6**	**5.0**	**53**

The EIL criteria presented for arsenic (As), naphthalene and DDT are generic EIL values irrespective of their physiochemical properties sourced from Table 1(B)5 of Schedule B1 of the ASC NEPM (2013). The EILs to be adopted for this assessment are summarised in **Table 13.**

Table 13. Investigation area-specific EIL criteria.

Chemical	Specific EIL
Cr[2,6]	410
Cu[2,6]	85
Ni [4,6]	20
Zn[5,6]	180
As[1]	100
Pb[1]	1,100
Naphthalene[1]	170
DDT[1]	180

Notes to Table 11
1- Generic EIL, as per Table 1B (5) of Schedule B1 of ASC NEPM (2013).
2- Cr ACL calculated using % clay, % Fe content and adopted as EIL, as per Table 1B (2) of Schedule B1 of NEPM (2013).
3- Cu ACL calculated using CEC, pH data, % organic carbon content, % Fe and adopted as EIL, as per Table 1B (2) of Schedule B1 of NEPM (2013).
4- Ni ACL calculated using CEC and % Fe data and adopted as EIL, as per Table 1B (3) of Schedule B1 of NEPM (2013).
5- Zn ACL calculated using a conservative modelled pH, % Fe and CEC data and adopted as EIL, as per Table 1B (1) of Schedule B1 of NEPM (2013).
6- Aged ACLs derived assuming a low traffic volume.

7.5 Ecological Screening Levels

For petroleum hydrocarbons, ESLs have been derived in ASC NEPM (2013) based upon fraction ranges of hydrocarbons, BTEXN component and benzo(a)pyrene (BaP) together with soil texture classes. These ESLs are of low reliability except for the volatile and semi-volatile hydrocarbon fractions which are of moderate reliability. The ESLs are applicable for assessing risk to terrestrial ecosystems and will be adopted for the investigation to be protective of soils in an urban residential and public open space land use scenario.

The adopted ESLs are designed to be protective of soil fauna, soil processes and plants. The ASC NEPM (2013) states that these factors only apply within the rhizome (i.e. zone in the top two metres of soil) and as such ESL criteria need not be applied to chemical results below this depth. ESL threshold criteria for fine-grained soils are summarised in **Table 14**.

Table 14. Ecological screening levels for soil contaminants.

Chemical	ESL – Urban Residential and public open space (for fine grained soils) (mg/kg)
F1 C6-C10	180
F2 C10-C16	120
F3 >C16-C34	1300
F4 >C34-C40	5600
Benzene	65
Toluene	105
Ethylbenzene	125
Xylenes	45
Benzo(a)pyrene	1.4

7.6 Aesthetics

The aesthetic quality of accessible soils should be considered even if analytical testing demonstrates that concentrations of COPCs are within the SAC. There are no quantifiable guidelines in determining if soils are appropriately aesthetic, however ASC NEPM (2013) does indicate that professional judgement concerning the quantity, type and distribution of foreign materials and/ or odours about the specific land use should be employed.

The following scenarios (but not exclusively) would trigger further aesthetic assessment:

- Anthropogenic soil staining; and
- Odorous soils, i.e., petroleum hydrocarbon odours or hydrogen sulfidic odours in soil.

7.7 Statistical treatment

Analytical results from the soil sampling program are statistically analysed to determine their applicability to the assessment and recommendation of remedial actions in the event of site assessment criteria exceedances. The statistical analysis will be applied on a zone basis, if required.

A contaminant concentration in the soil will be deemed a non-exceedance if:

- The maximum concentration of all samples meets the specified acceptance criteria; or
- The 95% upper confidence limit (UCL) of the mean is below the acceptance criteria considering the following:
- No individual exceedance is greater than 2.5 times the acceptance criteria; and
- The standard deviation of the results should be less than 50% of the relevant investigation or screening level.

If the 95% UCL of the arithmetic mean of a contaminant concentration is above the acceptance criteria outlined in the ASC NEPM (NEPC, 2013), then the soil will be classified as contaminated and will require further assessment, remediation, removal or management.

If the 95% UCL of the arithmetic average concentrations is below the acceptance criteria, and no concentrations are at a hotspot level, slight elevations above the acceptance criteria may be considered to pose an insignificant human health or environmental risk. The location will hence be considered a non-exceedance requiring no further assessment, remediation, removal or management. The statistical analysis for the assessment of ACM is not considered appropriate.

7.8 Waste Classification

To chemically characterise waste for off-site disposal criteria was adopted from NSW EPA (2014) *Waste Classification Guidelines: Part 1 – Classifying Waste*. For chemicals, three possible waste classifications are possible including:

- General Solid Waste.
- Restricted Solid Waste.
- Hazardous Waste.

When characterising waste some additional considerations must be made including whether the waste is pre-classified (e.g., any presence of asbestos is pre-classified as “special waste – asbestos waste”) and whether the

waste is putrescible or non-putrescible in nature. NSW EPA (2014) provides a six-step process to determine the final waste classification for off-site disposal of waste.

8 Investigation Methodology

8.1 Sampling design and Rationale

A systematic sampling regime was considered appropriate to adequality characterise the potential contamination status of the investigation area. The sampling regime involved the advancement of 17 sampling locations which satisfies the minimum required sampling density specified as per Table 2 within the *NSW EPA Sampling design part 1 – application (Contaminated Land Guidelines)* (2022).

The distribution of individual sample locations was defined by on-site limitations and restrictions such as the presence of underground services, accessibility limitations, the presence of pre-existing infrastructure and the adopted lateral/vertical investigation limits. For example, areas to the north and south of the investigation area with heavy tree cover. Where possible, samples were collected and selected for analysis across varying depths within a range of soil lithologies, including imported fill materials, residual fill materials and virgin soils. Samples exhibiting olfactory or visual signs of contamination were prioritised for analysis to capture a 'worst-case scenario'.

8.2 Field programme

8.2.1 Preliminary items

Preliminary works included the following:

- Review of previous investigations and findings from the desktop study of the investigation area.
- Preparation of safe work methods statement (SWMS) for fieldworks undertaken.
- Undertake a Before-You Dig-Australia (BYDA) online search of current utilities potentially running onto the investigation area.
- Supervising a qualified utility search subcontractor conducting a scan for underground services and marking out safe locations for intrusive assessment.

8.2.2 Intrusive investigation and soil assessment

The intrusive soil investigation was conducted on 14 January 2025 by suitably experienced environmental consultants from ADE which included the following:

- The advancement of 17 test pits to a maximum depth of 2.0 m BGL using a 5- tonne excavator.
- Samples of soil material were collected down the soil profile at each location
    - Subsurface observations were recorded on detailed bore logs with assessment of material type, texture, moisture, inclusions and indications of visual / olfactory contamination.
- Samples were collected in clean glass jars and bags supplied by the laboratory.
    - The jars were filled to capacity to ensure minimal headspace was present and placed directly into an ice filled chilled cooler for transportation to the laboratory.
- Asbestos sampling was undertaken at all locations.
    - At the test pit locations, 10 litre (L) samples were collected and sifted through a 7-millimetre (mm) sieve or colour contrasting plastic sheet to identify any potential shards of asbestos within the sample.

- A discrete 500 millilitre (ml) sample was collected for submission to the laboratory for AF/FA analysis.

- Semi-quantitative field screening for volatile organic compounds (VOCs) in soil was undertaken at each sampling location using a calibrated photo-ionisation detector (PID) device (see **Appendix F** for calibration certificate). Screening involved placing the soil sample in a resealable plastic zip lock bag, agitating the sample then inserting the PID tip into the headspace and recording the reading.
- Collection of 2 intra-laboratory duplicate samples and 2 inter-laboratory duplicate for quality assurance (QA) and quality control (QC) purposes.

8.2.3 Laboratory analysis

Samples were transported in chilled coolers to laboratories accredited by NATA for requisite analytical methods under full chain-of-custody documentation.

All soil samples were submitted to:

- Sydney Laboratory Services (SLS) – Address: 4/10-11 Millennium Ct, Silverwater NSW 2128; and
- Envirolab Servies Sydney (Envirolab) – Address: 12 Ashley St, Chatswood NSW 2067.

SLS was the primary laboratory while Envirolab was the secondary laboratory that received the inter-laboratory duplicate samples.

The analytical schedule has been summarised in **Table 15**.

Table 15: Summary of analytical schedule

Analytes	Number of primary samples analysed	Number of duplicate and triplicate samples analysed
Heavy Metals *	26	2
BTEX	26	-
TRH	26	2
PAH	26	2
OCP/ OPP	26	2
PCB	26	2
Asbestos w/w	17	-
Asbestos +/-	9	-
pH / EC	3	-

Notes to Table 13
Refer to abbreviations table for definitions of abbreviations

9 Results and Discussion

9.1 Field observations

Field observations were obtained to understand pre-existing conditions. Parameters including soil, sub-soil geology and screening for volatile organic compounds was performed to increase the confidence of the investigation. The results and outcomes are summarised below.

9.1.1 Investigation area features

The investigation area was situated at the western portion of the school grounds forming part of the sports field with landscaped grass across the surface. Along the northern and southern boundaries of the investigation area, heavy tree cover was present, allowing no access. During fieldworks, ADE noted that the investigation area surface was free from any visual signs of contamination. No discoloration or odours were noted and no foreign materials including potential ACM (except for small fragments of terracotta at TP111) were identified across the investigation area surface.

Photographs of the investigation area and the subsurface conditions are presented in **Appendix D** with **Figure 2** presenting investigation area features and sampling locations.

9.1.2 Soil profile

The typical soil stratigraphy encountered during the field investigation is detailed in **Table 14** (refer to **Appendix D – Photolog** and **Appendix E – Test Pit Logs**). The soil lithology generally consisted of shallow fill overlaying natural clay encountered from approximately 0.4 m BGL. The encountered subsurface profile has been summarised in **Table 16.**

Table 16. Soil Profile

Lithology	Approximate Depth Range (m BGL)	Material Description	General Observations
Topsoil / Engineered Fill	0.0 — 0.5	Silty CLAY	Topsoil was typically encountered within un-disturbed areas of the investigation area and was typically limited to the top 0.5 m lithological strata.
Natural / Residual Clays	0.3 – 1.1	Sandy CLAY	Typically occurred below the upper lying topsoil, engineered fill or general fill materials. The soil profile was observed consistently observed to occur at shallow depths across the investigation area.

9.1.3 PID Field Screening

Each soil sample was screened for the presence of VOCs using a PID. PID readings reported concentrations ranging from 1.2 ppm to 4.4 ppm. All PID readings were recorded below an interim actionable criterion (15-20 ppm). Refer to **Appendix E – Test Pit Logs** for individual PID readings and **Appendix F – Equipment Calibration Certificates** for the calibration certificate.

9.2 Soil Assessment

The following sections summarise the key outcomes of the soil assessment as per the ASC NEPM (NEPC, 2013) and other relevant codes of practice.

Tabulated laboratory results compared to the adopted SAC are presented in **Appendix G** with laboratory transcripts including chain of custody, sample receipt notification and certificate of analysis provided in **Appendix H**.

9.2.1 Human Health

All samples exhibited concentrations of analysed analytes below the tier 1 human health investigation and screening levels prescribed for low density residential land use (HIL/HSL – A).

9.2.2 Ecological Health

Each analysed sample returned concentrations below the investigation area-specific ecological health and screening criteria for low density residential land use (EIL/ESL – A).

9.2.3 Asbestos in Soil

No potential asbestos containing material (PACM) was identified across the soil surface or within any of the 10L gravimetric asbestos samples screened. No asbestos was detected within any of the subsequent 500mL soil samples analysed for AF/FA at the laboratory reporting limit of 0.1g/kg (AS4964:2004).

Due to the absence of PACM or confirmed detections at the laboratory PQL, the soils are considered suitable for a low density residential (HSL A) land use.

9.3 Preliminary Waste Classification Assessment

An indicative waste characterisation assessment was completed and presented in ADE (2024) which made the following conclusions:

- No asbestos was observed during sampling or identified in the samples submitted for laboratory screening.
- All chemical concentrations were below the contaminant threshold (CT) for General Solid Waste.
- The material was considered to be non-putrescible in nature.

Therefore, ADE (2024) provided an indicative waste classification of “General Solid Waste (non-putrescible)” for material within the investigation area. Note that this is considered indicative because the volume of material that may be generated by the activity and require disposal as waste is unknown and the minimum sampling density cannot be determined at this stage.

9.4 Duty to Report Contamination

For the purposes of section 60(3)(b) of the CLM Act, notification of contamination in, or on, soil on the land is required where:

- The 95 % UCL on the average arithmetic concentration of a contaminant in or on soil is equal to or above the HIL and/or HSL for that contaminant for the current or approved use of the respective on-site land, as specified in Section 6, Schedule B1 of the ASC NEPM (2013); or

- The concentration of a contaminant in an individual soil sample is equal to or more than 250% of the HIL and/or HSL for that contaminant for the current or approved use of the respective on-site land, as specified in Section 6, Schedule B1 of the ASC NEPM (NEPC, 2013); and
- A person has been or foreseeably will be exposed to the contaminant or a by-product of the contaminant.

Based on the results of this investigation, ADE considers there is not a duty to report contamination.

10 Quality Assurance and Quality Control

To carry out the assessment of the data, the US EPA Guidelines 'Guidance on Assessing Quality Systems' (US EPA, 2003) and 'Guidance on Systematic Planning using the Data Quality Objectives Process' (US EPA, 2006) were used. The guidelines provide general strategy on assessing data quality criteria and performance specifications for decision making.

The seven-step Data quality objectives (DQO) process adopted for this assessment is provided in **Appendix C**.

For the purposes of this review, the Quality Assurance / Quality Control (QA/QC) program adopted includes an assessment of laboratory QA/QC and field QA/QC comprising of intra-laboratory and inter-laboratory duplicates. Further details and information regarding the QA/QC program can be referred to in **Appendix I** and the calculated relative percentage difference (RPDs) between the primary and the intra- and interlaboratory duplicates are presented in **Appendix J**.

The results of the data quality assessment conclude that the analytical results are representative of the conditions of the sampling locations at the time of sampling and are directly usable for the purpose of this assessment.

11 Revised Conceptual Site Model

The completed intrusive investigation and quantification of COPC in collected soil samples did not identify a potentially unacceptable risk considering the current land-use setting. The updated CSM has been provided in **Table 17**.

Table 17: Updated source pathway receptor analysis,

Potential contamination sources and CoPC	Potential Exposure pathways	Receptor	SPR Linkage – risk status	Notes
Hazardous building Materials (Asbestos containing material used in current nearby structures and potential use of lead paint).	**Human** - Dermal contact, ingestion, inhalation	**Human** – current and future investigation area users, primary school children, teachers, workers neighbours & visitors	Incomplete - Low Risk	• According to the Asbestos register last revised in 2021 (EDP, 2021, as summarised in the PSI (ADE, 2023)) no asbestos was found in the investigation area. • There is no history of buildings or structures around Area 3. • Laboratory analysis supported observations with reported lead concentrations <SAC. • Asbestos was not observed during the intrusive investigation or detected in any samples analysed by the laboratory.
	Ecological – Vertical and lateral migration of potential contaminants through the soil, leaching and migration via groundwater, plant uptake	**Ecological** - Rhizome soils, Investigation area fauna, underlying soil processes and soil fauna, off site surface water		
Potential for uncontrolled fill material (Uncontrolled or uncharacterised imported fill materials - potentially historically used to fill the investigation area during the construction of current structures. Heavy metals, TRH, BTEX, PAH, pesticides, asbestos).	**Human** - Dermal contact, ingestion, inhalation	**Human** – current and future investigation area users, primary school children, teachers, workers neighbours & visitors	Incomplete - Low Risk	• No visual signs of uncontrolled fill, demolition waste at surface or within soil profile at any of the completed test pits. Laboratory analysis supported observations with reported concentrations of contaminants < LOR and/or below SAC in the analysed samples.
	Ecological – Vertical and lateral migration of potential contaminants through the soil, Plant uptake	**Ecological** – Investigation area fauna, underlying soil processes and soil fauna, off site surface water		
Historical potential for herbicides and pesticide applications (Potential for historical applications during ongoing maintenance of the school's outdoor spaces or used in historic agricultural operations OCPs, OPPs, Arsenic).	**Human** - Dermal contact, ingestion, inhalation	**Human** – current and future investigation area users, primary school children, teachers, workers neighbours & visitors	Incomplete - Low Risk	• At the time of the investigation, ADE was not aware of any notices of spillage or over-applications of pesticides and herbicides at the investigation area. • Laboratory analysis supported observations with reported concentrations of OCPs and OPPs <LOR and arsenic below LOR and/or below SAC at all areas assessed.
	Ecological – Vertical and lateral migration of potential contaminants through the soil, Plant uptake	**Ecological** – Investigation area fauna, underlying soil processes and soil fauna, off site surface water.		

12 Conclusions and Recommendations

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

12.1 Field observations

The following key field observations were identified during the investigation.

- The investigation area has historically and is currently being utilised as an open playing field.
- Observations of sub-surface soils at the locations assessed did not note any visual / olfactory indications of contamination or asbestos.
- The investigation area primarily consisted of a mixture of topsoil (i.e., Silty CLAY) followed by shallow virgin soil materials consisting primarily of residual clays (i.e., Sandy CLAY).
- In field PID readings ranged from 1.2 to 4.4 ppm which is below the adopted interim action criteria or 15-20 ppm.

12.2 Soil Assessment

All soil samples returned concentrations below the tier 1 health investigation and screening criteria assigned for low/density residential (Setting A). No samples exhibited concentrations above the investigation area-specific ecological SAC within any of the samples analysed. No asbestos was observed during the 10L asbestos gravimetric screening or detected within any of the representative 500mL soil samples analysed for asbestos (AS4964:2004).

12.3 Preliminary Waste Classification Assessment

Based on a preliminary comparison of the soil results against the criteria outlined within the *NSW EPA Waste Classification Guidelines 2014*, the in-situ soil materials appear to be consistent with the criteria assigned for 'General Solid Waste (non-putrescible)'. Further consideration may be employed to verify if the underlying natural soils comply with the definition of 'Virgin Excavated Natural Material (VENM)' as defined by the POEO Act 1997.

12.4 Limitations, uncertainties and assumptions

Due to constraints such as the presence of pre-existing dense vegetation around the periphery of the investigation area, the following are considered to be limitations, uncertainties and/or assumptions relevant to the investigation:

- The distribution of the completed sampling locations was primarily defined by both temporal and spatial restrictions onsite (i.e., accessible areas). Due to the presence of dense vegetation with select areas of the investigation area, the visual inspection and sampling was limited to accessible areas only.
- The lateral limit and vertical limit of the investigation is defined within *Appendix III - Data Quality Objectives.* Contamination may be present within areas which have not been adequately assessed or at depths greater than the prescribed investigation limit.
- A further assessment should be performed if any of the following conditions are achieved:
    - A change in land-use is identified.

- Significant changes to the investigation area which may result in a change in the contamination status (e.g., the importation of uncontrolled fill).
- The discovery of any unexpected finds which are not consistent with the findings of this investigation.

12.5 Recommendations and Legal Considerations

The following outline the recommendations and legal obligations associated with the cessation of the investigation:

- Based on the data obtained during the investigation, it is in the opinion of ADE that the client does not have a duty to notify the NSW EPA under Section 60(3)(b) of the CLM Act 1997.
- Mitigation measures include the preparation of suitably management plans for construction and potential unexpected finds prior to site preparation and bulk earth works commencing and may include but not necessarily be limited to:
  - Construction environment management plan.
  - Soil and water management plan.
  - Noise and vibration management plan.
- All waste generated by the activity must be disposed in accordance with the POEO Act.
- A final classification in accordance with NSW EPA (2014) should be completed considering the minimum sampling densities for the volume of material, ensuring waste is disposed to suitably licenced facilities.

12.6 Land-Use Suitability Statement

Based on the data obtained during this investigation, it is in the opinion of ADE that the investigation area **is suitable** for its ongoing land-use as a primary school or residential with garden accessible soil (HIL/HSL-A) as defined by the ASC NEPM, 2013.

13 Mitigation Measures

The potential project environmental risks and recommended mitigation measures have been summarised in **Table 18**.

Table 18: Summary of Potential Risks and Mitigation Measures

Potential Risk	Mitigation Measure	Reason for Mitigation Measure
Unexpected finds during development.	Develop and prepare an unexpected finds protocol (UFP) to be implemented during the demolition and construction phase of the activity.	An UFP details the actions to be taken when potential contaminated soil and/or material is encountered during the demolition and construction phase. In the event that contaminated materials are discovered, the UFP can be implemented.
Environmental harm during construction.	Develop and prepare a construction environmental management plan (CEMP) to be implemented during the course of demolition and construction phase of the activity.	A CEMP describes how activities undertaken during the construction phase of development will be managed to avoid or mitigate environmental or nuisance impacts, and how those environmental management requirements will be implemented.
Erosion and Sediment.	Develop and prepare a soil and water management plan/ sub-plan to prevent erosion and generation of sediment.	details the specific methods of erosion and sediment control that will be used to meet the specific site conditions at the various stages of construction.
Disposal of waste soils generated by construction.	Ensure all soil to be removed from the site as waste is classified in accordance with NSW EPA (2014) prior to leaving the site. Where possible, attempts to beneficially re-use waste either on site or off-site subject to application of the Resource Recovery Framework outline within the POEO Act.	Classification of soil helps determine whether soil can be reused, recycled, or needs to be disposed of in a controlled manner.

14 Bibliography

- ADE (2023) Preliminary Site Investigation – Melrose Park Public School, 110 Wharf Road, Melrose Park, NSW 2155, (ref: A101023.0436__PSI_v1f, dated: 1 November 2023).
- ADE (2024) Detailed Site Investigation – Melrose Park Public School, 110 Wharf Road, Melrose Park, NSW 2155, (ref: A101023.0436.DSI.v1f, dated: 22 February 2024).
- Australian Standard AS 4482.1 Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.
- Australian Standard AS 4482.2 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances.
- Herbet C. (1983). Sydney 1:100 000 Geological Sheet 941130, 1st edition. Geological Survey of New South Wales, Sydney.
- National Environment Protection Council (NEPC) – National Environment Protection (Assessment of Site Contamination) Measure 1999 (as Amended 2013) (ASC NEPM, 2013).
- NSW EPA. (2022). Sampling design guidelines – Part 1. Application.
- NSW EPA. (2024). Contaminated Land – Record of Notices from http://www.epa.nsw.gov.au/prclmapp/aboutregister.aspx
- NSW EPA. (2020) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.
- NSW EPA. (2017) Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme 3rd Ed.
- NSW EPA. (2014). Waste Classification Guidelines – Part 1: Classifying Waste. Sydney, Australia.
- NSW EPA. (2015). Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997.
- NSW Government, Department of Planning and Environment. (2023), Soil and Land Information, accessed from The Sharing and Enabling Environmental Data (SEED) Portal [https://datasets.seed.nsw.gov.au/dataset/a62ae869-672f-493d-8fae-bfb32d820b74], date accessed 20/01/2024.
- NSW Government Education School Infrastructure. Asbestos Register (Hazardous Materials and Risk Assessment) Dundas Public School (4029) Last revised by EDP on 17 June 2021.
- Protection of the Environment Operations (Waste) Regulation 2014
- State Environmental Planning Policy (Planning Systems Resilience 2021)
- State Government of NSW and NSW Department of Climate Change, Energy, the Environment and Water 2011, Western Sydney Hydrogeological Landscapes: May 2011 (First Edition), accessed from The Sharing and Enabling Environmental Data Portal [https://datasets.seed.nsw.gov.au/dataset/bbceaab1-629c-4187-9332-23d899c9b52d], date accessed 2024-11-01.
- Government of Western Australia Department of Health (WA DoH). (2009). Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia.
- Work Health and Safety Act 2011.
- Work Health and Safety Regulation 2017.

Appendix A - Figures

Legend

Approximate Site Boundary

0 100 m 200 m

ADE CONSULTING GROUP

Produced by **Datanest.earth**

Title: Site locality		
Client: Schools Infrastructure NSW		Size: A3
Project: SINSW Melrose Park	Drawn: KA	Figure No.: 1
Date: 22-01-2025	Checked: AH	
Proj No: A101023.0436	Scale: 1:6500	Version: draft

Legend

- Inaccessible Area (January 2025)
- Test pits (January 2025)
- DGA Investigation Boundary (January 2025)
- Boreholes (September 2023)
- Test pits (September 2023)
- Hand auger borehole location (September 2023)
- Overgrown sandpit (SP1) (September 2023)
- Detailed Site Investigation Boundary (September 2023)
- Approximate Site Boundary

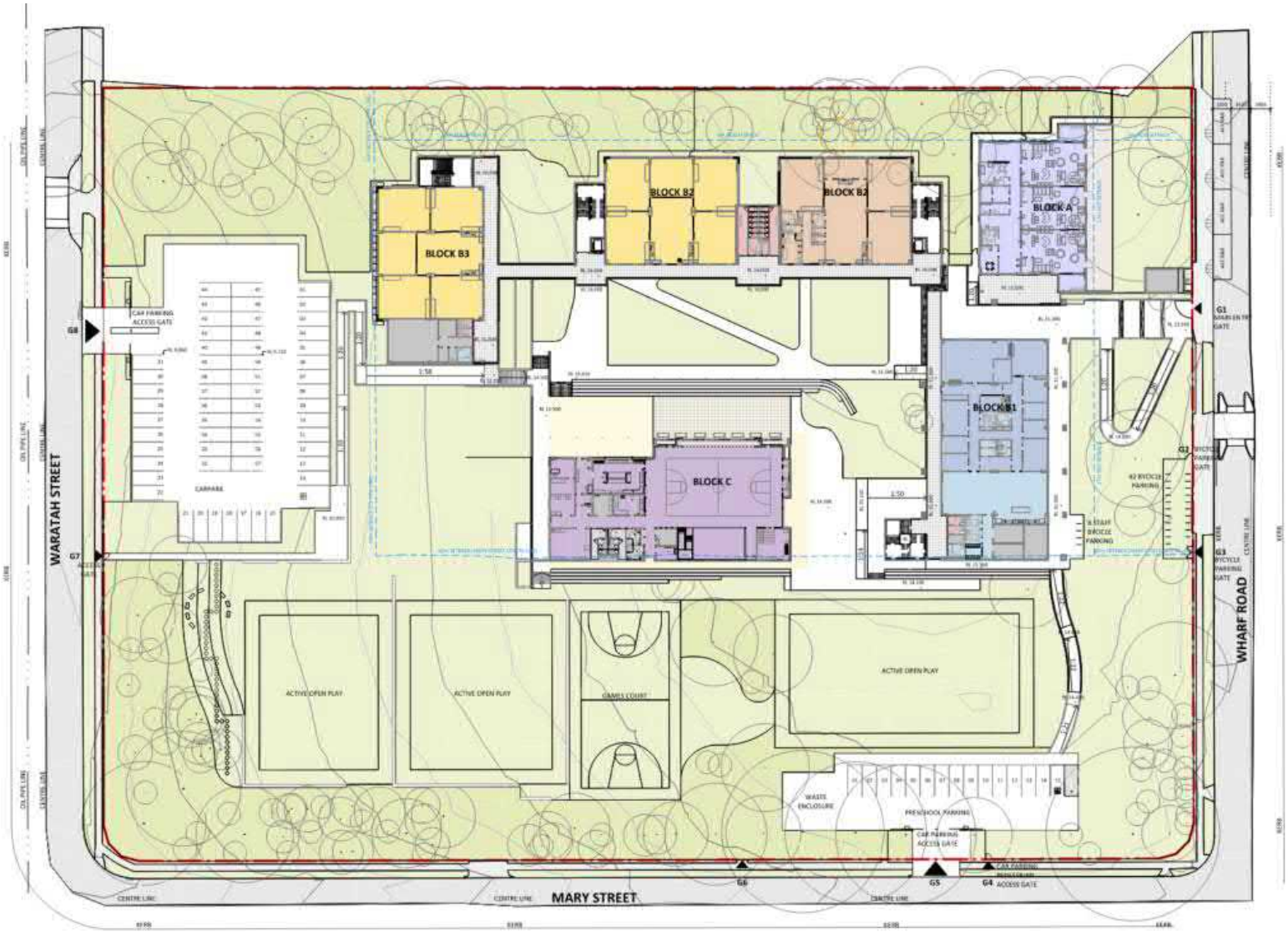
0 10 m 20 m

ADE CONSULTING GROUP

Produced by **Datanest.earth**

Title: Site Location and Sampling Design Plan		
Client: Schools Infrastructure NSW		Size: A3
Project: SINSW Melrose Park	Drawn: KA	Figure No.: 2
Date: 10-01-2025	Checked: AH	
Proj No: A101023.0436	Scale: 1:1089	Version: draft

Appendix B – Proposed Development Footprint and Plan



1 SITE PLAN - PROPOSED GF
1 : 400 @A1

Appendix C – Data Quality Objectives

As stated in *Section 18 Appendix B* of Schedule B2 – Guideline on Site Characterisation in the ASC NEPM (2013), the data quality objectives (DQO) process is a seven-step iterative planning approach used to define the type, quantity and quality of data needed to support decisions relating to the environmental condition of a site.

The seven-step planning approach facilitates the development of qualitative and quantitative statements that specify the quality of the data required to support decision making within the scope of the investigation. This process utilises systematic planning and statistical hypothesis testing to differentiate between two or more clearly defined alternatives.

The seven-step DQO process adopted for this assessment is provided below.

Step 1 – State the Problem

This DGA is required for due diligence purposes to investigate the contamination risk status from current and historical use, prior to the proposed construction of a new carpark and conversion of the remaining space into an open space area.

A review of available historical information and previous environmental investigations have inferred that the investigation area has a low potential for contamination resulting from past and present land uses. Potential sources of contamination were identified to include the potential for uncontrolled fill to exist at the investigation area, potential historical application of pesticides and herbicides and the presence of hazardous building materials such as asbestos.

A supplemental environmental investigation was therefore undertaken to assess soil conditions within the investigation area to complement the revised proposed development. The following data collected was then used to evaluate and characterise the soil condition across the investigation area to inform the need for remediation and further management (if required).

Step 2 – Identify the Decision

The principal study questions can be identified as:

- Is the investigation area suitable for the proposed development in the context of potential contamination in the soils?
- Is there a potential ecological risk associated with contamination resulting from uncontrolled fill, hazardous building materials or historical herbicide or pesticide applications?
- Do the in-situ soil materials appear consistent with a 'General Solid Waste' classification as defined by the *NSW EPA Waste Classification Guidelines 2014*?

Step 3- Identify Inputs to the Decision

Samples of soil, groundwater and ground gas will be collected to answer the above principal study questions. Key considerations regarding the information inputs are:

- How many test pits should be advanced and where?
- Are there access restrictions present that may affect the location of test pits and the method(s) used for advancing test pits?

- To what depths should the test pits be advanced?
- At what depth should soil samples be collected?
- What are the contaminants of potential concern for soil?

The primary inputs to assessing the above include:

- Information available from previous contamination investigations carried out on-site as summarised in **Section 4**.
- Observations made by ADE during an investigation area walkover.
- Identified source-pathway-receptor linkages in the previous contamination investigations.
- Relevant regulatory guidelines.

Step 4 – Define the Boundaries of the Study

This step provides a detailed description of the spatial and temporal boundaries of the study area. These characteristics define the population of interest and any practical considerations for the study area (refer to **Table C1).**

Table C1. Summary of the Study Boundaries.

Spatial Boundaries	The works performed were restricted to the physical boundaries as shown within Figure 2, **Appendix A**. The remainder of the site is outside the scope of this assessment. The vertical boundaries of the proposed investigations are limited to a maximum depth 2.0 m BGL in soil. No assessment of groundwater was undertaken.
Temporal Boundaries	The investigation works were undertaken on the 14th of January 2025.
Investigation Limit	The limit of the investigation has been undertaken to provide information as to the level and type of soil contamination within the investigation area.
Constraints	Time, cost, redesign, and accessibility are considered constraints to the investigation.
Receptors of Concern	The potential receptors of concern are outlined in **Section 5.4.**

Step 5 – Develop a Decision Rule

The primary objectives of the proposed contamination investigation are to assess the potential for unknown contamination at the investigation area to present a risk in the proposed development as commercial infrastructure. The decision rules to assess the suitability of the investigation area will be as follows:

- QA/QC assessment indicates that the data is usable.
- Where contaminant concentrations for each sample are below the adopted investigation levels, then no further assessment/remediation is required with respect to that chemical/media/area; and
- Where contaminant concentrations are reported to exceed the adopted investigation levels, then additional investigation and/or management (including remediation) may be required.

In considering whether or not contaminant concentrations exceed investigation levels, statistical measures of central tendency will be used. The 95% upper confidence limit of the mean will be calculated for contamination levels in samples grouped spatially. Outliers or hotspots will be assessed as samples that contain greater than 250% of the investigation level. The distribution of the results will be assessed, and appropriate adjustments may be made prior to analysis if the data distribution is log-normal. This process is described further below.

Step 6 – Specify Acceptable Limits on Decision Errors

This step is to establish the specific limits on decision errors, which were used to determine the targets for limiting uncertainty in the data. Data generated during the environmental investigation needs to be appropriate to allow decisions to be made with confidence. The specific limits for this investigation were based on appropriate guidance from the NSW EPA, NEPC (2013), AS 2005 and appropriate indicators of DQIs used to assess QA / QC for field sampling and handling.
There are two sources of error for input to decisions:

- Sampling errors, which occur when the samples collected are not representative of the conditions within the investigation area; and
- Measurement errors, which occur during sample collection, handling, preparation, analysis and data reduction.

The null hypothesis for this study is:

Contaminant concentrations within the soil beneath the investigation area are above the adopted investigation levels.

These errors may lead to the following decision errors:

- Type I - deciding that the soil and/or groundwater is not contaminated and, therefore, the investigation area is suitable for the proposed development when the reverse is true; and
- Type II - deciding that the soil and/or groundwater is contaminated and, therefore, the investigation area is not suitable for the proposed development when the reverse is true.

The acceptable limit on decision errors is a 5% probability of a false negative (i.e., assessing that the average concentrations of CoPC are less than the adopted soil, groundwater and surface water investigation levels when they are actually greater than the investigation levels).

Where data sets are sufficiently populated, the 95% upper confidence limit (UCL) of the arithmetic mean will be used to calculate this probability. The 95% UCLs are to be less than the investigation level and standard deviation of the sample population shall be less than 50% of the investigation level. The investigation levels for assessment are nominated in **Section 6** of this report. The statistical approach is further elaborated in **Section 6.**

To assess the suitability of the analytical data obtained prior to making decisions, the data was assessed against Data Quality Indicators (DQIs) to assess precision, accuracy, representativeness, comparability, and completeness (PARCC parameters), as outlined in AS 2005. The acceptable limit on decision error was 95% compliance with the DQIs. The pre-determined DQIs specified for the investigation works are discussed below in relation to the PARCC parameters as summarised in **Table C2.**

Table C2. Summary of Acceptable Limits on Decision Errors.

Precision	• Sampling and analysis of field blind duplicates and split replicates to be undertaken at a minimum rate of 1 pair per every 20 samples. • Laboratory duplicate analysis to be undertaken by the testing laboratory at a minimum rate of 1 per 20 samples. • Field and laboratory RPD values to be less than 30% for analytical results greater than (>) 30 times the laboratory LOR, less than (<) 50 % for analytical results between 10 and 30 times the laboratory LOR and a control limit of ± the LOR if either the sample or duplicate value is less than 10 times the laboratory LOR. t LOR.
Accuracy	• Laboratory surrogate spike recoveries were to be within 70 – 130% for all organic analyses (if applicable).

	• Laboratory control sample (LCS) recoveries to be assessed at a rate of one (1) sample per laboratory batch. LCS recoveries were to be within 70 – 130% (if applicable). • Matrix spike (MS) recoveries are to be assessed at a rate of one sample per laboratory batch. LCS recoveries were to be within 70 – 130% (if applicable).
Representativeness	• Appropriate sampling methods undertaken for all samples. • All samples were extracted and analysed within holding times.
Comparability	• Sampling was completed in accordance with the recommended methods outlined within Section 5, Systematic planning for the collection of environmental data, in Schedule B2 of NEPM (2013), AS 2005 and ADE Standard Operating Procedures (SOPs) which are in line with industry standards. • Standard analytical methodologies were used by laboratories that were NATA accredited for the requested analyses. • Laboratory LORs were appropriate and consistent for the objectives of the validation assessment.
Completeness	• Field documentation complete and appropriate for all samples to meet the objectives of the assessment. • Sample description and CoC documentation complete and appropriate for all samples to meet the objectives of the validation assessment. • The sampling frequency and findings of the QA/QC sample review valid for >95% of samples.

Step 7 – Optimise the Design for Obtaining Data

The organisation of the data collection and analysis design for optimising the generation of data to satisfy the DQOs and the objective of the investigation has been achieved via the following procedures outlined in **Table C3.**

Table C3. Summary of Procedures to be Undertaken to Optimize the Design for Obtaining Data.

Pre-approved Work Plan	The investigation was requested to assess the concentrations of contaminants present in soils at the investigation area through the implementation of the components outlined within NEPM (2013), AS 4482.1 (2005) and AS/NZS 5667.1 (1998).
Compliance with EPA Guidelines	• Use of appropriate techniques for the sampling, storage, and transportation of samples. • Implementation of NATA certified laboratory using analytical procedures as outlined in ASC NEPM (2013). • Use of a secondary laboratory for split samples which is NATA certified for the required analyses.

Appendix D – Photographs

Photograph 1: Investigation area (facing south-east). Dated 14/01/2025.

Photograph 2: Investigation area (facing north-west. Dated 14/01/2025.

Photograph 3: Investigation area (facing West. Dated 14/01/2025.

Photograph 4: Investigation area (facing North-east. Dated 14/01/2025.

Photograph 5: Vegetation surrounding the investigation area. Dated 14/01/2025.

Photograph 6: Soil profile encountered within TP101. Dated 14/01/2025.

Photograph 7: Soil profile encountered within TP116. Dated 14/01/2025.

Photograph 8: Natural soil matrix found within 0.5-1.0 m BGL of TP114. Dated 14/01/2025

Photograph 9: Fill soil matrix observed in TP105, after 10L asbestos quantification. Dated 14/01/2025.

Photograph 10: Terracotta fragment observed in fill material encountered at TP111. Dated 14/01/2025.

Appendix E – Test-pit Logs

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP101

CLIENT JohnStaff
PROJECT NAME Data Gap Investigation
PROJECT NUMBER A101023.0436.01
PROJECT LOCATION 110 Wharf Road, Ermington, NSW

DATE STARTED _____ **COMPLETED** _____ **R.L. SURFACE** _____ **DATUM** m
EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---
EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321508.00 m N 6256740.00 m
TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** NM
NOTES _____

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	1.7	TP101_0.0-0.1	Peat Inclusions
E			0.5		CLS	**Sandy CLAY:** Sandy CLAY, low plasticity, grey, medium-grained, well graded sand, trace rootlets and gravel	D	St		TP101_0.4-1.0	Trace Rootlets
E			1.0				D				
						TP101 terminated at 1m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP102

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321522.00 m N 6256709.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty Clay, low plasticity, brown, trace rootlets	M	S	1.5	TP102_0.0-0.1	Peat Inclusions
E			0.5		SC	**Clayey SAND:** CLAY, medium plasticity, reddish brown, trace rootlets	D	F		TP102_0.4-1.1	
E			1.0		CLS	**Sandy CLAY:** low plasticity, grey, medium grained sand, well graded, trace rootlets	D	F			
			1.5			TP102 terminated at 1.1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP103

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED _____ **COMPLETED** _____ **R.L. SURFACE** _____ **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321522.00 m N 6256701.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES _____

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:**Silty CLAY, low plasticity, brown, trace rootlets	M	S	1.2	TP103_0.0-0.1	Peat Inclusions
E			0.5		CL	**CLAY:** Medium plasticity, reddish brown,trace rootlets	D	F		TP103_0.3-1.0	
E			1.0		CL	**CLAY:** Medium plasticity, reddish brown, grey, with brown mottling	D	F			
			1.5			TP103 terminated at 1.1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP104

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED _____ **COMPLETED** _____ **R.L. SURFACE** _____ **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321533.00 m N 6256684.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES _____

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	1.5	TP104_0.0-0.1	Peat Inclusions
E			0.5		CL	**CLAY:** Medium plasticity, reddish brown, trace rootlets	D	F		TP104_0.3-1.0	Trace Peat Material
E			1.0		CL	**CLAY:** Medium plasticity, reddish brown, grey with brown mottling, trace rootlets	D	F			
			1.5			TP104 terminated at 1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP105

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321536.00 m N 6256660.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	1.2	TP105_0.0-0.1	Trace Rootlets
E			0.5		CL	**CLAY:** low plasticity, reddish brown mottled grey. Trace sand and rootlets	D	F		TP105_0.5-1.1	Trace Rootlets, Trace Sand
			1.0								
						TP105 terminated at 1.1m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP106

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321520.00 m N 6256641.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	3.5		Peat Inclusions
E			0.5		CLS	**Sandy CLAY:**low plasticity, reddish brown clay, medium grained, well graded sand, trace rootlets and small gravel	D	St		TP106_0.0-0.1	
E			1.0		CLS	**Sandy CLAY:**low plasticity, reddish brown, grey mottled light brown, medium grained sand, well graded, trace rootlets and small gravel	D	St		TP106_0.3-1.1	
			1.5			TP106 terminated at 1.1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP107

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED _____ **COMPLETED** _____ **R.L. SURFACE** _____ **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321507.00 m N 6256658.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES _____

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	2.7	TP107_0.0-0.1	Peat Inclusions
E			0.5		CL	**CLAY:** Medium plasticity, reddish brown, trace rootlets	M	St		TP107_0.3-0.9	
E					CL	**CLAY:** Medium plasticity, reddish brown, grey with brown mottling, trace rootlets	D	St			
			1.0			TP107 terminated at 0.9m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP108

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321504.00 m N 6256684.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	2.6	TP108_0.0-0.1	Peat Inclusions
			0.5								
E					CL	**CLAY:** Medium plasticity, reddish brown, trace rootlets	D	St		TP108_0.5-1.0	
E			1.0		CL	**CLAY:** Medium plasticity, reddish brown, grey with brown mottling, trace rootlets	D	St			
						TP108 terminated at 1m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP109

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321495.00 m N 6256695.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E			0.5			**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	1.2	TP109_0.0-0.1	Peat Inclusions
E			1.0		CL	**CLAY:** Medium plasticity, reddish brown,trace rootlets	D	St		TP109_0.5-1.0	
			1.5			TP109 terminated at 1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP110

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321485.00 m N 6256737.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E			0.5			**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	2	TP110_0.0-0.1	Peat Inclusions
E			1.0		CLS	**Sandy CLAY:** Sandy CLAY, low plasticity, grey, medium grain sand, well graded, trace rootlets and gravel	D	St		TP110_0.5-1.0	
			1.5			TP110 terminated at 1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP111

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321472.00 m N 6256720.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	3.3	TP111_0.0-0.1	Peat Inclusions
E			0.5		CL	**Sandy CLAY:**low plasticity, reddish brown, medium grained sand, well graded, trace rootlets and small gravel	D	St		TP111_0.4-1.0	
E			1.0		CL	**CLAY:** Medium plasticity, reddish brown, trace rootlets	D	St			
			1.5			TP111 terminated at 1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP112

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321476.00 m N 6256707.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	3.9	TP112_0.0-0.1	Peat Inclusions
E			0.5		CL	**CLAY:** low plasticity, reddish brown, with grey mottling. Trace sand and rootlets	D	St		TP112_0.4-0.9	
			1.0			TP112 terminated at 0.9m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP113

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321482.00 m N 6256689.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	D	4.4	TP113_0.0-0.1	Peat Inclusions
E			0.5		CL	**CLAY:** low plasticity, reddish brown, with grey mottling. Trace sand and rootlets	D	St		TP113_0.5-0.9	
			1.0			TP113 terminated at 1m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP114

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321490.00 m N 6256669.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E			0.5			**FILL:** Silty CLAY, low plasticity, brown, trace rootlets, trace gravel	M	S	4.1	TP114_0.0-0.1	Peat Inclusions
E			1.0		CLS	**Sandy CLAY:**low plasticity, reddish brown, medium grained sand, well graded, trace rootlets, sandstone inclusions	D	St		TP114_0.5-1.0	
			1.5			TP114 terminated at 1m					
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP115

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED _____ **COMPLETED** _____ **R.L. SURFACE** _____ **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321477.00 m N 6256640.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES _____

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets, trace gravel	M	S	4	TP115_0.0-0.1	Peat Inclusions
E			0.5		CLS	**Sandy CLAY:**low plasticity, reddish brown, medium grained sand, well graded, trace rootlets, sandstone inclusions	D	St		TP115_0.3-1.0	
			1.0			TP115 terminated at 0.9m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP116

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321469.00 m N 6256666.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	3.7	TP116_0.0-0.1	Peat Inclusions
E			0.5		CLS	**Sandy CLAY:**low plasticity, reddish brown, medium grained sand, well graded, trace rootlets and small gravel	D	St		TP116_0.4-1.0	
			1.0			TP116 terminated at 1m					
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

BOREHOLE NUMBER TP117

CLIENT JohnStaff **PROJECT NAME** Data Gap Investigation

PROJECT NUMBER A101023.0436.01 **PROJECT LOCATION** 110 Wharf Road, Ermington, NSW

DATE STARTED **COMPLETED** **R.L. SURFACE** **DATUM** m

EXCAVATION CONTRACTOR W.A. Duncan Excavations **SLOPE** --- **BEARING** ---

EQUIPMENT 5-Tonne Excavator **COORDINATES** E 321454.00 m N 6256677.00 m

TEST PIT DIAMETER 1300 **LOGGED BY** LHO **CHECKED BY** MT

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E						**FILL:** Silty CLAY, low plasticity, brown, trace rootlets	M	S	2.9	TP117_0.0-0.1	Peat Inclusions
E			0.5		CLS	**Sandy CLAY:**low plasticity, reddish brown, medium grained sand, well graded, trace rootlets and small gravel	D	St		TP117_0.4-0.9	
			1.0			TP117 terminated at 0.9m					
			1.5								
			2.0								

Appendix F – Equipment Calibration Certificates

Calibration and Service Report – PID

Company:	Active Environmental Solutions (	**Manufacturer:**	RAE	**Serial #:**	592-905200
Contact:	Jason Cheng	**Instrument:**	MINIRAE 3000 SN: 592-905200	**Asset #:**	
Address:	2 Merchant Avenue Thomastown VIC	**Model:**	MINIRAE 3000	**Part #:**	059-B116-300
		Configuration:	VOC 10.6EV	**Sold:**	09.03.2011
		Wireless:	BLE	**Last Cal:**	05.11.2024
Phone:		**Network ID:**	-	**Job #:**	168502
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	jason.cheng@aesolutions.com.a	**Details:**		**Order #:**	0000002114

Item	Test	Pass/Fail	Comments	Serial Number
Battery	NiCd, NiMH, Dry cell, LiIon	P		
Charger	Power Supply	-		
	Cradle, Travel Charger	-		
Pump	Flow	x	Cleaned pump, >450ml/min	
Filter	Filter, fitting, etc	x	Dirty, replaced (w/ inlet probe)	
Alarms	Audible, visual, vibration	P		
Display	Operation	P		
Switches	Operation	P		
PCB	Operation	x	Faulty, replaced	
Connectors	Condition	P		
Firmware	Version	P	V2.22A	
Datalogger	Operation	P		
Monitor Housing	Condition	P	Cleaned	
Case	Condition / Type	-		
Sensors				
PID	Lamp	P	Cleaned	
PID	Sensor	P	Cleaned	
THP	Sensor	P		

Engineer's Report

Replaced faulty PCB assembly
Cleaned pump, cleaned porous metal filter, checked flowrate and reset stall values
Cleaned lamp, lamp housing and sensor detector; checked moisture sensitivity
Checked unit settings, PC configuration and BLE communication
Unit serviced and calibrated.

Calibration and Service Report – PID

Company:	Active Environmental Solutions (	**Manufacturer:**	RAE	**Serial #:**	592-905200
Contact:	Jason Cheng	**Instrument:**	MINIRAE 3000 SN: 592-905200	**Asset #:**	
Address:	2 Merchant Avenue Thomastown VIC	**Model:**	MINIRAE 3000	**Part #:**	059-B116-300
		Configuration:	VOC 10.6EV	**Sold:**	09.03.2011
		Wireless:	BLE	**Last Cal:**	05.11.2024
Phone:		**Network ID:**	-	**Job #:**	168502
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	jason.cheng@aesolutions.com.a	**Details:**		**Order #:**	0000002114

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	023-0301-000. PID SENSOR MODULE (PGM 7600	S023030081MC / 1062R141196	Isobutylene	100ppm	WO443753-1		0	100.0
Battery	059-3051-000. MINIRAE 3000 LI-ION BATTERY	159BCW0723						
Toxic 1	-.							
Toxic 2								
Toxic 3								
Toxic 4								
Toxic 5		GHTT9W0358						
Toxic 6								

Calibrated/Repaired by: JERRY JI Date: 05.11.2024 Next Due: 05.05.2025

Appendix G – Results Summary Table

Table A - Analytical Results_ASC NEPM, 2013

	Asbestos		Metals								Inorganics							PAH												
	Bonded ACM	FA and AF (friable asbestos)	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Moisture Content	Exchangeable Calcium	pH 1:5 soil:water	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Cation Exchange Capacity	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Anthracene	Phenanthrene	Pyrene	Fluoranthene	Chrysene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene
	g/kg	g/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	eq/100	-	eq/100	eq/100	eq/100	eq/100	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			4	0.1	1	1	1	0.1	1	1	0.1	0.1		0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.2	0.1	0.1
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																		5													
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels	0.01 % w/w	0.001% w/w																													
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Open Space			100		410	85	1,100		20	180								170													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																												1.4			
NEPM 2013 Table 1A(1) HILs Res A Soil			100	20	100	6,000	300	40	400	7,400																					
Field ID	**Depth (m BGL)**	**Date**	**Sample Type**																													
TP101_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	1.19	14.6	10.7	35.8	<0.10	2.5	<5.0	16.0	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP101_0.4-1.0	**0.4-1.0**	**14 Jan 2025**	**Primary**			6.1	0.81	9.4	16.2	27.7	<0.10	2.6	<5.0	13.1	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP102_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	5.1	1.02	15.5	13.1	34.3	<0.10	3.2	5.9	21.5	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP103_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	5.6	0.89	14.3	9.6	27.6	<0.10	2.3	<5.0	21.1	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP103_0.3-1.1	**0.3-1.1**	**14 Jan 2025**	**Primary**	NAD	NAD	6.1	0.70	6.9	16.4	23.9	<0.10	<1.0	<5.0	14.7	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP104_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	13.4	0.77	13.3	13.8	27.4	<0.10	2.2	<5.0	21.8	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP105_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.37	10.8	9.0	22.8	<0.10	2.7	<5.0	19.7	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP105_0.5-1.1	**0.5-1.1**	**14 Jan 2025**	**Primary**	NAD	NAD	7.5	0.47	4.6	10.9	15.9	<0.10	<1.0	<5.0	14.9	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP106-0.3-1.1	**0.3-1.1**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	-	-	0.9	5.1	1.5	0.1	<0.1	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.48	10.6	5.6	22.9	<0.10	2.5	<5.0	16.7	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP107_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	5.9	0.63	15.9	9.4	29.3	<0.10	1.6	<5.0	20.9	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP107_0.3-0.9	**0.3-0.9**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.46	6.4	5.5	15.6	<0.10	<1.0	<5.0	12.1	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP108-0.5-1.0	**0.5-1.0**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	-	-	1.7	5.1	1.8	0.2	<0.1	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.72	14.2	7.0	32.7	<0.10	1.6	<5.0	17.1	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP109_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	10.8	0.59	13.0	9.0	24.0	<0.10	3.7	<5.0	15.4	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP109_0.5-1.0	**0.5-1.0**	**14 Jan 2025**	**Primary**	NAD	NAD	5.6	0.57	8.0	<5.0	21.5	<0.10	<1.0	<5.0	12.6	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP110_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	12.7	0.58	8.4	13.8	23.8	<0.10	3.3	<5.0	14.3	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP111_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.82	12.1	12.6	30.3	<0.10	4.1	8.6	14.4	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP111_0.4-1.0	**0.4-1.0**	**14 Jan 2025**	**Primary**	NAD	NAD	7.9	0.22	4.7	7.7	13.5	<0.10	<1.0	5.1	10.2	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP112-0.4-0.9	**0.4-0.9**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	-	-	1.3	4.8	2.5	0.2	0.3	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	8.6	0.95	17.1	9.3	25.3	<0.10	5.4	7.5	15.9	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP113_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	11.3	1.16	18.9	9.6	31.1	<0.10	3.9	5.2	13.9	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP113_0.5-0.9	**0.5-0.9**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	1.31	23.7	17.4	34.1	<0.10	3.0	20.9	16.2	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP114_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.48	13.3	6.4	21.7	<0.10	1.7	8.2	17.4	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP115_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.58	13.0	7.4	23.3	<0.10	2.3	<5.0	13.9	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP115_0.3-1.0	**0.3-1.0**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.70	15.1	5.7	18.2	<0.10	<1.0	<5.0	14.3	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP116_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	<5.0	0.71	12.8	<5.0	16.7	<0.10	2.0	<5.0	15.5	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP117_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	NAD	NAD	5.0	0.81	14.5	6.5	27.0	<0.10	3.6	5.5	13.8	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
TP117_0.4-0.9	**0.4-0.9**	**14 Jan 2025**	**Primary**	NAD	NAD	10.9	0.70	12.1	6.9	19.6	<0.10	1.6	6.3	14.6	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BR01_250114	**-**	**14 Jan 2025**	**Field Duplicate**	-	-	11.2	0.24	11.6	7.2	24.5	<0.10	2.5	5.2	17.5	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BR02_250114	**-**	**14 Jan 2025**	**Field Duplicate**	-	-	5.7	1.42	24.5	7.2	31.4	<0.10	4.0	14.7	15.2	-	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
SR01_250114	**-**	**14 Jan 2025**	**Field Triplicate**	-	-	9	<0.4	17	7	27	0.1	3	8	13	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.2	<0.1	<0.1
SR02_250114	**-**	**14 Jan 2025**	**Field Triplicate**	-	-	12	<0.4	26	11	26	0.1	7	16	16	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.2	<0.1	<0.1
Statistics																																	
Number of Results	**26**	**26**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**3**	**3**	**3**	**3**	**3**	**3**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**
Number of Detects	**0**	**0**	**19**	**28**	**30**	**28**	**30**	**2**	**24**	**13**	**30**	**3**	**3**	**3**	**3**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**-**	**-**	**5**	**0.22**	**4.6**	**<5**	**13.5**	**0.1**	**<1**	**<5**	**10.2**	**0.9**	**4.8**	**1.5**	**0.1**	**<0.1**	**2.6**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.2**	**<0.1**	**<0.1**
Maximum Concentration	**-**	**-**	**13.4**	**1.42**	**26**	**17.4**	**35.8**	**0.1**	**7**	**20.9**	**21.8**	**1.7**	**5.1**	**2.5**	**0.2**	**0.3**	**4.4**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**

*NAD - No asbestos detected above the laboratory reporting limit

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Res A Soil

Table A - Analytical Results_ASC NEPM, 2013

				PAH				BTEX								TPH					PCBs								TRH					
				Indeno(1,2,3-c,d)pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	PAHs (Sum of positives)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Naphthalene (VOC)	Total BTEX	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	0.3	0.3	0.3	0.3	0.05	0.2	0.5	1	2	1	1	1	2	25	50	100	100	50	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25	25	50	50	100	100
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																														800		1,000		3,500	10,000
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay										0.7 | 1 | 2 | 3	480					110 | 310	5													50 | 90 | 150 | 290		280		
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels																																			
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Open Space																170																			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil										65	105	125			45															180	120	120	1,300	5,600
NEPM 2013 Table 1A(1) HILs Res A Soil					3	3	3	300																				1						
Field ID	**Depth (m BGL)**	**Date**	**Sample Type**																																
TP101_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP101_0.4-1.0	**0.4-1.0**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP102_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP103_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP103_0.3-1.1	**0.3-1.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP104_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP105_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP105_0.5-1.1	**0.5-1.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP106-0.3-1.1	**0.3-1.1**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP107_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP107_0.3-0.9	**0.3-0.9**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP108-0.5-1.0	**0.5-1.0**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP109_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP109_0.5-1.0	**0.5-1.0**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP110_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP111_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP111_0.4-1.0	**0.4-1.0**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP112-0.4-0.9	**0.4-0.9**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP113_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP113_0.5-0.9	**0.5-0.9**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP114_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP115_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP115_0.3-1.0	**0.3-1.0**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP116_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP117_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
TP117_0.4-0.9	**0.4-0.9**	**14 Jan 2025**	**Primary**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
BR01_250114	**-**	**14 Jan 2025**	**Field Duplicate**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
BR02_250114	**-**	**14 Jan 2025**	**Field Duplicate**	<0.30	0.35	0.70	<0.30	<0.30	-	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	-	<2.00	<25	<50	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<35	<35	<50	-	<100	<100
SR01_250114	**-**	**14 Jan 2025**	**Field Triplicate**	<0.1	<0.5	<0.5	<0.5	-	<0.05	<0.2	<0.5	<1	<2	<1	<1	<1	-	<25	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<25	<50	<50	<100	<100
SR02_250114	**-**	**14 Jan 2025**	**Field Triplicate**	<0.1	<0.5	<0.5	<0.5	-	<0.05	<0.2	<0.5	<1	<2	<1	<1	<1	-	<25	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<25	<50	<50	<100	<100
Statistics																																			
Number of Results				**30**	**30**	**30**	**30**	**28**	**2**	**30**	**30**	**30**	**30**	**30**	**30**	**2**	**28**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**2**	**30**	**30**
Number of Detects				**0**	**28**	**28**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration				**<0.1**	**0.35**	**<0.5**	**<0.3**	**<0.3**	**<0.05**	**<0.2**	**<0.5**	**<1**	**<2**	**<1**	**<1**	**<1**	**<2**	**<25**	**<50**	**<100**	**<100**	**<50**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<25**	**<25**	**<50**	**<50**	**<100**	**<100**
Maximum Concentration				**<0.3**	**<0.5**	**0.7**	**<0.5**	**<0.3**	**<0.05**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<1**	**<2**	**<25**	**<50**	**<100**	**<100**	**<100**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<35**	**<35**	**<50**	**<50**	**<100**	**<100**

*NAD - No asbestos detected above the laboratory reporting limit

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Res A Soil

A101023.0436.01.DGA.Melrose

Table A - Analytical Results_ASC NEPM, 2013

Field ID	Depth (m BGL)	Date	Sample Type		Organophosphorous Pesticides										Organophosphorous Pesticides									Organochlorine Pesticides												
				>C10-C40 Fraction (Sum)	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Phorate	Ronnel	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	mg/kg
EQL				50	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	100	100	100	0.1
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																				
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels																																				
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Open Space																																	180			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																																				
NEPM 2013 Table 1A(1) HILs Res A Soil							160																				6							240,000		
TP101_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP101_0.4-1.0	0.4-1.0	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP102_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP103_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP103_0.3-1.1	0.3-1.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP104_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP105_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP105_0.5-1.1	0.5-1.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP106-0.3-1.1	0.3-1.1	14 Jan 2025	Primary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP107_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP107_0.3-0.9	0.3-0.9	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP108-0.5-1.0	0.5-1.0	14 Jan 2025	Primary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP109_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP109_0.5-1.0	0.5-1.0	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP110_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP111_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP111_0.4-1.0	0.4-1.0	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP112-0.4-0.9	0.4-0.9	14 Jan 2025	Primary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP113_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP113_0.5-0.9	0.5-0.9	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP114_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP115_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP115_0.3-1.0	0.3-1.0	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP116_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP117_0.0-0.1	0-0.1	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
TP117_0.4-0.9	0.4-0.9	14 Jan 2025	Primary	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
BR01_250114	-	14 Jan 2025	Field Duplicate	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
BR02_250114	-	14 Jan 2025	Field Duplicate	<100	-	-	<0.10	<0.10	-	<0.10	-	-	-	-	<0.10	-	-	-	-	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<100	-	<100	<0.20
SR01_250114	-	14 Jan 2025	Field Triplicate	<50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<100	<100	<100	<0.1
SR02_250114	-	14 Jan 2025	Field Triplicate	<50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<100	<100	<100	<0.1

Statistics

Statistics	>C10-C40 Fraction (Sum)	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Phorate	Ronnel	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I
Number of Results	**30**	**2**	**2**	**30**	**30**	**2**	**30**	**2**	**2**	**2**	**2**	**28**	**2**	**2**	**2**	**2**	**30**	**2**	**2**	**30**	**30**	**30**	**30**	**2**	**30**	**30**	**30**	**30**	**30**	**30**	**2**	**30**	**30**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<50**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<100**	**<100**	**<100**	**<0.1**
Maximum Concentration	**<100**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<100**	**<100**	**<100**	**<0.2**

*NAD - No asbestos detected above the laboratory reporting limit

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Res A Soil

Table A - Analytical Results_ASC NEPM, 2013

											Particle Size	Pesticides				Halogenated Benzenes
			Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Clay in soils <2um	DEF	Fenamiphos	Mirex	Parathion	Hexachlorobenzene
			mg/kg	mg/kg	ug/kg	mg/kg	mg/kg	ug/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	100	0.1	0.1	100	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																	
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels																	
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Open Space																	
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																	
NEPM 2013 Table 1A(1) HILs Res A Soil					10,000				6		300				10		10
Field ID	**Depth (m BGL)**	**Date**	**Sample Type**														
TP101_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP101_0.4-1.0	**0.4-1.0**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP102_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP103_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP103_0.3-1.1	**0.3-1.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP104_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP105_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP105_0.5-1.1	**0.5-1.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP106-0.3-1.1	**0.3-1.1**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	54	-	-	-	-	-
TP106_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP107_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP107_0.3-0.9	**0.3-0.9**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP108-0.5-1.0	**0.5-1.0**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	61	-	-	-	-	-
TP108_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP109_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP109_0.5-1.0	**0.5-1.0**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP110_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP111_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP111_0.4-1.0	**0.4-1.0**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP112-0.4-0.9	**0.4-0.9**	**14 Jan 2025**	**Primary**	-	-	-	-	-	-	-	-	-	44	-	-	-	-	-
TP112_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP113_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP113_0.5-0.9	**0.5-0.9**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP114_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP115_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP115_0.3-1.0	**0.3-1.0**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP116_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP117_0.0-0.1	**0-0.1**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
TP117_0.4-0.9	**0.4-0.9**	**14 Jan 2025**	**Primary**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
BR01_250114	**-**	**14 Jan 2025**	**Field Duplicate**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
BR02_250114	**-**	**14 Jan 2025**	**Field Duplicate**	<0.20	<0.10	<200	<0.10	<0.10	<100	<0.10	<0.10	<0.10	-	<0.10	-	-	-	<0.10
SR01_250114	**-**	**14 Jan 2025**	**Field Triplicate**	<0.1	<0.1	<100	<0.1	-	<100	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1
SR02_250114	**-**	**14 Jan 2025**	**Field Triplicate**	<0.1	<0.1	<100	<0.1	-	<100	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1
Statistics																	
Number of Results			**30**	**30**	**30**	**30**	**28**	**30**	**30**	**30**	**30**	**3**	**28**	**2**	**2**	**2**	**30**
Number of Detects			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration			**<0.1**	**<0.1**	**<100**	**<0.1**	**<0.1**	**<100**	**<0.1**	**<0.1**	**<0.1**	**44**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Maximum Concentration			**<0.2**	**<0.1**	**<200**	**<0.1**	**<0.1**	**<100**	**<0.1**	**<0.1**	**<0.1**	**61**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**

*NAD - No asbestos detected above the laboratory reporting limit

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
WA DOH 2009 Table 3 Asbestos in Soil Screening Levels
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Res A Soil

Appendix H - Analytical Reports and Chain of Custody

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

ESA-F-02
Chain of Custody (Internal)

Date Printed: 14/01/2025

A 032 + 101

Document Revision Date: 30.06.2020

ESA-F-02 COC - Chain Of Custody

PROJECT: (phase and task no.)	L02
PROJECT NUMBER - INVOICE NUMBER	A101023.0436.01
SAMPLES DELIVERED BY:	ADE Consulting Group, 6/7 Millennium Ct, Silverwater NSW 2128
SAMPLERS:	Jonathan Parker, Liam Hudson-O'Farrell
TURNAROUND:	2-DAY TAT
SAMPLING DATE:	14/01/2025
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: X FREEZER: ☐ > >4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: X
CONSULTANTS SIGNATURE:	CONSULTANT E-MAIL: jonathan.parker@ade.group; liam.hudson ofarrell@ade.group, andrew.hunt@ade.group
PROJECT MANAGERS SIGNATURE: N.Maricic	PROJECT MANAGERS E-MAIL: karin.azzam@ade.group; nicholas.maricic@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY): A101023.0436.01 / L02

RECEIVED BY: NC SIGNATURE: N. Charles

SAMPLES: 38 CHILLED: ☑ PRESERVED: ☐ PRESERVATION METHOD: — CUSTODY SEAL INTACT: ☐

MINIMAL HEADSPACE: ☐ WITHIN HOLDING TIME: ☐ 9:47AM NC 15/1/25

DATE: 15/1/25 TIME: 9:59 pm TEMPERATURE UPON RECEIPT: 8.6 °C T46

LIMS LOT NO.: Soils: 2500107 LIMS/EXCEL SIGNATURE: N. Charles COMMENTS: TB/TS - 2500108

ANALYSES REQUIRED — Chem Lab / Asbestos / Mould

NOTES — POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER: ____

LAB PLEASE *EMAIL COC RECEIPT: ☐

Sample Comments

LIMS Sample ID (Lab Use) 2025080	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO.	SL01 (Standard Suite)	SL02 (ENM Suite)	WR07 (BTEXN)	OH02	OH07 (500ml NEPM)	ON HOLD
566	TP101_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
567	TP102_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
568	TP103_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
569	TP104_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
570	TP105_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
571	TP106_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
572	TP107_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
573	TP108_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
574	TP109_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
575	TP110_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
576	TP111_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
577	TP112_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
578	TP113_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
579	TP114_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
580	TP115_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
581	TP116_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
582	TP117_0.0-0.1	Soil	14/01/2025	G+B	2	x				x	
583	TP101_0.4-1.0	Soil	14/01/2025	G+B	2	x			x		
	TP102_0.4-1.1	Soil	14/01/2025	G+B	2						x
584	TP103_0.3-1.1	Soil	14/01/2025	G+B	2	x			x		
	TP104_0.3-1.0	Soil	14/01/2025	G+B	2						x
585	TP105_0.5-1.1	Soil	14/01/2025	G+B	2	x			x		
	TP106_0.3-1.1	Soil	14/01/2025	G+B	2						x
586	TP107_0.3-0.9	Soil	14/01/2025	G+B	2	x			x		
	TP108_0.5-1.0	Soil	14/01/2025	G+B	2						x
587	TP109_0.5-1.0	Soil	14/01/2025	G+B	2	x			x		
	TP110_0.5-1.0	Soil	14/01/2025	G+B	2						x
588	TP111_0.4-1.0	Soil	14/01/2025	G+B	2	x			x		
	TP112_0.4-0.9	Soil	14/01/2025	G+B	2						x
589	TP113_0.5-0.9	Soil	14/01/2025	G+B	2	x			x		
	TP114_0.5-1.0	Soil	14/01/2025	G+B	2						x
590	TP115_0.3-1.0	Soil	14/01/2025	G+B	2	x			x		
	TP116_0.4-1.0	Soil	14/01/2025	G+B	2						x
591	TP117_0.4-0.9	Soil	14/01/2025	G+B	2	x			x		
592	BR01_250114	Soil	14/01/2025	G+B	2	x					
593	~~BR02_250114~~	Soil	14/01/2025	G+B	2	x					
594	TB1	Water	14/01/2025	G	2			x			
595	TS1	Water	14/01/2025	G	2			x			

BR02-250114 ←

NC

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VB = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; J = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

17/1/25

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

CLIENT DETAILS

Client	ADE Consulting Group
Contact	Karin Azzam, Nicholas Maricic
Samplers	Jonathan Parker, Liam Hudson-O'Farrell, Andrew Hunt

SAMPLE RECEIPT DETAILS

Project Number	A101023.0436.01/L02		
SLS Reference	Soil: 2500108 TB/TS: 2500108		
Number of samples	38		
Date samples received	15.01.2024		
Time samples received	9:47 AM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	8.6	**Thermometer Ref NO.**	T46
Turn Around Time requested	48 hours		
Expected Report Date	**17.01.2025**		

CONDITION OF SAMPLES UPON RECEIVAL

No errors in COC provided.	✓
All samples were received in good condition.	✓
Evidence of chilling for samples.	✓
Appropriate use of sample containers have been used.	✓
Samples were delivered within holding time of analysis requested.	✓
Samples to be tested for volatiles received with zero headspace.	✓
Custody Seal intact (if used)	N/A

COMMENTS

This Report Contains:

Sample receipt non-conformities.
Summary of samples and requested analysis.
Requested report deliverables.

CONTACT US FOR ANY QUERIES

If you have any questions with respect to these samples please contact:

Email	sls@ade.group	**Contact**	Natalie Chambers
Phone	(+61) 0451 524 289	**Signed**	

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

INFORMATION SUMMARY

SLS Reference	Soil: 2500108 TB/TS: 2500108
Project Number	A101023.0436.01/L02
Client	ADE Consulting Group
Contact	Karin Azzam, Nicholas Maricic
Samplers	Jonathan Parker, Liam Hudson-O'Farrell, Andrew Hunt

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED				
Laboratory Sample ID	Sampling Date	Client Sample ID	SL01	WR07	OH02	OH07	ON HOLD
2025000566	14.01.2025	TP101_0.0-0.1	X			X	
2025000567	14.01.2025	TP102_0.0-0.1	X			X	
2025000568	14.01.2025	TP103_0.0-0.1	X			X	
2025000569	14.01.2025	TP104_0.0-0.1	X			X	
2025000570	14.01.2025	TP105_0.0-0.1	X			X	
2025000571	14.01.2025	TP106_0.0-0.1	X			X	
2025000572	14.01.2025	TP107_0.0-0.1	X			X	
2025000573	14.01.2025	TP108_0.0-0.1	X			X	
2025000574	14.01.2025	TP109_0.0-0.1	X			X	
2025000575	14.01.2025	TP110_0.0-0.1	X			X	
2025000576	14.01.2025	TP111_0.0-0.1	X			X	
2025000577	14.01.2025	TP112_0.0-0.1	X			X	
2025000578	14.01.2025	TP113_0.0-0.1	X			X	
2025000579	14.01.2025	TP114_0.0-0.1	X			X	
2025000580	14.01.2025	TP115_0.0-0.1	X			X	
2025000581	14.01.2025	TP116_0.0-0.1	X			X	
2025000582	14.01.2025	TP117_0.0-0.1	X			X	
2025000583	14.01.2025	TP101_0.4-1.0	X		X		
	14.01.2025	TP102_0.4-1.1					X
2025000584	14.01.2025	TP103_0.3-1.1	X		X		
	14.01.2025	TP104_0.3-1.0					X
2025000585	14.01.2025	TP105_0.5-1.1	X		X		
	14.01.2025	TP106_0.3-1.1					X
2025000586	14.01.2025	TP107_0.3-0.9	X		X		
	14.01.2025	TP108_0.5-1.0					X
2025000587	14.01.2025	TP109_0.5-1.0	X		X		
	14.01.2025	TP110_0.5-1.0					X
2025000588	14.01.2025	TP111_0.4-1.0	X		X		
	14.01.2025	TP112_0.4-0.9					X
2025000589	14.01.2025	TP113_0.5-0.9	X		X		
	14.01.2025	TP114_0.5-1.0					X
2025000590	14.01.2025	TP115_0.3-1.0	X		X		
	14.01.2025	TP116_0.4-1.0					X
2025000591	14.01.2025	TP117_0.4-0.9	X		X		
2025000592	14.01.2025	BR01_250114	X				
2025000593	14.01.2025	BR02_250114	X				
2025000594	14.01.2025	TB1		X			
2025000595	14.01.2025	TS1		X			

Batch Number : 2500107

Report Number : A101023.0436.01 (566-593)

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Domenico Grieco

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

Where moisture determination has been performed, results are reported on dry weight basis.

Where the PQL of reported result differs from standard PQL, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

Results for the analysis of metals is only for acid soluble trace metals unless indicated otherwise.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

Certificate of Analysis

Contact:	Karin Azzam	**Date Reported:**	17/01/2025
Customer:	ADE Consulting Group	**No. of Samples:**	28
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	15/01/2025
		Date of Analysis:	15/01/2025
Cust Ref:	A101023.0436.01 L02		

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Certificate of Analysis

	Sample ID:	2025000566	2025000567	2025000568	2025000569	2025000570	2025000571	2025000572	2025000573	2025000574	2025000575	2025000576
	Sample Name	TP101_0.0-0.1	TP102_0.0-0.1	TP103_0.0-0.1	TP104_0.0-0.1	TP105_0.0-0.1	TP106_0.0-0.1	TP107_0.0-0.1	TP108_0.0-0.1	TP109_0.0-0.1	TP110_0.0-0.1	TP111_0.0-0.1
Parameter	Units	PQL	Sampling Date: 14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
ESA-P-ORG7 & ORG8												
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg	2	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		116	109	112	111	108	98	112	109	110	107	107
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01												
Arsenic	mg/kg	5	<5.0	5.1	5.6	13.4	<5.0	<5.0	5.9	<5.0	10.8	12.7	<5.0
Cadmium	mg/kg	0.1	1.19	1.02	0.89	0.77	0.37	0.48	0.63	0.72	0.59	0.58	0.82
Chromium	mg/kg	1	14.6	15.5	14.3	13.3	10.8	10.6	15.9	14.2	13.0	8.4	12.1
Copper	mg/kg	5	10.7	13.1	9.6	13.8	9.0	5.6	9.4	7.0	9.0	13.8	12.6
Lead	mg/kg	5	35.8	34.3	27.6	27.4	22.8	22.9	29.3	32.7	24.0	23.8	30.3
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1	2.5	3.2	2.3	2.2	2.7	2.5	1.6	1.6	3.7	3.3	4.1
Zinc	mg/kg	5	<5.0	5.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.6
ESA-P-12												
% Moisture Content	%	1	16.0	21.5	21.1	21.8	19.7	16.7	20.9	17.1	15.4	14.3	14.4
ESA-P-ORG(12 - 15)												
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

Certificate of Analysis

	Sample ID:	2025000566	2025000567	2025000568	2025000569	2025000570	2025000571	2025000572	2025000573	2025000574	2025000575	2025000576
	Sample Name	TP101_0.0-0.1	TP102_0.0-0.1	TP103_0.0-0.1	TP104_0.0-0.1	TP105_0.0-0.1	TP106_0.0-0.1	TP107_0.0-0.1	TP108_0.0-0.1	TP109_0.0-0.1	TP110_0.0-0.1	TP111_0.0-0.1
Parameter	Units	PQL	Sampling Date: 14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
PAHs Total	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		70	76	72	68	71	62	69	73	74	69	77
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certificate of Analysis

	Sample ID:	2025000566	2025000567	2025000568	2025000569	2025000570	2025000571	2025000572	2025000573	2025000574	2025000575	2025000576
	Sample Name	TP101_0.0-0.1	TP102_0.0-0.1	TP103_0.0-0.1	TP104_0.0-0.1	TP105_0.0-0.1	TP106_0.0-0.1	TP107_0.0-0.1	TP108_0.0-0.1	TP109_0.0-0.1	TP110_0.0-0.1	TP111_0.0-0.1
Parameter	Units	PQL	Sampling Date: 14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		118	118	116	117	114	127	109	127	115	123	118
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Certificate of Analysis

	Sample ID:	2025000566	2025000567	2025000568	2025000569	2025000570	2025000571	2025000572	2025000573	2025000574	2025000575	2025000576
	Sample Name	TP101_0.0-0.1	TP102_0.0-0.1	TP103_0.0-0.1	TP104_0.0-0.1	TP105_0.0-0.1	TP106_0.0-0.1	TP107_0.0-0.1	TP108_0.0-0.1	TP109_0.0-0.1	TP110_0.0-0.1	TP111_0.0-0.1
Parameter	Units	PQL	Sampling Date: 14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		126	128	121	119	121	126	138	127	123	127	123
ESA-P-ORG(3,8)													
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

Certificate of Analysis

	Sample ID:	2025000577	2025000578	2025000579	2025000580	2025000581	2025000582	2025000583	2025000584	2025000585	2025000586	2025000587
	Sample Name	TP112_0.0-0.1	TP113_0.0-0.1	TP114_0.0-0.1	TP115_0.0-0.1	TP116_0.0-0.1	TP117_0.0-0.1	TP101_0.4-1.0	TP103_0.3-1.1	TP105_0.5-1.1	TP107_0.3-0.9	TP109_0.5-1.0
Parameter	Units	PQL	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
ESA-P-ORG7 & ORG8													
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg	2	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		107	105	114	106	112	109	111	102	110	122	112
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01													
Arsenic	mg/kg	5	8.6	11.3	<5.0	<5.0	<5.0	5.0	6.1	6.1	7.5	<5.0	5.6
Cadmium	mg/kg	0.1	0.95	1.16	0.48	0.58	0.71	0.81	0.81	0.70	0.47	0.46	0.57
Chromium	mg/kg	1	17.1	18.9	13.3	13.0	12.8	14.5	9.4	6.9	4.6	6.4	8.0
Copper	mg/kg	5	9.3	9.6	6.4	7.4	<5.0	6.5	16.2	16.4	10.9	5.5	<5.0
Lead	mg/kg	5	25.3	31.1	21.7	23.3	16.7	27.0	27.7	23.9	15.9	15.6	21.5
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1	5.4	3.9	1.7	2.3	2.0	3.6	2.6	<1.0	<1.0	<1.0	<1.0
Zinc	mg/kg	5	7.5	5.2	8.2	<5.0	<5.0	5.5	<5.0	<5.0	<5.0	<5.0	<5.0
ESA-P-12													
% Moisture Content	%	1	15.9	13.9	17.4	13.9	15.5	13.8	13.1	14.7	14.9	12.1	12.6
ESA-P-ORG(12 - 15)													
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

Batch Number : 2500107

Report Number : A101023.0436.01 (566-593)

Certificate of Analysis

	Sample ID:	2025000577	2025000578	2025000579	2025000580	2025000581	2025000582	2025000583	2025000584	2025000585	2025000586	2025000587
	Sample Name	TP112_0.0-0.1	TP113_0.0-0.1	TP114_0.0-0.1	TP115_0.0-0.1	TP116_0.0-0.1	TP117_0.0-0.1	TP101_0.4-1.0	TP103_0.3-1.1	TP105_0.5-1.1	TP107_0.3-0.9	TP109_0.5-1.0
Parameter	Units	PQL	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
PAHs Total	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		74	71	74	71	75	75	67	73	72	71	66
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

	Sample ID:	2025000577	2025000578	2025000579	2025000580	2025000581	2025000582	2025000583	2025000584	2025000585	2025000586	2025000587
	Sample Name	TP112_0.0-0.1	TP113_0.0-0.1	TP114_0.0-0.1	TP115_0.0-0.1	TP116_0.0-0.1	TP117_0.0-0.1	TP101_0.4-1.0	TP103_0.3-1.1	TP105_0.5-1.1	TP107_0.3-0.9	TP109_0.5-1.0
Parameter	Units	PQL	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		118	114	113	127	115	128	118	118	123	109	106
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Certificate of Analysis

	Sample ID:	2025000577	2025000578	2025000579	2025000580	2025000581	2025000582	2025000583	2025000584	2025000585	2025000586	2025000587
	Sample Name	TP112_0.0-0.1	TP113_0.0-0.1	TP114_0.0-0.1	TP115_0.0-0.1	TP116_0.0-0.1	TP117_0.0-0.1	TP101_0.4-1.0	TP103_0.3-1.1	TP105_0.5-1.1	TP107_0.3-0.9	TP109_0.5-1.0
Parameter	*Units*	*PQL*	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		125	120	121	130	124	139	123	126	129	118	110
ESA-P-ORG(3,8)													
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

Certificate of Analysis

	Sample ID:	2025000588	2025000589	2025000590	2025000591	2025000592	2025000593
	Sample Name	TP111_0.4-1.0	TP113_0.5-0.9	TP115_0.3-1.0	TP117_0.4-0.9	BR01_250114	BR02_250114
Parameter	Units	PQL	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
ESA-P-ORG7 & ORG8								
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg	2	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		112	101	114	114	98	125
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01								
Arsenic	mg/kg	5	7.9	<5.0	<5.0	10.9	11.2	5.7
Cadmium	mg/kg	0.1	0.22	1.31	0.70	0.70	0.24	1.42
Chromium	mg/kg	1	4.7	23.7	15.1	12.1	11.6	24.5
Copper	mg/kg	5	7.7	17.4	5.7	6.9	7.2	7.2
Lead	mg/kg	5	13.5	34.1	18.2	19.6	24.5	31.4
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1	<1.0	3.0	<1.0	1.6	2.5	4.0
Zinc	mg/kg	5	5.1	20.9	<5.0	6.3	5.2	14.7
ESA-P-12								
% Moisture Content	%	1	10.2	16.2	14.3	14.6	17.5	15.2
ESA-P-ORG(12 - 15)								
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

Certificate of Analysis

	Sample ID:	2025000588	2025000589	2025000590	2025000591	2025000592	2025000593
	Sample Name	TP111_0.4-1.0	TP113_0.5-0.9	TP115_0.3-1.0	TP117_0.4-0.9	BR01_250114	BR02_250114
Parameter	Units	PQL	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
PAHs Total	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	0.35	0.35	0.35	0.35	0.35	0.35
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		65	64	66	73	71	73
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certificate of Analysis

	Sample ID:	2025000588	2025000589	2025000590	2025000591	2025000592	2025000593
	Sample Name	TP111_0.4-1.0	TP113_0.5-0.9	TP115_0.3-1.0	TP117_0.4-0.9	BR01_250114	BR02_250114
Parameter	Units	PQL	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		102	100	110	117	110	118
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Certificate of Analysis

	Sample ID:	2025000588	2025000589	2025000590	2025000591	2025000592	2025000593
	Sample Name	TP111_0.4-1.0	TP113_0.5-0.9	TP115_0.3-1.0	TP117_0.4-0.9	BR01_250114	BR02_250114
Parameter	Units	PQL	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		107	108	118	124	116	125
ESA-P-ORG(3,8)								
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Domenico Grieco

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

Blank This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
Matrix Spike A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals, 60-140% for organics/PFAS is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

Quality Control Report

Contact:	Karin Azzam	**Date Reported:**	17/01/2025
Customer:	ADE Consulting Group	**No. of Samples:**	40
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	15/01/2025
		Date of Analysis:	15/01/2025

Cust Ref: A101023.0436.01 L02

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Quality Control Report

	Sample ID:	D202500056701	D202500057601	D202500058601	D202500061101
	Sample Name	TP102_0.0-0.1	TP111_0.0-0.1	TP107_0.3-0.9	ROS-MAC22_TP2
Parameter	Units	PQL		14/01/2025		
ESA-MP-01,ICP-01						
Arsenic			Pass	Pass	Pass	Pass
Cadmium			Pass	Pass	Pass	Pass
Chromium			Pass	Pass	Pass	Pass
Copper			Pass	Pass	Pass	Pass
Lead			Pass	Pass	Pass	Pass
Mercury			Pass	Pass	Pass	Pass
Nickel			Pass	Pass	Pass	Pass
Zinc			Pass	Pass	Pass	Pass

	Sample ID:	D202500056702	D202500057602	D202500058602	D202500061102
	Sample Name	TP102_0.0-0.1	TP111_0.0-0.1	TP107_0.3-0.9	ROS-MAC22_TP2
Parameter	Units	PQL				
ESA-P-ORG7 & ORG8						
Benzene			Pass	Pass	Pass	Pass
Toluene			Pass	Pass	Pass	Pass
Ethylbenzene			Pass	Pass	Pass	Pass
m.p Xylene			Pass	Pass	Pass	Pass
o Xylene			Pass	Pass	Pass	Pass
Fluorobenzene (Surr.)	%		114	105	104	100
C6-C10			Pass	Pass	Pass	Pass
C6-C9			Pass	Pass	Pass	Pass

	Sample ID:	D202500056703	D202500057603	D202500058603	D202500061103
	Sample Name	TP102_0.0-0.1	TP111_0.0-0.1	TP107_0.3-0.9	ROS-MAC22_TP2
Parameter	Units	PQL				

ESA-P-ORG(12 - 15)						
Acenaphthene			Pass	Pass	Pass	Pass
Acenaphthylene			Pass	Pass	Pass	Pass
Anthracene			Pass	Pass	Pass	Pass
Benzo[a]anthracene			Pass	Pass	Pass	Pass
Benzo[a]pyrene			Pass	Pass	Pass	Pass
Benzo[g,h,i]perylene			Pass	Pass	Pass	Pass
Benzo[b,k]fluoranthene			Pass	Pass	Pass	Pass
Chrysene			Pass	Pass	Pass	Pass
Dibenzo[a,h]anthracene			Pass	Pass	Pass	Pass
Fluoranthene			Pass	Pass	Pass	Pass
Fluorene			Pass	Pass	Pass	Pass
Indeno(1,2,3-cd)pyrene			Pass	Pass	Pass	Pass
Naphthalene			Pass	Pass	Pass	Pass
Phenanthrene			Pass	Pass	Pass	Pass
Pyrene			Pass	Pass	Pass	Pass
p-Terphenyl-d14 (Surr.)	%		72	73	75	70
aldrin			Pass	Pass	Pass	Pass
a-BHC			Pass	Pass	Pass	Pass
b-BHC			Pass	Pass	Pass	Pass
d-BHC			Pass	Pass	Pass	Pass
g-BHC (lindane)			Pass	Pass	Pass	Pass
cis-chlordane			Pass	Pass	Pass	Pass
trans-chlordane			Pass	Pass	Pass	Pass
4,4'-DDD			Pass	Pass	Pass	Pass
4,4'-DDE			Pass	Pass	Pass	Pass
4,4'-DDT			Pass	Pass	Pass	Pass
dieldrin			Pass	Pass	Pass	Pass
endosulfan I			Pass	Pass	Pass	Pass
endosulfan II			Pass	Pass	Pass	Pass
endosulfan sulfate			Pass	Pass	Pass	Pass

endrin			Pass	Pass	Pass	Pass
endrin aldehyde			Pass	Pass	Pass	Pass
endrin ketone			Pass	Pass	Pass	Pass
heptachlor			Pass	Pass	Pass	Pass
heptachlor epoxide			Pass	Pass	Pass	Pass
hexachlorobenzene			Pass	Pass	Pass	Pass
methoxychlor			Pass	Pass	Pass	Pass
TCMX (Surr.)	%		121	116	113	110
chlorpyrifos			Pass	Pass	Pass	Pass
chlorpyrifos methyl			Pass	Pass	Pass	Pass
diazinon			Pass	Pass	Pass	Pass
fenchlorphos			Pass	Pass	Pass	Pass
methyl parathion			Pass	Pass	Pass	Pass
prophos			Pass	Pass	Pass	Pass
tributylphosphorotrithioite			Pass	Pass	Pass	Pass
Aroclor 1016			Pass	Pass	Pass	Pass
Aroclor 1221			Pass	Pass	Pass	Pass
Aroclor 1232			Pass	Pass	Pass	Pass
Aroclor 1242			Pass	Pass	Pass	Pass
Aroclor 1248			Pass	Pass	Pass	Pass
Aroclor 1254			Pass	Pass	Pass	Pass
Aroclor 1260			Pass	Pass	Pass	Pass
2-fluorobiphenyl (Surr.)	%		129	123	126	119

	Sample ID:	D202500056704	D202500057604	D202500058604	D202500061104
	Sample Name	TP102_0.0-0.1	TP111_0.0-0.1	TP107_0.3-0.9	ROS-MAC22_TP2
Parameter	Units	PQL			
ESA-P-ORG(3,8)					
>C10-C16			Pass	Pass	Pass	Pass
>C16-C34			Pass	Pass	Pass	Pass
>C34-C40			Pass	Pass	Pass	Pass
>C10-C14			Pass	Pass	Pass	Pass
>C15-C28			Pass	Pass	Pass	Pass
>C29-C36			Pass	Pass	Pass	Pass

	Sample ID:	Q2025000118	Q2025000128
	Sample Name		
Parameter	Units	PQL	Metals Blank - Soil	Metals Blank - Soil
ESA-MP-01,ICP-01				
Arsenic	mg/kg	5	<5.0	<5.0
Cadmium	mg/kg	0.1	<0.10	<0.10
Chromium	mg/kg	1	<1.0	<1.0
Copper	mg/kg	5	<5.0	<5.0
Lead	mg/kg	5	<5.0	<5.0
Mercury	mg/kg	0.1	<0.10	<0.10
Nickel	mg/kg	1	<1.0	<1.0
Zinc	mg/kg	5	<5.0	<5.0

		Sample ID:	**Q2025000119**	**Q2025000129**
		Sample Name		
Parameter	***Units***	***PQL***	Metals Blank Sp-Soil	Metals Blank Sp-Soil
ESA-MP-01,ICP-01				
Arsenic	%		82	100
Cadmium	%		82	91
Chromium	%		90	93
Copper	%		83	85
Lead	%		90	95
Mercury	%		106	113
Nickel	%		91	95
Zinc	%		89	98

		Sample ID:	**Q2025000120**	**Q2025000130**
		Sample Name		
Parameter	***Units***	***PQL***	BTEX Blank - Soil	BTEX Blank - Soil
ESA-P-ORG7 & ORG8				
Benzene	mg/kg	0.5	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0
C6-C10	mg/kg	35	<35	<35
C6-C9	mg/kg	25	<25	<25

	Sample ID:	Q2025000121	Q2025000131
	Sample Name		

Parameter	Units	PQL	BTEX Blank Sp-Soil	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8				
Benzene	%		108	110
Toluene	%		80	90
Ethylbenzene	%		70	77
m.p Xylene	%		76	93
o Xylene	%		90	122
Fluorobenzene (Surr.)	%		117	98

	Sample ID:	Q2025000122	Q2025000132
	Sample Name		

Parameter	Units	PQL	PCB Blank - Soil	PCB Blank - Soil
ESA-P-ORG(12 - 15)				
Acenaphthene	mg/kg	0.3	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30
Anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30
aldrin	mg/kg	0.1	<0.10	<0.10

a-BHC	mg/kg	0.1	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10
chlorpyrifos	mg/kg	0.1	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10
Aroclor 1016	mg/kg	0.5	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50

Aroclor 1248	mg/kg	0.5	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50
		Sample ID:	**Q2025000123**	**Q2025000133**
		Sample Name		
Parameter	***Units***	***PQL***	PCB Blank Sp - Soil	PCB Blank Sp - Soil
ESA-P-ORG(12 - 15)				
Acenaphthene	%		110	94
Anthracene	%		107	91
Fluoranthene	%		94	81
Naphthalene	%		128	108
Phenanthrene	%		106	92
Pyrene	%		98	83
p-Terphenyl-d14 (Surr.)	%		64	61
aldrin	%		110	92
endrin	%		113	125
hexachlorobenzene	%		124	103
TCMX (Surr.)	%		106	89
chlorpyrifos	%		115	100
diazinon	%		105	93
2-fluorobiphenyl (Surr.)	%		116	98
Aroclor 1016	%		113	100

	Sample ID:	Q2025000124	Q2025000134
	Sample Name		

Parameter	Units	PQL	TRH Blank-Soil	TRH Blank-Soil
ESA-P-ORG(3,8)				
>C10-C16	mg/kg	50	<50	<50
>C16-C34	mg/kg	100	<100	<100
>C34-C40	mg/kg	100	<100	<100
>C10-C14	mg/kg	50	<50	<50
>C15-C28	mg/kg	100	<100	<100
>C29-C36	mg/kg	100	<100	<100

	Sample ID:	Q2025000125	Q2025000135
	Sample Name		

Parameter	Units	PQL	TRH Blank Spike-Soil	TRH Blank Spike-Soil
ESA-P-ORG(3,8)				
>C10-C16	%		98	99
>C10-C14	%		95	95

	Sample ID:	S202500056601	S202500061001
	Sample Name	TP101_0.0-0.1	ROS-MAC22_TP1

Parameter	Units	PQL		
ESA-MP-01,ICP-01				
Arsenic	%		102	121
Cadmium	%		87	89
Chromium	%		92	88
Copper	%		94	85
Lead	%		88	87
Mercury	%		114	115
Nickel	%		94	91
Zinc	%		97	103

	Sample ID:	S202500056602	S202500061002
	Sample Name	TP101_0.0-0.1	ROS-MAC22_TP1
Parameter	Units	PQL		
ESA-P-ORG-07 & 08				
Benzene	%		108	96
Toluene	%		82	94
Ethylbenzene	%		72	112
m.p Xylene	%		67	78
o Xylene	%		97	108
Fluorobenzene (Surr.)	%		116	109

	Sample ID:	S202500056603	S202500061003
	Sample Name	TP101_0.0-0.1	ROS-MAC22_TP1
Parameter	Units	PQL		
ESA-P-ORG(12 - 15)				
Acenaphthene	%		107	113
Anthracene	%		102	108
Fluoranthene	%		92	98
Naphthalene	%		122	126
Phenanthrene	%		100	107
Pyrene	%		94	99
p-Terphenyl-d14 (Surr.)	%		62	71
aldrin	%		107	110
endrin	%		136	133
hexachlorobenzene	%		118	123
TCMX (Surr.)	%		103	106
chlorpyrifos	%		111	119
diazinon	%		101	111
Aroclor 1016	%		104	109
2-fluorobiphenyl (Surr.)	%		110	115

		Sample ID:	**S202500056604**	**S202500061004**
		Sample Name	**TP101_0.0-0.1**	**ROS-MAC22_TP1**
Parameter	***Units***	***PQL***		
ESA-P-ORG(3,8)				
>C10-C16	%		100	104
>C10-C14	%		99	101

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

A.B.N. 52 093 452 950

Analysis report: A101023.0436.01
Laboratory LOT NO: 2500107

Date Received: 15.01.2025
Date Analysed: 16.01.2025
Report Date: 16.01.2025
Client: ADE Consulting Group
Job Location: As Received
Analytical method: Polarised Light Microscopy with dispersion staining (ADE method ABI)

*Asbestos identification as per "National Environment Protection (Assessment of site contamination) Measure, Schedule B1" and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" is not coverd by NATA scope of accreditation

Analysis performed by:

Grace (Weichen) Jia
Approved asbestos identifier

Results Authorised By:

Grace (Weichen) Jia
Approved Signatory

General Comments:

Sydney Laboratory Services is responsible for all the information in the report, except that provided by the customer. All sampling information included in the report has been provided by the client

Sample analysed as received.

Samples are stored for minimum period of 1 month if longer time is not advised by client.

Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.01g/kg (0.001% w/w) for friable asbestos and 0.1g/kg (0.01% w/w) for bonded asbestos.

This form of analysis is outside the scope of NATA accreditation.

Bonded asbestos containing material (bonded ACM) : Bonded ACM comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin.This term is restricted to material that cannot pass a 7 mm x 7 mm sieve.

Fibrous asbestos (FA): FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).

Asbestos fines (AF): AF includes free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

Note: The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres.

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Weight (Dry Weight)	Trace Analysis Completed Y/N	Result	Comments
TP101_0.0-0.1	2025000566	Granulated dark soil	500ml	627 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP102_0.0-0.1	2025000567	Granulated dark soil	500ml	595 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP103_0.0-0.1	2025000568	Granulated dark soil	500ml	597 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP104_0.0-0.1	2025000569	Granulated dark soil	500ml	668 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP105_0.0-0.1	2025000570	Granulated dark soil	500ml	585 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP106_0.0-0.1	2025000571	Granulated dark soil	500ml	588 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP107_0.0-0.1	2025000572	Granulated dark soil	500ml	559 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP108_0.0-0.1	2025000573	Granulated dark soil	500ml	550 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Weight (Dry Weight)	Trace Analysis Completed Y/N	Result	Comments
TP109_0.0-0.1	2025000574	Granulated dark soil	500ml	689 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP110_0.0-0.1	2025000575	Granulated dark soil	500ml	517 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP111_0.0-0.1	2025000576	Granulated dark soil	500ml	614 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP112_0.0-0.1	2025000577	Granulated dark soil	500ml	633 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP113_0.0-0.1	2025000578	Granulated dark soil	500ml	541 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP114_0.0-0.1	2025000579	Granulated dark soil	500ml	644 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP115_0.0-0.1	2025000580	Granulated dark soil	500ml	640 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP116_0.0-0.1	2025000581	Granulated dark soil	500ml	621 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
TP117_0.0-0.1	2025000582	Granulated dark soil	500ml	621 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

A.B.N. 52 093 452 950

Analysis report: A101023.0436.01
Laboratory LOT NO: 2500107

Date Received: 15.01.2025
Date Analysed: 15.01.2025
Report Date: 16.01.2025
Client: ADE Consulting group
Analytical method: ABI-P-01: Identification of Asbestos in Bulk Samples

Analysis performed by:

Grace (Weichen) Jia
Approved asbestos identifier

Results Authorised By:

Grace (Weichen) Jia
Approved Signatory

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025 - Testing.

Tests not covered by NATA are denoted with *.

General Comments:

Sydney Laboratory Services is responsible for all the information in the report, except that provided by the customer. All sampling information included in the report has been provided by the client.

Sample analysed as received.
Samples are stored for minimum period of 4 weeks, if longer time is not advised by client.
All positive/negative results have been confirmed by polarized light microscopy including dispersion staining.
ABI-P-01: Qualitative Identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques as per AS4964.
Under AS4964, the reporting limit of asbestos in bulk samples is set as 0.1g/kg

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025 - Testing.

Tests not covered by NATA are denoted with *.

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dry Weight (g)	Trace Analysis (> 5 Fibres)	Asbestos ID in Soil (AS4964) >0.1g/kg	Weight Total ACM (g)	Comments
TP101_0.4-1.0	2025000583	Granulated dark soil	132.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil
TP103_0.3-1.1	2025000584	Granulated dark soil	132.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil
TP105_0.5-1.1	2025000585	Granulated dark soil	131.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil
TP107_0.3-0.9	2025000586	Granulated dark soil	128.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil
TP109_0.5-1.0	2025000587	Granulated dark soil	133.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil
TP111_0.4-1.0	2025000588	Granulated dark soil	170.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dry Weight (g)	Trace Analysis (> 5 Fibres)	Asbestos ID in Soil (AS4964) >0.1g/kg	Weight Total ACM (g)	Comments
TP113_0.5-0.9	2025000589	Granulated dark soil	138.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil
TP115_0.3-1.0	2025000590	Granulated dark soil	110.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil
TP117_0.4-0.9	2025000591	Granulated dark soil	109.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic Fibres Detected	N/A	Nil

CHAIN OF CUSTODY FORM - Client

[Copyright and Confidential]

ENVIROLAB GROUP National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
✆ 02 9910 6200 | ✉ sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt, Myaree, WA 6154
✆ 08 9317 2505 | ✉ lab@mpl.com.au

Melbourne Lab - Envirolab Services
25 Research Drive, Croydon South, VIC 3136
✆ 03 9763 2500 | ✉ melbourne@envirolab.com.au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
✆ 08 7087 6800 | ✉ adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
✆ 07 3266 9532 | ✉ brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820
✆ 08 8967 1201 | ✉ darwin@envirolab.com.au

ENVIROLAB GROUP National phone number 1300 424 344

Client: ADE Consulting group	Client Project Name/Number/Site etc (ie report title): 23.0436.01
Contact Person: Nicholas Maricic	
Project Mgr: nicholas.maricic@ade.group	PO No.:A101023.0436.01_002_L21
Sampler: JP, LHO	Envirolab Quote No. :
Address: 6/7 Millenium Court Silverwater NSW 2128	Date results required:
karin.azzam@ade.group; nicholas.maricic@ade.group	Or choose: standard / same day / 1 day / 2 day / 3 day
please email these people too.	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: n/a Mob: 415130038	Additional report format: esdat / equis /
Email: liam.hudson-ofarrell@ade.group; jonathan.parker@ade.group; andrew.hunt@ade.group	Lab Comments:

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combination 6	pH	Cation Exchange Capacity (CEC)	Clay Content												Provide as much information about the sample as you can
1	SR01-250114	-	14/01/2024	Soil	☒															
2	SR02-250114	-	14/01/2024	Soil	☒															
3	TP112-0.4-0.9	-	14/01/2024	Soil		☒	☒	☒												
4	TP106-0.3-1.1	-	14/01/2024	Soil		☒	☒	☒												
5	TP108-0.5-1.0	-	14/01/2024	Soil		☒	☒	☒												

Relinquished by (Company): ☑	ADE Consulting Group	Received by (Company): GLS SYD	Lab Use Only
Print Name:	Nicholas Maricic	Print Name: Danielle Lu	Job number: 370483 / Cooling: (Ice) / Ice pack / None
Date & Time:	14/01/2024	Date & Time: 15/1/25 1330	Temperature: 8°C / Security seal: (Intact) / Broken / None
Signature:		Signature:	TAT Req - SAME day / 1 (2) / 3 / 4 / STD

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	ADE CONSULTING GROUP PTY LTD
Attention	Liam Hudson-O'Farrell

Sample Login Details

Your reference	23.0436.01
Envirolab Reference	370483
Date Sample Received	15/01/2025
Date Instructions Received	15/01/2025
Date Results Expected to be Reported	17/01/2025

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Soil
Turnaround Time Requested	2 days
Temperature on Receipt (°C)	8
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Longer TAT required for clay

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Misc Inorg - Soil	CEC	Clay 50-120g
SR01_250114	✓	✓	✓	✓	✓	✓	✓			
SR02_250114	✓	✓	✓	✓	✓	✓	✓			
TP112-0.4-0.9								✓	✓	✓
TP106-0.3-1.1								✓	✓	✓
TP108-0.5-1.0								✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 370483

Client Details

Client	ADE CONSULTING GROUP PTY LTD
Attention	Liam Hudson-O'Farrell
Address	Unit 6, 7 Millenium Court, Silverwater, NSW, 2128

Sample Details

Your Reference	**23.0436.01**
Number of Samples	5 Soil
Date samples received	15/01/2025
Date completed instructions received	15/01/2025

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	17/01/2025
Date of Issue	17/01/2025

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Giovanni Agosti, Group Technical Manager
Jack Wallis, Senior Chemist
Jenny He, Inorganic Team Leader
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		370483-1	370483-2
Your Reference	UNITS	SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date extracted	-	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025
TRH C_6 - C_9	mg/kg	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	82	82

svTRH (C10-C40) in Soil			
Our Reference	UNITS	370483-1	370483-2
Your Reference		SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date extracted	-	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025
TRH C_{10} - C_{14}	mg/kg	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	81	81

PAHs in Soil			
Our Reference	UNITS	370483-1	370483-2
Your Reference		SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date extracted	-	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	99	96

Organochlorine Pesticides in soil			
Our Reference		370483-1	370483-2
Your Reference	UNITS	SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date extracted	-	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025
alpha-BHC	mg/kg	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	100	136

Organophosphorus Pesticides in Soil			
Our Reference	UNITS	370483-1	370483-2
Your Reference		SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date extracted	-	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025
Dichlorvos	mg/kg	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	100	136

PCBs in Soil			
Our Reference		370483-1	370483-2
Your Reference	UNITS	SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date extracted	-	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	98	95

Acid Extractable metals in soil			
Our Reference	UNITS	370483-1	370483-2
Your Reference		SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date prepared	-	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025
Arsenic	mg/kg	9	12
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	17	26
Copper	mg/kg	7	11
Lead	mg/kg	27	26
Mercury	mg/kg	0.1	0.1
Nickel	mg/kg	3	7
Zinc	mg/kg	8	16

Moisture			
Our Reference		370483-1	370483-2
Your Reference	UNITS	SR01_250114	SR02_250114
Date Sampled		14/01/2025	14/01/2025
Type of sample		Soil	Soil
Date prepared	-	16/01/2025	16/01/2025
Date analysed	-	17/01/2025	17/01/2025
Moisture	%	13	16

Misc Inorg - Soil				
Our Reference		370483-3	370483-4	370483-5
Your Reference	UNITS	TP112-0.4-0.9	TP106-0.3-1.1	TP108-0.5-1.0
Date Sampled		14/01/2025	14/01/2025	14/01/2025
Type of sample		Soil	Soil	Soil
Date prepared	-	16/01/2025	16/01/2025	16/01/2025
Date analysed	-	16/01/2025	16/01/2025	16/01/2025
pH 1:5 soil:water	pH Units	4.8	5.1	5.1

CEC				
Our Reference		370483-3	370483-4	370483-5
Your Reference	UNITS	TP112-0.4-0.9	TP106-0.3-1.1	TP108-0.5-1.0
Date Sampled		14/01/2025	14/01/2025	14/01/2025
Type of sample		Soil	Soil	Soil
Date prepared	-	17/01/2025	17/01/2025	17/01/2025
Date analysed	-	17/01/2025	17/01/2025	17/01/2025
Exchangeable Ca	meq/100g	1.3	0.9	1.7
Exchangeable K	meq/100g	0.2	0.1	0.2
Exchangeable Mg	meq/100g	2.5	1.5	1.8
Exchangeable Na	meq/100g	0.3	<0.1	<0.1
Cation Exchange Capacity	meq/100g	4.4	2.6	3.7

Clay 50-120g				
Our Reference		370483-3	370483-4	370483-5
Your Reference	UNITS	TP112-0.4-0.9	TP106-0.3-1.1	TP108-0.5-1.0
Date Sampled		14/01/2025	14/01/2025	14/01/2025
Type of sample		Soil	Soil	Soil
Date prepared	-	15/01/2025	15/01/2025	15/01/2025
Date analysed	-	16/01/2025	16/01/2025	16/01/2025
Clay in soils <2µm	% (w/w)	44	54	61

Method ID	Methodology Summary
AS1289.3.6.3	Particle Size Distribution using in house method INORG-107 by way of sieving and/or hydrometer sedimentation testing. Clay fraction at <2µm reported.
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021/022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	370483-2
Date extracted	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Date analysed	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	99	97
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	99	97
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	96	93
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	93	92
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	108	106
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	98	96
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	100	99
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	78	1	82	72	13	87	82

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	370483-2
Date extracted	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Date analysed	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	105	89
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	84	71
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	86	80
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	105	89
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	84	71
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	86	80
Surrogate o-Terphenyl	%		Org-020	92	1	81	86	6	94	81

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	370483-2
Date extracted	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Date analysed	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	82
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	106	90
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	78
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	84
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	78
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	80
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	76
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	76	64
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	1	99	105	6	80	106

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	370483-2
Date extracted	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Date analysed	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	84
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	82
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	84
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	86	74
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	90
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	76
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	88
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	84
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	108	92
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	84
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	117	1	100	127	24	94	130

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	370483-2
Date extracted	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Date analysed	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	76
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	78
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	76
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	86	78
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	86
Fenthion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	74
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	72
Phosalone	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	117	1	100	127	24	94	130

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	370483-2
Date extracted	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Date analysed	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	96	80
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	101	1	98	102	4	79	103

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	370483-2
Date prepared	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Date analysed	-			16/01/2025	1	16/01/2025	16/01/2025		16/01/2025	16/01/2025
Arsenic	mg/kg	4	Metals-020	<4	1	9	7	25	113	94
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	104	98
Chromium	mg/kg	1	Metals-020	<1	1	17	15	12	108	94
Copper	mg/kg	1	Metals-020	<1	1	7	8	13	110	105
Lead	mg/kg	1	Metals-020	<1	1	27	27	0	108	89
Mercury	mg/kg	0.1	Metals-021	<0.1	1	0.1	0.1	0	113	104
Nickel	mg/kg	1	Metals-020	<1	1	3	3	0	111	94
Zinc	mg/kg	1	Metals-020	<1	1	8	9	12	103	80

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			16/01/2025	5	16/01/2025	16/01/2025		16/01/2025	[NT]
Date analysed	-			16/01/2025	5	16/01/2025	16/01/2025		16/01/2025	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	5	5.1	5.0	2	100	[NT]

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			17/01/2025	[NT]	[NT]	[NT]	[NT]	17/01/2025	[NT]
Date analysed	-			17/01/2025	[NT]	[NT]	[NT]	[NT]	17/01/2025	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	111	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Appendix I – Data Quality Assessment

A summary of the Quality Assurance / Quality Control (QA/QC) results for the soil analysis is shown below in **Table I1**. Refer to **Appendix J – RPD calculations** for further information and data analysis.

Table I1. Summary of Soil Sample QA/QC Analysis.

Sample collection & handling measures appropriate?	Yes. The samples were in proper custody between the field and reaching the laboratory in a good condition, documented in a signed chain of custody form (refer to **Appendix H**). Samples were properly and adequately preserved and refrigerated, and all analytical holding times were met.
Field Duplicate Samples	Two intra-laboratory (blind) duplicates (ID: BR1, BR2) and two inter-laboratory (split) duplicates (ID: SR1, SR2) were collected and analysed from the sampling event. Results from the blind duplicate and split duplicate samples are presented in **Appendix J**. Reported concentrations in parent samples were compared to those reported in blind and split duplicate samples and relative percent difference (RPDs) were calculated. All RPDs were reported within acceptable range (as outlined in **Appendix J**) except for 3 marginal exceedances as follows: • Chromium (III+VI) (RPD: 36) of the tolerance between BR2 and the parent sample. • Chromium (III+VI) (RPD: 41) of the tolerance between SR2 and the parent sample. • Zinc (RPD: 72) of the tolerance between SR2 and the parent sample. These exceedances can be attributed to the difficulties in obtaining homogenous samples from heterogenous matrices. It is not considered to invalidate the data set.
Laboratory QA/QC results acceptable?	**Yes.** ADE considers that the internal QA/QC undertaken by the laboratories is satisfactory (refer to **Appendix H** for the laboratory quality control report).
Decontamination procedures	Dedicated disposable materials (such as nitrile gloves) were changed between each sampling point. All disposable sampling equipment/materials were collected and removed before leaving the site. Equipment rinsates were not required due to use of dedicated equipment.
Trip Blank, Trip Spike	No Trip Blank and Trip Spike were used. None of the samples reported BTEX concentrations exceeding the SAC and were below the LOR for the laboratory hence the absence of the trip spike and blank will not affect the outcome of this assessment. The laboratory results were consistent with field observations including no odours or PID readings greater than 1.0 ppm.

Field & Laboratory Data Usable?	ADE considers that the analytical results are representative of the conditions of the sampling locations at the time of sampling and are directly usable for the purpose of this assessment.

Data Review

Quality control reports from the laboratories subcontracted for sample analyses were reviewed. Laboratory blank samples, duplicate samples, control samples, spiked samples and method blanks were evaluated.

Chain of Custody

Australian Standard AS 4482.1 defines the chain-of-custody documentation as the link in the transfer of samples between the time of collection and arrival at the laboratory. The CoC utilised by ADE included the items recommended by the Standard:

- The person transferred the samples;
- The person who received the samples;
- Date the samples were collected;
- Date the samples were received at the laboratory; and
- Contact name and details for the client.

Copies of the CoCs completed during this investigation are provided in in **Appendix H – Analytical Reports and Chain of Custody.**

Field Equipment Calibration

Field equipment requiring calibration included the use of a photo-ionisation detector (PID). The PID was calibrated by an external qualified technician before the sampling events (refer to **Appendix F** for the calibration certificate).

Laboratory Analytical Methodology and Accreditation

All chemical analysis was undertaken by NATA accredited laboratories. Refer to **Appendix H – Analytical Reports and Chain of Custody Documentation** for the details of the adopted laboratory analytical methods and their respective accreditations. The laboratory methodologies and the respective accreditations of SLS and Envirolab were deemed suitable for the required analyses.

Detection Limits / Practical Quantification Limits

The laboratory limit of reporting (LOR) should be at least half the SAC for to ensure that suitable resolution and accuracy to evaluate the risk to receptors are captured.

The LORs were sufficient to accurately quantify detectable contaminants.

Record of Holding Times

All primary and QAQC samples collected over the course of the investigation were submitted within the recommended holding times of the required analysis. As such, the holding times of the samples to the final submission to the laboratories used (SLS and Envirolab) meet the recommended holding time criteria, with all samples analysed within 7 days (or specific to an analyte) from the time of collection.

Laboratory Method Blanks

The assessment of method blank results was to determine the existence and magnitude of contamination resulting from laboratory activities.

The assessment of blank analysis results was carried out to determine the existence and magnitude of contamination resulting from laboratory activities. No contaminants were found in the blanks analysed by the laboratory.

Laboratory Spikes and Surrogates

The laboratory limit of 70-130% for inorganics / metals, and 60-140% for organics was used to validate matrix spikes and laboratory control samples. The laboratory limit of 50-150% was implemented to validate surrogate recoveries for organic analytes.

Summary

The acceptable limits on decision errors to be applied in the investigation and the manner of addressing possible decision errors have been applied. The data is considered suitable for its intended use in operations, decision making and planning as per step 6 of the data quality objectives and assessment.

Appendix J – RPD Calculations

QAQC_ Relative Percent Difference Table

		Lab Report Number	A101023.0436.01 (566-593)	A101023.0436.01 (566-593)		A101023.0436.01 (566-593)	370483		A101023.0436.01 (566-593)	A101023.0436.01 (566-593)
		Field ID	TP106_0.0-0.1	BR01_250114		TP106_0.0-0.1	SR01_250114		TP112_0.0-0.1	BR02_250114
		Date	14 Jan 2025	14 Jan 2025		14 Jan 2025	14 Jan 2025		14 Jan 2025	14 Jan 2025
		Matrix Type	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil
	Unit	EQL								
BTEX										
Naphthalene (VOC)	mg/kg	1	-	-	-	-	<1	-	-	-
Benzene	mg/kg	0.2	<0.50	<0.50	0	<0.50	<0.2	0	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	0	<0.50	<0.5	0	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	0	<1.0	<1	0	<1.0	<1.0
Xylene (m & p)	mg/kg	2	<2.0	<2.0	0	<2.0	<2	0	<2.0	<2.0
Xylene (o)	mg/kg	1	<1.0	<1.0	0	<1.0	<1	0	<1.0	<1.0
Xylene Total	mg/kg	1	<2.0	<2.0	0	<2.0	<1	0	<2.0	<2.0
Total BTEX	mg/kg	2	<2.00	<2.00	0	<2.00	-	-	<2.00	<2.00
TRH										
C6-C10 Fraction (F1)	mg/kg	25	<35	<35	0	<35	<25	0	<35	<35
C6-C10 (F1 minus BTEX)	mg/kg	25	<35	<35	0	<35	<25	0	<35	<35
>C10-C16 Fraction (F2)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50	-	-	-	-	<50	-	-	-
>C16-C34 Fraction (F3)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100
>C34-C40 Fraction (F4)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100
>C10-C40 Fraction (Sum)	mg/kg	50	<100	<100	0	<100	<50	0	<100	<100
Other										
Phosalone	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Halogenated Benzenes										
Hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Inorganics										
Moisture Content	%	0.1	16.7	17.5	5	16.7	13	25	15.9	15.2
Metals										
Arsenic	mg/kg	4	<5.0	11.2	77	<5.0	9	57	8.6	5.7
Cadmium	mg/kg	0.1	0.48	0.24	67	0.48	<0.4	18	0.95	1.42
Chromium (III+VI)	mg/kg	1	10.6	11.6	9	10.6	17	46	17.1	24.5
Copper	mg/kg	1	5.6	7.2	25	5.6	7	22	9.3	7.2
Lead	mg/kg	1	22.9	24.5	7	22.9	27	16	25.3	31.4
Mercury	mg/kg	0.1	<0.10	<0.10	0	<0.10	0.1	0	<0.10	<0.10
Nickel	mg/kg	1	2.5	2.5	0	2.5	3	18	5.4	4.0
Zinc	mg/kg	1	<5.0	5.2	4	<5.0	8	46	7.5	14.7
Organochlorine Pesticides										
4,4-DDE	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Aldrin	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Aldrin + Dieldrin	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
b-BHC	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Chlordane (cis)	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Chlordane (trans)	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
DDD	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
DDT	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
DDT+DDE+DDD	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Dieldrin	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Endosulfan I	mg/kg	0.1	<0.20	<0.20	0	<0.20	<0.1	0	<0.20	<0.20
Endosulfan II	mg/kg	0.1	<0.20	<0.20	0	<0.20	<0.1	0	<0.20	<0.20
Endosulfan sulphate	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Endrin	mg/kg	0.1	<0.20	<0.20	0	<0.20	<0.1	0	<0.20	<0.20
Endrin aldehyde	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Endrin ketone	mg/kg	0.1	<0.10	<0.10	0	<0.10	-	-	<0.10	<0.10
g-BHC (Lindane)	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Heptachlor	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Methoxychlor	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Organophosphorous Pesticides										
Azinophos methyl	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Bromophos-ethyl	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Chlorpyrifos	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Chlorpyrifos-methyl	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Coumaphos	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Diazinon	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Dichlorvos	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Dimethoate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-

QAQC_ Relative Percent Difference Table

		Lab Report Number	A101023.0436.01 (566-593)	A101023.0436.01 (566-593)		A101023.0436.01 (566-593)	370483		A101023.0436.01 (566-593)	A101023.0436.01 (566-593)
		Field ID	TP106_0.0-0.1	BR01_250114		TP106_0.0-0.1	SR01_250114		TP112_0.0-0.1	BR02_250114
		Date	14 Jan 2025	14 Jan 2025		14 Jan 2025	14 Jan 2025		14 Jan 2025	14 Jan 2025
		Matrix Type	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil
	Unit	EQL								
Disulfoton	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Ethion	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Ethoprop	mg/kg	0.1	<0.10	<0.10	0	<0.10	-	-	<0.10	<0.10
Fenitrothion	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Fenthion	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Malathion	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Methidathion	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Methyl parathion	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
Mevinphos (Phosdrin)	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Phorate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Ronnel	mg/kg	0.1	<0.10	<0.10	0	<0.10	<0.1	0	<0.10	<0.10
PAH										
Benzo(b+j+k)fluoranthene	mg/kg	0.2	<0.30	<0.30	0	<0.30	<0.2	0	<0.30	<0.30
Acenaphthene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Acenaphthylene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Anthracene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Benzo(a)anthracene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Benzo(a) pyrene	mg/kg	0.05	<0.30	<0.30	0	<0.30	<0.05	0	<0.30	<0.30
Benzo(g,h,i)perylene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Chrysene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Dibenz(a,h)anthracene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Fluoranthene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Fluorene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Naphthalene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Phenanthrene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Pyrene	mg/kg	0.1	<0.30	<0.30	0	<0.30	<0.1	0	<0.30	<0.30
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.3	0.35	0.35	0	0.35	<0.5	0	0.35	0.35
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.3	0.70	0.70	0	0.70	<0.5	33	0.70	0.70
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.3	<0.30	<0.30	0	<0.30	<0.5	0	<0.30	<0.30
PAHs (Sum of total)	mg/kg	0.3	<0.30	<0.30	0	<0.30	-	-	<0.30	<0.30
PAHs (Sum of positives)	mg/kg	0.05	-	-	-	-	<0.05	-	-	-
PCBs										
Arochlor 1016	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
Arochlor 1221	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
Arochlor 1232	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
Arochlor 1242	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
Arochlor 1248	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
Arochlor 1254	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
Arochlor 1260	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
PCBs (Sum of total)	mg/kg	0.1	<0.50	<0.50	0	<0.50	<0.1	0	<0.50	<0.50
Pesticides										
DEF	mg/kg	0.1	<0.10	<0.10	0	<0.10	-	-	<0.10	<0.10
Fenamiphos	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Mirex	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
Parathion	mg/kg	0.1	-	-	-	-	<0.1	-	-	-
TPH										
C6-C9 Fraction	mg/kg	25	<25	<25	0	<25	<25	0	<25	<25
C10-C14 Fraction	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50
C15-C28 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100
C29-C36 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100
C10-C36 Fraction (Sum)	mg/kg	50	<100	<100	0	<100	<50	0	<100	<100

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

			Lab Report Number		A101023.0436.01 (566-593)	370483	
			Field ID		TP112_0.0-0.1	SR02_250114	
			Date		14 Jan 2025	14 Jan 2025	
			Matrix Type	RPD	Soil	Soil	RPD
	Unit	EQL					
BTEX							
Naphthalene (VOC)	mg/kg	1	-	-	<1	-	
Benzene	mg/kg	0.2	0	<0.50	<0.2	0	
Toluene	mg/kg	0.5	0	<0.50	<0.5	0	
Ethylbenzene	mg/kg	1	0	<1.0	<1	0	
Xylene (m & p)	mg/kg	2	0	<2.0	<2	0	
Xylene (o)	mg/kg	1	0	<1.0	<1	0	
Xylene Total	mg/kg	1	0	<2.0	<1	0	
Total BTEX	mg/kg	2	0	<2.00	-	-	
TRH							
C6-C10 Fraction (F1)	mg/kg	25	0	<35	<25	0	
C6-C10 (F1 minus BTEX)	mg/kg	25	0	<35	<25	0	
>C10-C16 Fraction (F2)	mg/kg	50	0	<50	<50	0	
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50	-	-	<50	-	
>C16-C34 Fraction (F3)	mg/kg	100	0	<100	<100	0	
>C34-C40 Fraction (F4)	mg/kg	100	0	<100	<100	0	
>C10-C40 Fraction (Sum)	mg/kg	50	0	<100	<50	0	
Other							
Phosalone	mg/kg	0.1	-	-	<0.1	-	
Halogenated Benzenes							
Hexachlorobenzene	mg/kg	0.1	0	<0.10	<0.1	0	
Inorganics							
Moisture Content	%	0.1	5	15.9	16	1	
Metals							
Arsenic	mg/kg	4	41	8.6	12	33	
Cadmium	mg/kg	0.1	40	0.95	<0.4	81	
Chromium (III+VI)	mg/kg	1	36	17.1	26	41	
Copper	mg/kg	1	25	9.3	11	17	
Lead	mg/kg	1	22	25.3	26	3	
Mercury	mg/kg	0.1	0	<0.10	0.1	0	
Nickel	mg/kg	1	30	5.4	7	26	
Zinc	mg/kg	1	65	7.5	16	72	
Organochlorine Pesticides							
4,4-DDE	mg/kg	0.1	0	<0.10	<0.1	0	
a-BHC	mg/kg	0.1	0	<0.10	<0.1	0	
Aldrin	mg/kg	0.1	0	<0.10	<0.1	0	
Aldrin + Dieldrin	mg/kg	0.1	-	-	<0.1	-	
b-BHC	mg/kg	0.1	0	<0.10	<0.1	0	
Chlordane (cis)	mg/kg	0.1	0	<0.10	<0.1	0	
Chlordane (trans)	mg/kg	0.1	0	<0.10	<0.1	0	
d-BHC	mg/kg	0.1	0	<0.10	<0.1	0	
DDD	mg/kg	0.1	0	<0.10	<0.1	0	
DDT	mg/kg	0.1	0	<0.10	<0.1	0	
DDT+DDE+DDD	mg/kg	0.1	-	-	<0.1	-	
Dieldrin	mg/kg	0.1	0	<0.10	<0.1	0	
Endosulfan I	mg/kg	0.1	0	<0.20	<0.1	0	
Endosulfan II	mg/kg	0.1	0	<0.20	<0.1	0	
Endosulfan sulphate	mg/kg	0.1	0	<0.10	<0.1	0	
Endrin	mg/kg	0.1	0	<0.20	<0.1	0	
Endrin aldehyde	mg/kg	0.1	0	<0.10	<0.1	0	
Endrin ketone	mg/kg	0.1	0	<0.10	-	-	
g-BHC (Lindane)	mg/kg	0.1	0	<0.10	<0.1	0	
Heptachlor	mg/kg	0.1	0	<0.10	<0.1	0	
Heptachlor epoxide	mg/kg	0.1	0	<0.10	<0.1	0	
Methoxychlor	mg/kg	0.1	0	<0.10	<0.1	0	
Organophosphorous Pesticides							
Azinophos methyl	mg/kg	0.1	-	-	<0.1	-	
Bromophos-ethyl	mg/kg	0.1	-	-	<0.1	-	
Chlorpyrifos	mg/kg	0.1	0	<0.10	<0.1	0	
Chlorpyrifos-methyl	mg/kg	0.1	0	<0.10	<0.1	0	
Coumaphos	mg/kg	0.1	-	-	<0.1	-	
Diazinon	mg/kg	0.1	0	<0.10	<0.1	0	
Dichlorvos	mg/kg	0.1	-	-	<0.1	-	
Dimethoate	mg/kg	0.1	-	-	<0.1	-	

	Lab Report Number		A101023.0436.01 (566-593)	370483	
	Field ID		TP112_0.0-0.1	SR02_250114	
	Date		14 Jan 2025	14 Jan 2025	
	Matrix Type	RPD	Soil	Soil	RPD
	Unit	EQL			
Disulfoton	mg/kg	0.1	-	-	<0.1	-
Ethion	mg/kg	0.1	-	-	<0.1	-
Ethoprop	mg/kg	0.1	0	<0.10	-	-
Fenitrothion	mg/kg	0.1	-	-	<0.1	-
Fenthion	mg/kg	0.1	-	-	<0.1	-
Malathion	mg/kg	0.1	-	-	<0.1	-
Methidathion	mg/kg	0.1	-	-	<0.1	-
Methyl parathion	mg/kg	0.1	0	<0.10	<0.1	0
Mevinphos (Phosdrin)	mg/kg	0.1	-	-	<0.1	-
Phorate	mg/kg	0.1	-	-	<0.1	-
Ronnel	mg/kg	0.1	0	<0.10	<0.1	0
PAH						
Benzo(b+j+k)fluoranthene	mg/kg	0.2	0	<0.30	<0.2	0
Acenaphthene	mg/kg	0.1	0	<0.30	<0.1	0
Acenaphthylene	mg/kg	0.1	0	<0.30	<0.1	0
Anthracene	mg/kg	0.1	0	<0.30	<0.1	0
Benzo(a)anthracene	mg/kg	0.1	0	<0.30	<0.1	0
Benzo(a) pyrene	mg/kg	0.05	0	<0.30	<0.05	0
Benzo(g,h,i)perylene	mg/kg	0.1	0	<0.30	<0.1	0
Chrysene	mg/kg	0.1	0	<0.30	<0.1	0
Dibenz(a,h)anthracene	mg/kg	0.1	0	<0.30	<0.1	0
Fluoranthene	mg/kg	0.1	0	<0.30	<0.1	0
Fluorene	mg/kg	0.1	0	<0.30	<0.1	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0	<0.30	<0.1	0
Naphthalene	mg/kg	0.1	0	<0.30	<0.1	0
Phenanthrene	mg/kg	0.1	0	<0.30	<0.1	0
Pyrene	mg/kg	0.1	0	<0.30	<0.1	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.3	0	0.35	<0.5	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.3	0	0.70	<0.5	33
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.3	0	<0.30	<0.5	0
PAHs (Sum of total)	mg/kg	0.3	0	<0.30	-	-
PAHs (Sum of positives)	mg/kg	0.05	-	-	<0.05	-
PCBs						
Arochlor 1016	mg/kg	0.1	0	<0.50	<0.1	0
Arochlor 1221	mg/kg	0.1	0	<0.50	<0.1	0
Arochlor 1232	mg/kg	0.1	0	<0.50	<0.1	0
Arochlor 1242	mg/kg	0.1	0	<0.50	<0.1	0
Arochlor 1248	mg/kg	0.1	0	<0.50	<0.1	0
Arochlor 1254	mg/kg	0.1	0	<0.50	<0.1	0
Arochlor 1260	mg/kg	0.1	0	<0.50	<0.1	0
PCBs (Sum of total)	mg/kg	0.1	0	<0.50	<0.1	0
Pesticides						
DEF	mg/kg	0.1	0	<0.10	-	-
Fenamiphos	mg/kg	0.1	-	-	<0.1	-
Mirex	mg/kg	0.1	-	-	<0.1	-
Parathion	mg/kg	0.1	-	-	<0.1	-
TPH						
C6-C9 Fraction	mg/kg	25	0	<25	<25	0
C10-C14 Fraction	mg/kg	50	0	<50	<50	0
C15-C28 Fraction	mg/kg	100	0	<100	<100	0
C29-C36 Fraction	mg/kg	100	0	<100	<100	0
C10-C36 Fraction (Sum)	mg/kg	50	0	<100	<50	0

**RPDs have only been considered where a concentration is greater than 1 times t
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs f
***Interlab Duplicates are matched on a per compound basis as methods vary be

ADE CONSULTINGGROUP
SOLUTIONS THROUGH INNOVATION

Further details regarding ADE's services are available via:

info@ade.group | www.ade.group

Call us on 1300 796 922

ADE Consulting Group Pty Ltd

Sydney
Unit 6/7 Millennium Court
Silverwater, NSW 2128, Australia

Newcastle
Unit 9/103 Glenwood Drive
Thornton, NSW 2322, Australia

ADE Consulting Group (QLD) Pty Ltd

Brisbane
Unit 10/53 Metroplex Avenue
Murarrie, QLD 4172, Australia

ADE Consulting Group (VIC) Pty Ltd

Melbourne
Unit 4/95 Salmon Street
Port Melbourne, VIC 3207, Australia