Detailed Site Investigation – Proposed Medowie High School

6 Abundance Road, Medowie NSW

Prepared for: School Infrastructure NSW

A101024.0124 | A101024.0124 Medowie DSI v3 | Date: 22/01/2025

ADE CONSULTING GROUP

Document Information

Report Title:	Detailed Site Investigation– Proposed Medowie High School
Prepared for:	School Infrastructure NSW
Project Address:	6 Abundance Road, Medowie NSW
File Reference:	A101024.0124
Report Reference:	A101024.0124 Medowie DSI v3

Document Control

Version	Date	Author	Revision description	Reviewer
V1d	17/12/2024	Karin Azzam	Draft for client review	Elin Griffiths
V1	13/11/2024	Karin Azzam	Final for Issue	Graham Hawkes
V2	18/12/2024	Karin Azzam	Final for Issue	Sam Goldsmith
V3	22/01/2025	Jessica Whitehead	Final for Issue	Sam Goldsmith

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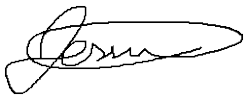	 Sam Goldsmith January 22, 2025	 Digitally signed by Karin Azzam DN: cn=Karin Azzam, c=AU, o=ADE group, ou=Environmental, email=karin.azzam@ade.group Date: 2025.01.22 15:06:29 +11'00'
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Executive Summary

Background and Objective

ADE Consulting Group Pty Ltd (ADE) was engaged by Colliers on behalf of the NSW Department of Education (DoE) to undertake a Detailed Site Investigation (DSI) to assess site suitability for the proposed new High School for Medowie (the activity) at 6 Abundance Road, Medowie NSW 2318 (the 'site').

This DSI has been prepared to support a Review of Environmental Factors (REF) for the proposed New High School for Medowie (the activity). The purpose of the REF is 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 3.37A of the T&I SEPP.

For the purpose of this report, the northern portion of the site that is the target of this DGA has been referred to as "the investigation area" and comprises the footprint of the proposed new school buildings, playgrounds and sportsgrounds.

The objectives of the DSI were to:

- support the REF for the proposed activity by determining the nature and extent of contamination (if any) in soil and/or groundwater within the investigation area and whether the contamination (if any) may pose and unacceptable risk to human health and the environment. The DSI is undertaken to determine whether remediation or management is required during construction work and with respect to the proposed activity.
- Provide indicative advice regarding the offsite management of material which may be surplus to requirements, in accordance with NSW Environment Protection Authority (EPA) (2014a) Waste Classification Guidelines: Part 1 Classifying Waste (the "Waste Guidelines").

Scope of Work

This DSI comprised of an intrusive investigation of soil and groundwater, including:

ADE completed the following:

- Preliminary works including a review and summary of the findings from the preliminary site investigation undertaken by ADE in 2024 (ADE, 2024) and development of a sampling plan.
- Intrusive investigation of the site via boreholes (mechanical and manual)
    - 22-23 April 2024 - 8 soil boreholes (BH01 – BH08) were advanced to a maximum of 9.0 metres below ground level (m BGL) and 6 (HA01 - HA06) advanced to 0.5 mBGL.
    - November 2024 - 5 boreholes (BH202-203, BH205-206 and BH208) for geotechnical purpose
    - December 2024 - 14 soil boreholes were advanced to 0.5 mBGL using a hand auger.
- Collection of a total of 49 representative primary soil samples for laboratory analysis.
- 3 soil bores (BH01 to BH03) were converted to groundwater wells on 23 April 2024. The wells were constructed with 6 m screens installed from 3.0 to 9.0 mBGL and developed to flush sediment that may have accumulated in the well annulus.

Groundwater was encountered at 2.54 m BGL. 3 groundwater samples were collected on 03 May 2024 for laboratory analysis.

- Data evaluation and provision of this DSI report with findings and recommendations from the assessment.

Summary of Key Findings

- The site was found to have an agricultural and residential history including orchards from as early as 1954 through to 1998 after which the site has been used for hobby scale livestock rearing.
- There were no signs of fill material in the subsurface at any of the sampling locations. The lithology was consistent across the investigation area with shallow clay topsoil overlaying natural silty clay, which extended beyond the maximum investigation depth (9.0mbgl).
- Analytical results for soil samples were below the adopted criteria considering the most conservative scenario for residential land-use with assessable soils.
- All analytical soil results were below Contaminant Threshold 1 (CT1) criteria for General Solid Waste.
- Minor exceedances of zinc were reported in the three groundwater samples with all other analytes either below the adopted site investigation criteria or the laboratory limit of report.

Conclusions and Recommendations

From the completed site investigation including observations during the intrusive investigation and sampling along with the analytical results, soils are considered to present a low risk of contamination.

The groundwater sampling did not identify contamination associated with potential adjacent off-site sources (e.g. the service station) and therefore potential risk linkages are considered incomplete.

ADE considers the site suitable for the proposed development as a secondary school.

Mitigation Measures

The recommended mitigation measures are:

- Develop and prepare an unexpected finds protocol to be implemented during the demolition and construction phase of the activity.
- Develop and prepare a soil and water management plan/ sub-plan to prevent erosion and generation of sediment.
- Develop and prepare a construction environmental management plan to be implemented during the course of demolition and construction phase of the activity.
- Ensure all soil to be removed from the site as waste is classified in accordance with NSW EPA (2014) prior to leaving the site.

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Abbreviations

Abbreviation	Definition
AASS	Actual Acid Sulfate Soil
ABC	Ambient Background Concentrations
ACL	Added Contaminant Limits
ACM	Asbestos Containing Material
ADE	ADE Consulting Group Pty Ltd
AHD	Australian Height Datum
ALS	Australian Laboratory Services
AS	Australian Standard
BGL	Below Ground Level
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
BYDA	Before You Dig Australia
CEC	Cation Exchange Capacity
COC	Chain of Custody
CoPCs	Contaminants of Potential Concern
CSM	Conceptual Site Model
DDT	dichloro-diphenyl-trichloroethane
DO	Dissolved Oxygen
DP	Deposited Plan
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
DGA	Data Gap Assessment
EC	Electrical Conductivity
EILs	Ecological Investigation Levels
EPA	Environment Protection Authority
EMP	Environmental Management Plan
ESLs	Ecological Screening Levels
GSW	General Solid Waste
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LEP	Local Environmental Plan
LGA	Local Government Area
LNAPL	Light Non-Aqueous Phase Liquids
LOR	Limit of Reporting
LOSP	Level of Species Protection
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

Abbreviation	Definition
PACM	Potential Asbestos-Containing Materials
PAHs	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulfate Soils
PCB	Polychlorinated Biphenyls
PID	Photoionisation Detector
PFAS	Per-fluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonic acid
PQL	Practical Quantification Limit
PSI	Preliminary Site Investigation
PSH	Phase Separated Hydrocarbons
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SAC	Site Assessment Criteria
SINSW	School Infrastructure NSW
SLS	Sydney Laboratory Services
SWL	Standing Water Level
SWMS	Safe Work Methods Statement
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
UFP	Unexpected Finds Protocol
USC	Unified Soil Classification
UST	Underground Storage Tank
UPSS	Underground Petroleum Storage Systems
VOC	Volatile Organic Compounds

1 Introduction

ADE Consulting Group Pty Ltd (ADE) was engaged by Colliers on behalf of the NSW Department of Education (DoE) to undertake a Detailed Site Investigation (DSI) to assess site suitability for the proposed new High School for Medowie (the "activity") at 6 Abundance Road, Medowie NSW 2318 (the 'site'). See **Figure 1** for the site locality.

This DSI has been prepared to support a Review of Environmental Factors (REF) for the proposed new High School for Medowie. The purpose of the REF is 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.

The site has a street address of 6 Abundance Road, Medowie and is 6.51ha in area, and comprises 1 allotment, legally described as Lot 3 in Deposited Plan (DP) 788451. The investigation area in the northern portion of the site measures approximately 2.0 hectares (ha) and is irregular in shape (refer **Figure 2**).

This report must be read in its entirety along with the Limitations and Disclaimer outlined in **Section 13**.

1.1 Proposed Development

The proposed activity involves the construction of school facilities on the site for the purpose of the new High School for Medowie. The site contains a densely vegetated area to the southwest corner which is identified as land with high biodiversity values corresponding to the areas of remnant native vegetation (PCT 3995 – Hunter Coast Paperbark-Swamp Mahogany Forest). The existing dwelling house and other structures on the site will be demolished as part of the works. No other works are proposed within this area.

The proposed new school will accommodate 640 students in 29 permanent teaching spaces including 3 support teaching spaces across 3-storeys of buildings on the site. The proposed activity be delivered across 1 stage and will consist of 29 permanent teaching spaces including 3 support teaching spaces, to accommodate 640 students, and school hall to accommodate 1,000 students. Approximately 10,500 m^2 of gross floor area (GFA) is proposed.

For the purpose of this report, the northern portion of the site that is the area of interest for this DSI has been referred to as "the investigation area" (**Figure 2**) and comprises the footprint of the proposed new school buildings, playgrounds and sportsgrounds as presented in the latest Masterplan provided by School Infrastructure NSW (SINSW), dated 24 October 2024 (refer **Appendix A**).

1.2 Objectives

The objectives of the DSI were to:

- support the REF for the proposed activity by determining the nature and extent of contamination (if any) in soil and/or groundwater within the investigation area and whether the contamination (if any) may pose and unacceptable risk to human health and the environment. The DSI is undertaken to determine whether remediation or management is required during construction work and with respect to the proposed activity.
- Provide indicative advice regarding the offsite management of material which may be surplus to requirements, in accordance with NSW Environment Protection Authority (EPA) (2014a) Waste Classification Guidelines: Part 1 Classifying Waste (the "Waste Guidelines").

1.3 Scope of Work

The scope of work consisted of the following.

- Preliminary works including a review and summary of the findings from the preliminary site investigation undertaken by ADE in April 2024 (ADE, 2024) and development of a soil and groundwater sampling plan.
- Site inspection to:
    - Identify site features and any potential activities of environmental concern; and
    - Document evidence of contaminating uses and/or contamination (e.g. staining, odours), potential asbestos-containing materials (PACM etc)).
- Intrusive soil investigation, comprising:
    - The advancement of a combined 33 boreholes during three sampling events completed in April, November and December 2024 using a combination of a mechanical drill rig and a manual hand auger to depths ranging from 0.5 to 46.7 metres below ground level (mBGL).
    - Assessment of the subsurface lithology and collection of representative soil samples.
    - Recording observations of surface and subsurface soil material, including indications of visual / olfactory contamination and/or asbestos (if any).
- Groundwater assessment:
    - Converting three selected soil bores to groundwater wells, targeting the existing service station to the northwest of the site.
    - Develop newly installed wells to remove fines and equilibrate with surrounding aquifer prior to sampling.
    - Record elevation of newly installed bores (by surveyor) to metres above Australian Height Datum (mAHD), with spatial location recorded in eastings/ northings, to aid in the assessment of inferred groundwater flow direction.
    - Undertake a baseline groundwater monitoring event including gauging the wells for standing water level and non-aqueous phase liquids using interface probe, sampling from wells using low flow/ low-purge methodology.
- Laboratory analyses of:
    - representative soil samples for contaminants of potential concern and asbestos.
    - Three groundwater samples and one field duplicate sample of CoPCs.
- Data evaluation and provision of this DSI report with findings and recommendations from the assessment including:
    - Summary of results of field and laboratory assessment compared to adopted ‘Tier 1’ criteria.
    - Update of the preliminary Conceptual Site Model (CSM) for contamination, highlighting any completed risk linkages that still may exist.
    - Conclusion on the suitability of the site for the proposed future use as a secondary school and contamination risk status of proposed development with provision of preliminary waste classification advice for fill and natural material.
    - Recommendations for additional assessment required to fill information / data gaps, or remediation planning (if required).

1.4 Guidelines and Codes of Practices

The legislative framework for the report is based on guidelines that have been issued and/or endorsed by the NSW EPA, formerly the Office of Environment and Heritage under the following Acts/Regulations:

- Contaminated Land Management Act 1997
- Environmental Planning and Assessment Act 1979
- Protection of the Environment Operations Act 1997 and
- State Environmental Planning Policy (SEPP) (Resilience and Hazards) 2021.

The relevant guidelines issued under the provisions of the Acts/Regulations include:

- Guidance for the Preparation of Standard Operating Procedures for Quality-Related Documents (EPA QA/G-6)
- Guidance on Data Quality Indicators, EPA QA/G-5I
- Guidelines for the NSW Site Auditor Scheme (3rd Edition), NSW 2017
- Guidelines on the Duty to Report Contamination (2015) under the Contaminated Land Management Act 1997
- Guidance for the Data Quality Objectives Process (EPA QA/G-4)
- Guidance for Data Quality Assessment: Practical Methods for Data Analysis (EPA QA/G-9)
- National Environmental Protection Council [NEPC]. (2013). National Environmental Protection Measure 1999, 2013 Amendment (ASC NEPM, 2013)
- New South Wales Environmental Protection Authority (NSW EPA) Contaminated Land Guidelines: Sampling Design Part 1 - Application (NSW EPA 2022)
- NSW EPA Contaminated Land Guidelines: Sampling Design Part 2 - Interpretation (NSW EPA 2022)
- NSW EPA (2020). Consultants reporting on contaminated land - Contaminated Land Guidelines
- WA Department of Health (DoH, 2009) *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Site*
    - It is noted that WA DoH (2009) was superseded by an update in 2021, however NSW EPA have not endorsed this update and supplied a position statement for guidance (NSW EPA, 2023).

Australian Standards applied to this investigation:

- Australian Standard AS 4482.1 Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds (Standards Australia, 2005).
- Australian Standard AS 4482.2 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances, (Standards Australia, 1999)
- Australian Standard AS4964-2004: Method for the qualitative identification of asbestos in bulk samples (Standards Australia, 2004) and

The following local government plan has also been taken into consideration for preparation of this DGA:

- Port Stephens Local Environmental Plan 2013.

1.5 REF Review Checklist

The following REF Review Checklist items provided by Department of Education (and relevant to this report) have been presented in **Table 1** below, along with the associated section of the report.

Table 1: REF Review Checklist Relevant Items

Item	Comment
Details of: - The proposed activity.	Section 1.1
- Relevant legislation and policies.	Section 1.4
- Relevant plans	Appendix J
A description of the site and surrounding environment.	Section 2.1 and Section 2.2
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 11
Address all the potential sources of contamination mentioned	Section 4 and Section 10
Summarise investigations undertaken and conclude that contamination risk has been appropriately addressed.	Executive Summary and Section 11
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 11
Mitigation measures recommended	Section 12

2 Site Identification and Condition

2.1 Site Location and investigation area

The site has a street address of 6 Abundance Road, Medowie. It is 6.51ha in area, and comprises 1 allotment, legally described as Lot 3 in DP788451. A large proportion of the site is currently unused and vacant. A small shed structure and caravan are located adjacent to the northern boundary. A cluster of buildings including a single storey dwelling, an outhouse/shed structure and temporary greenhouse are located within the southeastern corner. The site contains a largely vegetated area to the southwest corner. The site is relatively flat with a gradual fall from west to east toward Abundance Road. The site has a primary frontage to Abundance Road to the east and Ferodale Road to the north. Abundance Road and Ferodale Road are both classified Local Roads. Medowie Road, approximately 1km east of the site, is a classified Regional Road.

The area surrounding the site mostly consists of industrial, rural residential, educational, and agricultural lands. Adjacent to the northwestern boundary is a petrol station (Pearl Energy) and mechanic garage. Adjacent to the northeastern boundary is a medical health clinic. Across Abundance Road along the eastern boundary are a number of warehouse and light industrial developments. Directly north of the site across Ferodale Road are large lots used for agricultural purposes. Medowie Public School is located on Ferodale Road, to the northwest of the site, opposite the petrol station.

The investigation area, in the northern part of the site, is covering an approximate area of 2.0 ha and was covered in grass and used for horse agistment paddocks at the time of the investigation.

2.2 Summary of Site Details

Table 2: Site Identification Details

Item	Details
Site Address	6 Abundance Road, Medowie, NSW (**Figure 1**)
Title Identification	Part of Lot 3 DP788451
Local Government Authority	Port Stephens
Current Land Use Zoning	RU2 – Rural Landscape
Site Area	~6.5 ha
Investigation Area	~2.0 ha
Former/ Current Land Use	Rural residential use
Proposed Land-use	Secondary education facility
Local Environmental Plan	Port Stephens Local Environmental Plan 2013
Approximate Elevation	16 meters Australian Heights Datum (mAHD)

The site surrounds have been summarised in **Table 3**.

Table 3: Summary of Site Surrounds

Site Surrounds	Description
North	Ferodale Road runs along the northern boundary of the site. Medowie Public School is situated across Ferodale Road, approximately 30 m northwest from the northern boundary of the investigation area.
East	Abundance Road borders the site to the east. Commercial properties east of Abundance Road consist of motor engineer and repairers, lawncare retail and repairs, welders, seafood wholesalers, and conveyor belt suppliers.
South	South of the site consists of rural/residential use
West	Directly west of the site is a petrol station (Pearl Energy), an engine and motor repairers, and earth moving/excavation contractors.

2.3 Environmental setting

The site's environmental setting from readily available literature and other sources has been summarised in the **Table 4**.

Table 4: Environmental Setting Summary

Item	Detail
Topography	The site is situated on a broad low-lying crest at approximately 16 mAHD. East of the site, the local topography slopes gently towards Campvale Drain, approximately 520 m east of the site. West of the site, the topography gradually slopes down towards Grahamstown Dam approximately 1.1 km west of the site.
Geology and Soils	The site is underlain by the Permian aged Tomago Coal Measures, which typically comprises very fine- to medium-grained grey lithic sandstone, sporadically interbedded with laminated to carbonaceous shale and mudstone, claystone and coal (Rose *et al*., 1966). The soils underlaying the site belong to the Medowie Soil Landscape according to the online mapping website *eSPADE,* (NSW Department of Planning and Environment, 2022). The soils of the Medowie Soil Landscape are characterised by deep (>150 cm) well-drained red and structural loams on deeply weathered clay deposits and moderately deep to deep (60->200 cm), well-drained Red Podzolic Soils and deep yellow podzolic soils with some shallow drained Lithosols on sandy / pebbly deposits with clay lenses. Limitations of the Medowie Soil Landscape include seasonal localised waterlogging on lower slopes, localised erosion hazard and strongly acid soils with low inherent fertility and high potential aluminium toxicity.
Acid Sulfate Soils	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 on Port Stephens Local Environmental Plan 2013 (LEP) A review of the Acid Sulfate Soils (ASS) (LEP, 2013) 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 250 m north northwest from a Class 3 land where PASS may be found beyond 1 metre below the natural ground surface.
Hydrology and hydrogeology	The nearest surface water course is Campvale Drain, approximately 520 m east of the site which flows into Grahamstown Dam, which is a water supply source for the Hunter region. While surface water is anticipated to largely infiltrate across the largely unsealed surface of the site overland flow may occur where soils become waterlogged and are unable to drain. Surface water would flow toward Grahamstown Dam. Overland flow is anticipated to occur generally toward the south-southeast, based upon the topography and general flow direction of Campvale Drain. The Permian aged Tomago Coal Measures are the main aquifer unit beneath the site, with the coal seams representing the most permeable material within the formation. Groundwater is typically restricted to the cleat and fractures within the coal. There were seven registered groundwater wells or monitoring bores within 1,000 m radius of the site used for irrigated agriculture, recreation and for domestic stock.
Groundwater Dependant Ecosystems (GDE)	A search of the Groundwater Depended Ecosystem (GDE) Atlas database, published by the Australian Government Bureau of Meteorology indicates that the forested southwestern corner of the site forms part of a moderate and also high potential terrestrial GDE Additionally, a low potential GDE approximately 110m east of the site.
Salinity Risk	The site is mapped as being in a non-saline area with a salinity value of 500-1500mg/L and an area 204.2m east of the site as a non-saline area with a salinity value of <500mg/L according to the NSW Office of Water.

3 Site History and Summary of Previous Reports

3.1 Preliminary Site Investigation (ADE, 2024a)

A Preliminary Site Investigation (PSI) was undertaken by ADE in 2024 for the site with findings reported in ADE (2024) Preliminary Site Investigation – Proposed Medowie High School 6 Abundance Road, Medowie NSW, (ref: A101024.0124 Medowie PSI v1d; 19 April 2024).

The PSI included a review of desktop information, a site walkover inspection, an assessment of potential areas and sources of on-site and off-site contamination and potential risk from contamination (if any) in view of the proposed development as well as recommendations for further investigations where necessary.

The site was found to have an agricultural history including orchards from as early as 1954 through to 1998 after which the site has been used for hobby scale livestock rearing.

The site was not considered to be a significant source of contamination, however some potential impacts to soils at the site were identified associated with demolition of historic structures, potential historic use of pesticides and herbicides and waste disposal present potential localised risks. In addition, an off-site source of potential contamination to groundwater was identified as the service station immediately adjected the site's northwest boundary.

ADE recommended conducting a targeted assessment of soils and groundwater in the north of the site, where the off-site source of potential contamination was identified (i.e., the service station) and in the footprint of former structures associated with historic orchards.

4 Preliminary Conceptual Site Model

A CSM is an iterative approach required by ASC NEPM (2013) to allow the risks from potential contamination to be characterised by considering the potential sources of contamination, the pathways through which exposure/ migration may occur and the sensitive 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.

4.1 Potential Contamination Sources

Sources of contamination and the associated contaminants of potential concern (CoPC) have been identified from the desktop review considering the historic and current land-use at the site and on adjacent sites and the site inspection.

Potential sources of contamination are:

- Demolition of former structures:
  - Heavy metals;
  - Asbestos/ ACM.
- Potential pesticides and herbicides contamination of the surficial and / or upper soil profile from the former orchard use and current pasture use:
  - OCP/ OPP.
- Underground Petroleum Storage Systems (UPSS) within offsite service station (immediately north / northwest of site):
  - TRH;
  - BTEX;
  - Naphthalene.

It is noted that waste that was observed in the vegetated area in the southwest of the site during the PSI (ADE, 2024) has not been included in this DSI because this vegetated area is outside the development footprint and will not be disturbed. Consequently, no additional assessment within this area is considered necessary.

4.2 Sensitive receptors

Potential human receptors at the site include:

- Current and future users of the site including residents, students and staff.
- Residents of neighbouring properties and surrounding site users.
- Construction workers involved with any future construction works onsite.
- Maintenance workers undertaking subsurface maintenance works.

Potential environmental/ ecological receptors at the site include:

- Native flora and fauna at the site.

- Soil processes.
- Nearby surface water body of Grahamstown Dam, approximately 1.1 km west of the site.
- Groundwater.

4.3 Potential Exposure Pathways

4.3.1 Human

The potential exposure pathways through which human receptors may be exposed to contamination are:

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

4.3.2 Ecological

Potential risk pathways for ecological receptors could include:

- Leaching from soil into groundwater.
- Lateral and vertical distribution via groundwater.
- Discharge into nearby stormwater drainage channels that discharges into Grahamstown Dam.

4.4 Source-pathway-receptor linkages

The risk linkage status between the potential sources of contamination and sensitive receptors that were identified was summarised in the context of the CSM within **Table 5**. The potential 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).

Table 5: Source pathway receptor analysis

Potential sources and CoPC	Exposure pathways	Receptor	SPR Linkage – risk status	Notes
On-site				
Demolition of former structures: - Heavy metals. - Asbestos/ACM.	Human Health: - Direct dermal contact - Incidental inhalation/ ingestion Ecological: - Uptake by flora and fauna - Leaching to groundwater	Human Health: - Current and future users, workers & visitors. Ecological: - Onsite flora and fauna, soil processes, local groundwater	Potentially Complete – Medium Risk	Former structures associated with the site's agricultural history were demolished in the north of the site. Parts of these structures may remain below the ground surface rather than being disposed of. Impact (if any) likely to shallow soils within the vicinity of former structures.
Application of pesticides at the site surface: - **OCP/ OPP**	Human Health: - Direct dermal contact - Incidental inhalation/ ingestion Ecological: - Uptake by flora and fauna - Leaching to groundwater	Human Health: - Current and future onsite residents, workers & visitors. Ecological: - Onsite flora and fauna, soil microbiota, local groundwater	Potentially Complete – Very Low Risk	While the site has an agricultural history associated with orchards, this ceased prior to 1998 and was relatively small scale with well-spaced trees. Subsequent agriculture at the site as observed during the site inspection was hobby scale livestock rearing and application of OCP/ OPP (if any) would have been limited.
Off-site				
UPSS on the adjacent service station: - **TRH** - **BTEX** - **Lead** - **Naphthalene**	Human Health: - Direct dermal contact - Incidental inhalation Ecological: - Uptake by flora and fauna - Migration with/ above groundwater	Human Health: - Current and future onsite residents, workers & visitors. - Intrusive maintenance workers. Ecological: Onsite flora and fauna, soil microbiota, local groundwater	Potentially Complete – Low Risk	The adjacent operational service station is not listed on NSW EPA records as either a notified or significantly contaminated site. Available information indicates that it has not contaminated the environment as to present a potential risk to sensitive receptor, however without site specific details, the risk linkage status cannot be considered incomplete.

5 Data Quality Objectives

As recommended by ASC NEPM (2013), the United States Environmental Protection Agency's (USEPA) Data Quality Objectives (DQOs) is one example of a systematic planning approach that can be used to define the objectives of a site assessment as well as develop a sampling plan to collect and evaluate representative data to achieve those objectives.

The DQOs process is used to develop performance and acceptance criteria that clarify study objectives, define the appropriate type and quality of data, and specify tolerable levels of potential decision errors, which are then used as the basis for establishing the quality and quantity of data needed to support decisions.

As per the NSW EPA (2022) *Sampling design guidelines: Part 1 – application*, EPA policy is that DQOs must be adopted for all assessment programs, and the process must be conducted prior to investigative works commencing.

The DQO process has been detailed in **Table 6**.

Table 6: Data quality objective process steps and outputs

No.	DQO Process Step	Output
1	**State the problem**	
1.1	Write a summary of the contamination problem.	The DoE are building a new high school in Medowie in order to accommodate student demand for the growing community in Medowie. The property located at 6 Abundance Road, Medowie was identified as the preferred site and acquired by the DoE. A targeted DSI is required to fulfill due diligence requirements to determine whether contamination exists within the footprint of the proposed new buildings (investigation area) at levels that warrant additional investigation or necessitate future management actions to ensure suitability for the proposed activity. The DSI also aims to provide preliminary advice regarding waste classification for material which might be surplus to requirements during the construction phase. In the preliminary site investigation (PSI) ADE recommended conducting a targeted assessment of soils and groundwater in the north of the site, where the off-site source of potential contamination was identified (i.e., the service station) and in the footprint of former structures associated with historic orchards.
1.2	Identify members of the planning team.	The planning team comprises Colliers Pty Ltd on behalf of the DoE (Clients) and ADE Consulting Group (site contamination assessment consultant).
1.3	Develop and refine the CSM, including a summary of the exposure scenarios.	See **Section 4** for detailed CSM.
1.4	Specify the available resources and constraints, such as relevant deadlines for the study, budget, availability of personnel, and schedule.	The detailed site investigation is required to support the preparation of the REF.
2	**Identify the goals of the study**	
2.1	Identify the principal study question(s).	Is the site suitable for the proposed future use as a public high school?
2.2	Identify the alternative outcomes or actions that could result from resolution of the principal study question(s).	The alternative outcomes will be: 1) The site is considered to be suitable for the proposed future use. Or 2) The site is not suitable for the proposed future land use.
2.3	For decision problems, combine the principal study questions and alternative actions into decision statements.	If the contamination status of the material is acceptable, no further site investigation is required, and material may remain onsite. If the contamination status of the material is unacceptable, further investigative works and remediation may be required, and material may be required further management.

No.	DQO Process Step	Output
3	**Identify information inputs**	
3.1	Identify the information that will be required to resolve the decision statements/estimation, including existing information and new environmental data, and identify the sources for each item of information required.	Information inputs required to resolve the goals of the study include soil and groundwater data collected as part of this investigation, including field observations, field samples and analytical samples.
3.2	Identify the information needed to establish the action level	Although the future proposed land-use is for a high school, 'Tier 1' screening criteria for land use scenario under NEPM (2013) for a "residential with garden access, including primary schools (HIL A)" will be conservatively adopted to be most protective of the identified sensitive receptors. Further detail on the adopted site criteria has been presented in **Section 6**.
3.3	Confirm that appropriate sampling and analytical methods exist to provide the necessary data.	Sampling and analytical methods will be consistent with existing guidance, including ASC NEPM (2013) and NSW EPA (2022) *Sampling design guidelines: part 1 – application*. Analytical laboratories will be NATA accredited and/or subject to proficiency testing and use analytical methods endorsed by the NSW EPA (2022) *Sampling design guidelines: part 1 – application*.
4	**Define the boundaries of the study**	
4.1	Define the target population of interest and its relevant spatial boundaries.	The decision area is approximately 2.0 hectares. See **Section 2.3** for detailed environmental setting descriptions.
4.2	Define what constitutes a sampling unit.	Sampling units will consist of: - Field samples of with recorded material descriptions; and - Analytical samples of the laboratory-specified sample quantity.
4.3	Specify temporal boundaries and other practical constraints associated with sample/data collection.	Works should begin as soon as practicable to ensure a timely delivery of the project.
4.4	Specify the smallest unit on which decisions or estimates will be made.	The decision is to be based on the complete decision area, however, following data analysis some form of segregation may be considered based on delineation if required.
5	**Develop the analytic (statistical) approach**	
5.1	Specify the statistical parameter that characterises the population of interest, such as mean, median, maximum, 95% upper confidence limit (UCL) of the arithmetic mean or proportion.	The 95% UCL of the arithmetic mean will be the key statistical parameter, and data evaluation will include: - The 95% UCL arithmetic mean to be less than or equal to the criterion; - No individual sample exceeds 250% of the criterion; and

No.	DQO Process Step	Output
		- The sample standard deviation is less than 50% of the criterion.
5.2	Specify the action level for the decision.	To assess whether site is suitable for the proposed land use, analytical action levels will be based on the criteria detailed above. If material is not considered to be suitable for the proposed land use, further investigation may be required, and material may require classification in accordance with NSW EPA (2014) for offsite disposal.
5.3	Confirm that measurement detection will allow reliable comparisons with the action level.	Samples will be submitted to NATA-accredited laboratories. The laboratories' analytical LORs must be suitably below the adopted criteria, defined by the ASC NEPM (2013) as "where practicable, no greater than 20% of the relevant soil criteria and validated for a variety of soil matrices, including sand, clay and loams".
5.4	Combine the outputs from the previous DQOs steps and develop an 'if…then…else…' theoretical decision rule based on the chosen action level.	**If** the statistical parameters of the sampling data exceed the applicable action levels, **then** additional investigation and/or offsite disposal may be required. **If** the statistical parameters are below applicable action levels, **then** site will be considered suitable for the proposed future land use.
6	**Specify performance or acceptance criteria**	
6.1	Specify the decision rule as a statistical hypothesis test.	The null hypothesis is that the material is contaminated and exceeds adopted criteria. The alternative hypothesis is that the material is not contaminated above adopted criteria.
6.2	Examine consequences of making incorrect decisions from the test.	Possible decision errors included: - Site being declared suitable for ongoing use when it is not, thereby potentially harming human health or environmental impacts. - Unnecessary disposal of material offsite, imposing needless financial and resource burdens on the development project and resulting in inappropriate waste classification.
6.3	Place acceptable limits on the likelihood of making decision errors, including acceptable alpha and beta risk levels.	Stated hypotheses: - null hypothesis (H0): the 95% UCL, and other requirements, are > the action level. - alternate hypothesis (HA): the 95% UCL, and other requirements, are $\leqslant$ the action level. Potential outcomes include Type I and Type II errors: - Type I error of determining the material is not a risk when it is (wrongly rejects true H0). - Type II error of determining the material poses a risk when it does not (wrongly accepts false H0). For performance criteria, the acceptable limits on the likelihood of making decision errors to be applied are: - alpha risk (Type I error) of $\alpha = 0.05$ - beta risk (Type II error) of $\beta = 0.2$.

No.	DQO Process Step	Output
7	**Optimise the design for obtaining data**	
7.1	Document the final sampling and analysis design, along with a discussion of the key assumptions underlying this design.	As per NSW EPA (2022) *Sampling design part 1 – application*, for an area of 2.0 ha, a minimum of 30 sampling locations are recommended. to detect a hotspot of diameter 30.5 m with 95% confidence. The intrusive soil investigation completed employed a systematic sampling rationale in order robustly investigate potential contamination and properly enable visual assessment and sample collection. A systematic sampling design with a combined 33 soil sampling locations allow the detection of a potential contamination hotspot of 29 m with 95% confidence according to the NSW EPA (2022) *Sampling design part 1 – application.* Sample locations in the DSI were advanced as follows: 20 boreholes advanced by manual hand-auger. - 13 boreholes advanced by mechanical drill rig. Soil sampling was undertaken using new nitrile gloves and placed directly into the soil jar. Sample locations have been presented in **Figure 2**.
7.2	Detail how the design should be implemented, together with contingency plans for unexpected events.	Contingencies include collecting additional samples from material that is significantly different to the anticipated material onsite, and conducting additional analyses where field indicators (staining, odours) suggest other contaminants.
7.3	Determine the quality assurance and quality control (QAQC) procedures that are to be performed to detect and correct problems to ensure defensible results.	The following samples will be collected to assess the Quality Assurance (QA) and Quality Control (QC) processes during the field investigation: - Collect blind replicate and inter-laboratory/ split sample at a rate of 1:20 primary samples. - A laboratory prepared trip spike and a trip blank to be submitted for analysis to assess the potential for loss or addition of contaminants due to handling procedures.
7.4	Document the operational details and theoretical assumptions of the selected design in the SAQP.	Theorical assumptions include: - Potential surficial impacts from historical demolition, agricultural application of pesticides and herbicides and potential for contamination to groundwater from off-site UPSS are the modes of contamination expected. - The material is relatively homogenous.

6 Site Assessment Criteria

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

- NEPC. (2013). The National Environmental Protection Measure (NEPM), 2013 Amendment (ASC NEPM, 2013)
- NSW EPA, Waste Classification Guidelines. Part 1: Classifying Waste (NSW EPA, 2014)
- HEPA, PFAS National Environmental Management Plan (NEMP) v2.0 (HEPA, 2020)
- National Health and Medical Research Council (2011) Australian Drinking Water Guidelines (updated September 2022) (ADWG 2022)
- Australian and New Zealand Government (2018) – Guidelines for Fresh and Marine Water Quality (ANZG, 2018).

Despite the fact that the future proposed land-use is for a secondary school, the Tier 1 screening criteria for a land use scenario under NEPM (2013) for a "residential with garden access, including primary schools (HIL 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.

6.1 Soil Assessment Criteria

6.1.1 Health Investigation Levels

The NEPM (2013) guidelines describes four broad land-use settings to assess potential human health risks for a broad range of metals and organic substances. These four Health Investigation Levels (HIL) categories are used to assess human health risk via all relevant pathways of exposure for the following broad land use categories:

- **HIL-A - Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake, no poultry, also includes children's day-care centres, preschools and primary schools)**
- HIL-B - Residential with minimal opportunities for soil access includes dwellings with fully and permanently paved yard space such as high-rise buildings and flats
- HIL-C - Public open space such as parks, playgrounds, playing fields (e.g., ovals), secondary schools and footpaths. It does not include undeveloped public open space (such as urban bushland and reserves), which should be subject to a Site-specific assessment where appropriate, and
- HIL-D - Commercial/industrial such as shops, offices, factories and industrial sites.

Based on the future use of the site as a school, the HIL-A criterion has been adopted for screening purposes. A summary of the applicable HILs for soil is presented within **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

Analyte	HIL A (mg/kg)
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	240
Aldrin and Dieldrin	6
Chlordane	50
Endosulfan	270
Endrin	10
Heptachlor	6
Hexachlorobenzene	10
Methoxychlor	300
Chlorpyrifos	160
Cyanide (free)	250
Phenols	3,000

Notes

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: Health Investigation Levels for Soil Contaminants - 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

6.1.2 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 site is “clay”.

ASC NEPM (2013) presents HSL A & HSL B (Low – high 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 < 2 metres was used. The HSL A & HSL B criteria are summarised in **Table 9**.

Table 9. Health screening levels for soil contaminants

Analyte	HSL A & HSL B (mg/kg)
Benzene	0.7
Toluene	480
Ethylbenzene	NL
Xylene	110
Naphthalene	5
TRH: C6 – C10(F1)[1]	50
TRH: C10 – C16 (F2)	280

Notes

1. To obtain F1, subtract the sum of BTEX from the C_6-C_{10} fraction.

6.1.3 PFAS

The Heads of EPAs Australia and New Zealand (HEPA) PFAS National Environmental Management Plan Version 2.0 (2020) provides guidance on the management of PFAS impacted soils. The classes of soil criteria defined in the HEPA (2020) for human HILs are presented in **Table 10**.

Table 10. Summary of the adopted assessment criteria for PFAS in soil

Soil Criteria (Human Health)	PFOS + PFHxS (mg/kg)	PFOA (mg/kg)
Residential with accessible gardens (HIL-A)	0.01	0.1
Soil Criteria (Ecological)	**PFOS (mg/kg)**	**PFOA (mg/kg)**
Ecological direct exposure	1	10
Ecological indirect exposure	0.01	NA
Ecological indirect exposure in areas of low accessible soil	0.14	NA

6.1.4 Management Limits

In accordance with Section 2.9 of schedule B1 of the ASC NEPM, 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 site 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

6.1.5 Ecological Investigation Levels

The ASC NEPM (2013) Schedule B1 presents the methodology for deriving terrestrial EILs using both fresh and aged (i.e. >2 years old) contamination for soil. Schedule B1 categorises EILs for three land-use settings and species protection for the following:

- National parks and areas of ecological significance
- Urban residential and public open space
- Commercial and industrial land uses.

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

The current land-use is rural residential, and the proposed land-use is for a school and open space. Consequently, in accordance with the three EIL settings above the land-use and species protection will remain

as Urban residential and Public Open Space. Site specific EILs have been derived in this DSI 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 project-specific soil properties were analysed at one sample location (ID: BH03_0.5-0.6), in natural silty clay and used to calculate the EILs, are listed below:

- pH: 5.7
- TOC: 0.67%
- CEC: 4.7 meq/100g
- Fe: 3.5%
- Clay: 80% (estimate)

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). Calculated site specific EILs are presented in **Table 12**.

Table 12. Site-specific EIL criteria

Chemical	Site-specific EILs (mg/kg)
Naphthalene[1]	170
DDT[1]	180
Cr[2,6]	800
Cu[2,6]	100
Ni [4,6]	35
Zn[5,6]	270
As[1]	100
Pb[1]	1,100

Notes
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.

6.1.6 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 13**.

Table 13. 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	300
F4 >C34-C40	2800

Chemical	ESL – Urban Residential and public open space (for fine-grained soils) (mg/kg)
Benzene	50
Toluene	85
Ethylbenzene	70
Xylenes	105
Benzo(a)pyrene	0.7

6.1.7 Asbestos

NEPM (2013) provides specific guidance for the assessment of asbestos in soils, based on the WA DoH (2009). The DoH Guidelines identify three groups of asbestos contamination:

- **ACM**: asbestos which is bound in a matrix and cannot pass through a 7mm x 7mm sieve;
- **FA**: Friable asbestos material, such as severely weathered ACM and loose fibrous material such as insulation products. FA is defined as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure; and
- **AF**: includes free fibres of asbestos, small fibre bundles and ACM fragments that pass through a 7mm x 7mm sieve.

The analysis of asbestos samples must be undertaken by a NATA accredited laboratory in accordance with the analytical method outlined in Australian Standard (AS) 4964-2004, *Method for the qualitative identification of asbestos in bulk samples.* The health screening levels adopted for the purpose of this investigation are presented in **Table 14**.

Table 14: Health screening levels for asbestos contamination in soil

Analyte	HIL 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

1. ACM – Bonded asbestos containing material
2. FA – Fibrous asbestos; AF – Asbestos fines

6.1.8 Aesthetics

As outlined in Section 3.6 of NEPM Schedule B1, 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, the NEPC (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:

- Hydrocarbon sheen on surface water;
- Anthropogenic soil staining; and
- Odorous soils, i.e., petroleum hydrocarbon odours or hydrogen sulfidic odours in soil.

6.1.9 Waste Classification Guidelines

Assessment criteria for soil which may be removed and disposed off-site during the re-development of the site are outlined in the NSW EPA Waste Classification Guidelines Part 1: Classifying Waste (2014) and the NSW EPA Addendum to the Waste Classification Guidelines (2014) – Part 1: Classifying Waste (2016) ("the Waste guidelines").

In order to provide preliminary waste classification advice, chemical results from this DSI will be compared against the maximum values of specific contamination concentration (SCC) for classification without toxicity characteristic leaching procedure (TCLP) for the contaminant threshold value for General Solid Waste (GSW) (≤CT1) and contaminant threshold value for restricted solid waste (≤CT2)Values are summarised in **Table 15** below.

Table 15: NSW EPA (2014) Waste Classification Guidelines

Contaminant	Maximum values of specific contaminant concentration (SCC) for classification without TCLP	
	General Solid Waste	Restricted Solid Waste
	CT1 (mg/kg)	CT2 (mg/kg)
Metals		
Arsenic	100	400
Cadmium	80	20
Chromium (VI)[1]	100	400
Lead	100	400
Mercury	4	16
Nickel	40	160
PAHs		
PAHs total[2]	200	800
Benzo(a)pyrene	0.8	3.2
BTEX		
Benzene	10	40
Toluene	288	1,152
Ethyl-benzene	600	2,400
Xylenes (total)	1,000	4,000
TRH		
C_6 – C_9 TPH	650	2,600
C_{10} – C_{36} TPH	10,000	40,000
OCP/OPP		
Endosulfan[1]	60	240
Chlorpyrifos	4	16
PCBs		
PCBs total	<50	<50
PFAS		
PFOS+PFHxS[3]	1.8	-
PFOA[3]	18	-

Notes

1- These limits apply to chromium in the +6 oxidation state only 2
2- Endosulfan means the total of Endosulfan I, Endosulfan II and Endosulfan sulfate
3- SCC1 values as per Addendum 1 of NSW EPA 2014 Waste Classification Guidelines.

6.2 Groundwater

6.2.1 Human Health

For the purposes of this assessment, groundwater concentrations of contaminants will be compared against published values consistent with requirements in the ASC NEPM (2013) in the specified order of preference:

- Health Screening Levels (HSLs) for vapour intrusion – HSL A (Residential land use HSL A & B) as per the ASC NEPM (2013).
- National Health and Medical Research Council (2011) Australian Drinking Water Guidelines (updated September 2022) (ADWG 2022)
    - While groundwater is considered unlikely to be used for drinking purposes in the vicinity of the site, screening against drinking water guideline values will be conducted on a conservative basis under the assumption that groundwater may be extracted and used for other purposes, including for the potential to discharge via stormwater drains to Grahamstown Dam, which is a drinking water supply dam.
- PFAS specific human health criteria will be sourced from the PFAS National Environmental Management Plan, Heads of Environment Protection Authority (HEPA) (2018) for drinking water and recreational water.

6.2.2 Ecological

- Australian and New Zealand Government (2018) – Guidelines for Fresh and Marine Water Quality (ANZG, 2018).
    - On the basis that the most likely nearest potential surface water receptor is a freshwater body, trigger values for 95% protection levels (unless otherwise noted) in fresh water have been adopted.
    - Samples from all three wells returned concentrations of 18 mg/L $CaCO_3$ and therefore trigger values were not required to be modified for hardness.
- PFAS specific ecological criteria will be sourced from the PFAS National Environmental Management Plan, Heads of Environment Protection Authority (HEPA) (2018) for the protection of 95 % or 99 % (where appropriate) for freshwater species.

6.2.3 Summary of Tier 1 groundwater criteria

Groundwater criteria has been summarised in **Table 16** below.

Table 16: Tier 1 Criteria for Groundwater

Analyte	Units	Human Health					Ecological	
		Res HSL A & B - Vapour Intrusion, Clay[1]	ADWG 2022 Health	NEMP (HEPA) 2022 PFAS Drinking Water	NEMP (HEPA) 2022 PFAS Recreational water	ADWG 2022 Aesthetic	95% LOSP[2]	NEPM (HEPA) PFAS Freshwater
pH	pH Unit	-	-	-	-	6.5-8.5	-	-
Ammonia	mg/L	-	0.5	-	-	-	-	-
Chloride	mg/L	-	-	-	-	250	-	-
Sodium (filtered)	mg/L	-	-	-	-	180	-	-
Heavy Metals (filtered)								
Arsenic	mg/L	-	0.01	-	-	-		-
Cadmium	mg/L	-	0.002	-	-	-	0.0002	-
Chromium (III)	mg/L	-	-	-	-	-	0.0033	-
Chromium (VI)	mg/L	-	-	-	-	-	0.001	-
Copper	mg/L	-	2	-	-	1	0.0014	-
Lead	mg/L	-	0.01	-	-	-	0.0034	-
Mercury (inorganic)	mg/L	-	0.001	-	-	-	0.0006	-
Nickel	mg/L	-	0.02	-	-	-	0.011	-
Zinc	mg/L	-	-	-	-	3	0.008	-
Organics								
Benzene	mg/L	5	0.001	-	-	-	0.95	-
Toluene	mg/L	-	0.8	-	-	0.025	0.18	-
Ethylbenzene	mg/L	-	0.3	-	-	0.003	0.08	-
Xylenes (o)	mg/L	-	-	-	-	-	0.35	-
Total Xylenes	mg/L	-	0.6	-	-	0.02	-	-
Isopropylbenzene	mg/L	-	-	-	-	-	0.03	-
Styrene	mg/L	-	0.03	-	-	0.004	-	-
Naphthalene	mg/L	-	-	-	-	-	0.016	-
Naphthalene (VOC)	mg/L	-	-	-	-	-	0.016	-
Anthracene	mg/L	-	-	-	-	-	0.00001[3]	-
Phenanthrene	mg/L	-	-	-	-	-	0.00006[3]	-
Fluoranthene	mg/L	-	-	-	-	-	0.001[3]	-
Benzo(a) pyrene	mg/L	-	0.00001	-	-	-	0.00001[3]	-
1,2,3-trichlorobenzene	mg/L	-	-	-	-	-	0.01	-
1,2,4-trichlorobenzene	mg/L	-	-	-	-	-	0.008[3]	-

Analyte	Units	Human Health					Ecological	
		Res HSL A & B - Vapour Intrusion, Clay[1]	ADWG 2022 Health	NEMP (HEPA) 2022 PFAS Drinking Water	NEMP (HEPA) 2022 PFAS Recreational water	ADWG 2022 Aesthetic	95% LOSP[2]	NEPM (HEPA) PFAS Freshwater
1,2-dichlorobenzene	mg/L	-	1.5	-	-	0.001	0.16	-
1,3-dichlorobenzene	mg/L	-	-	-	-	0.02	0.26	-
1,4-dichlorobenzene	mg/L	-	0.04	-	-	0.0003	0.06	-
Chlorobenzene	mg/L	-	0.3	-	-	0.01	0.055	-
Hexachlorobenzene	mg/L	-	-	-	-	-	0.00005[3]	-
Vinyl chloride	mg/L	-	0.0003	-	-	-	0.1	-
Hexachlorobutadiene	mg/L	-	0.0007	-	-		-	-
1,1-dichloroethene	mg/L	-	0.03	-	-	-	0.7	-
1,2-dichloroethane	mg/L	-	-	-	-	-	1.9	-
1,2-dibromoethane	mg/L	-	0.001	-	-	-	-	-
Bromomethane	Mg/L	-	0.001	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	0.77	-
Trichloroethene	mg/L	-	-	-	-	-	0.33	-
1,1,1-trichloroethane	mg/L	-	-	-	-	-	0.27	-
1,1,2-trichloroethane	mg/L	-	-	-	-	-	6.5	-
Carbon tetrachloride	mg/L	-	0.003	-	-	-	0.24	-
Tetrachloroethene	mg/L	-	-	-	-	-	0.07	-
1,1,2,2-tetrachloroethane	mg/L	-	-	-	-	-	0.4	-
1,2-dichloropropane	mg/L	-	-	-	-	-	0.9	-
1,3-dichloropropane	mg/L	-	-	-	-	-	1.1	-
Azinophos methyl	mg/L	-	0.03	-	-	-	0.00002	-
Bromophos-ethyl	mg/L	-	0.01	-	-	-	-	-
Carbophenothion		-	0.0005	-	-	-	-	-
Chlorpyrifos	mg/L	-	0.01	-	-	-	0.00001	-
Chlorfenvinphos		-	0.002	-	-	-	-	-
Diazinon	mg/L	-	0.004	-	-	-	0.00001	-
Dichlorvos		-	0.005	-	-	-	-	-
Dimethoate	mg/L	-	0.007	-	-	-	0.00015	-
Ethion	mg/L	-	0.004	-	-	-		-
Fenamiphos	mg/L	-	0.0005	-	-	-		-
Fenthion	mg/L	-	0.007	-	-	-		-
Malathion	mg/L	-	0.07	-	-	-	0.00005	-
Methyl parathion	mg/L	-	0.0007	-	-	-		-

Analyte	Units	Human Health					Ecological	
		Res HSL A & B - Vapour Intrusion, Clay[1]	ADWG 2022 Health	NEMP (HEPA) 2022 PFAS Drinking Water	NEMP (HEPA) 2022 PFAS Recreational water	ADWG 2022 Aesthetic	95% LOSP[2]	NEPM (HEPA) PFAS Freshwater
Monocrotophos	mg/L	-	0.002	-	-	-		-
Parathion	mg/L	-	0.02	-	-	-	0.000004	-
Aldrin + Dieldrin	mg/L	-	0.0003	-	-	-		-
Chlordane	mg/L	-	0.002	-	-	-	0.00008	-
DDT	mg/L	-	0.009	-	-	-	0.00001	-
Endrin	mg/L	-	-	-	-	-	0.00002	-
g-BHC (Lindane)	mg/L	-	0.01	-	-	-	0.0002	-
Heptachlor	mg/L	-	0.0003	-	-	-	0.00009	-
Pentachloroethane		-	-	-	-	-	0.08	-
PFAS								
Perfluorohexane sulfonic acid (PFHxS)	mg/L	-	-	0.00007	0.002	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/L	-	-	0.00007	0.002	-	-	0.00013
Perfluorooctanoic acid (PFOA)	mg/L	-	-	0.00056	0.01	-	-	0.22
Sum of PFHxS and PFOS	mg/L	-	-	0.00007	0.002	-	-	-

Notes:

1. ASC NEPM (2013) Health screening level (Residential land use in clay (>2 – 4m depth)
2. Toxicant default guideline value 95% level of species protection (LOSP) for freshwater ecosystems (ANZG, 2022)
3. Toxicant default guideline value 99% level of species protection (LOSP) for freshwater ecosystems considering bioaccumulation (ANZG, 2022)

µg/L micrograms per litre
mg/L milligrams per litre

6.3 Statistical Analysis

Analytical results from the soil sampling program are statistically analysed to assess 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.

7 Investigation Methodology

ADE field methods were undertaken in general accordance with relevant parts of national and state guidelines.

The fieldworks were undertaken by suitably qualified ADE environmental scientists appropriately trained and experiences in conduction environmental investigations. Sampling locations are illustrated on **Figure 2**.

7.1 Preliminary Items

Preliminary works included the following:

- Review and summarise the findings from previous investigations at the site in order to develop and sampling analysis plan.
- Preparation of safe work methods statement (SWMS) for fieldworks undertaken.
- Completion of a Before-You Dig-Australia (BYDA) online search of current utilities potentially running onto the site.
- Scan for underground services, supervising a qualified/licenced utility search subcontractor to mark-out safe locations for intrusive assessment.

7.2 Soil Investigation

The soil assessment methodology is presented in **Table 17**.

Table 17: Soil investigation methodology

Item	Description
Sampling Design	• For the intrusive soil contamination assessment, a systematic sampling regime was completed to collect representative samples from the lithology across the site and to provide coverage. The distribution of individual sample locations was defined by on-site limitations and restrictions such as underground services, and the adopted lateral/vertical investigation limits. • The investigation area is approximately 2.0 ha. According to the NSW EPA sampling design guidelines, the minimum recommended number of sampling locations for a contamination assessment for an area of up to 2 ha is 30 sampling location to detect a potential hotspot of 30.5 m diameter with 95% confidence. • The intrusive soil investigation completed employed a systematic sampling rationale with a combined 33 soil sampling locations allow the detection of a potential contamination hotspot of 29 m with 95% confidence according to the NSW EPA (2022) Sampling design part 1 – application.

Intrusive works	• Intrusive works were completed over the following three sampling events with a total of 33 locations:
	  • 22-23 April 2024 - Eight boreholes were advanced across the investigation area via a truck mounted drill rig using the continuous flight auger method to depths ranging from 4.0 m BGL 9.0 m BGL for a combined soil contamination and geotechnical assessment (ID: BH01 – BH08). Another 6 boreholes were advanced across the investigation area using a manual hand auger to 0.5 mBGL (ID: HA01 – HA06).
	  • 20-27 November 2024 – 5 boreholes were advanced across the investigation area via a truck mounted drill rig using the continuous flight auger method to depths ranging from 10.30 to 46.73 m BGL (BH202, BH203, BH205, BH206 and BH208).

Item	Description
	• 3 December 2024 – 14 boreholes were excavated across the investigation area using a manual hand auger to 0.5 mBGL (ID: HA201 – HA214). • No visual and / or olfactory indicators contamination were observed and samples were selected for analysis based on visual and olfactory indications and to ensure a good vertical, lithological and horizontal spread across the site.
Soil logging	• Soil logging was conducted by a suitably qualified and experienced ADE environmental scientist and/or geotechnical engineer in general accordance with the Australian Standard AS1726-2017 and ADE standard field procedures. Samples were logged, and the following information was recorded in the field: soil/rock type, colour, grain size, sorting, angularity, inclusions, moisture conditions, staining and odour (if any). • Photographs from the intrusive investigation area are presented in **Appendix B** and bore logs in **Appendix C**.
Soil sampling	• A total of 47 primary samples were collected and analysed from topsoil/fill and natural materials from the 33 locations across the site. • For the bore holes, soil was sampled from a fresh face of the hand auger head and/or from the solid flight auger drill bit and/or within a fresh push tube liner. • All sampling was conducted using disposable nitrile gloves and samples were packed into appropriately labelled, clean screw cap jars (with Teflon-lined lids) supplied by the analytical laboratory. Samples were collected with minimal headspace remaining in the jar to minimise the potential loss of volatile CoPCs during sampling and transport. • No visual observations of uncontrolled fill or asbestos was noted within the soil profile and grab samples of soil was collected for laboratory qualitative identification of asbestos in bulk samples in accordance with Australian Standard AS 4964-2004. Plastic zip lock bags were used for samples analysed for asbestos. • Samples were transferred to the laboratory and analysed under chain of custody control.
Acid sulfate soils testing	• For screening purposes and as part of the geotechnical investigation, 6 samples were collected at regular intervals down soil profile at one location (ID: BH05) to a maximum depth of 3.1 m BGL. • Samples were transported to the laboratory on ice in an esky for pH oxidation analysis to screen for Potential Acid Sulfate Soils.
Field screening	• During the initial sampling event (22-23 April 2024), soils were placed in a zip lock bag and screened in the field for head space vapours (principally, volatile organic compounds (VOCs) but may also include some volatile inorganic compounds) using a calibrated photo-ionisation detector (PID). • Field screening results are presented in bore logs in **Appendix C** and calibration certificate for the PID is presented in **Appendix D**.
QC samples	• Intra- and inter-laboratory duplicate samples were collected at a frequency of 1:20 primary samples for Quality Assurance / Quality Control (QA/QC) purposes.
Decontamination	Dedicated sampling equipment (nitrile gloves) were used at each sampling location.

7.3 Groundwater Investigation

The groundwater assessment methodology is presented in the table below.

Table 18: Groundwater Investigation Methodology

Item	Description
Intrusive Works	• 22-23 April 2024 - Soil bores BH01, BH02 and BH03 were all advanced to 9.0 m BGL and converted to groundwater monitoring wells GW01, GW02 and GW03. • The groundwater monitoring wells were constructed using 50 mm outside diameter blank casing and machine threaded and slotted (0.5 mm) Class 18 uPVC casing. • To enable assessment of groundwater the wells were screened over 6 m from the maximum depth of excavation. • A filter pack consisting of graded coarse sand was placed around the well annulus to approximately 0.50 m above the top of the screen. • A bentonite seal, approximately 0.50 m thick was placed on top of the filter pack to prevent potential cross-contamination from upper layers. • Each monitoring well was capped using 50 mm torque plugs and completed using lockable galvanised iron monuments, set into the ground using concrete. • Well construction details are presented on bore logs in **Appendix C**.
Well Development	• Following installation, the wells were developed on 24 April 2024 using a bailer until the wells were dry.
Well Gauging	• Groundwater monitoring wells were gauged on 03 May 2024. Standing water levels (SWLs) were measured using an electronic oil/water interface probe capable of detecting phase separated hydrocarbons (PSH) such as light non-aqueous phase liquids (LNAPL).
Groundwater Sampling	• Following the completion of the well installation and development works, the wells were left to settle and allowed to recharge for nine days to allow groundwater conditions to return to an equilibrium state prior to sampling. • Groundwater samples were collected on 03 May 2024 using peristaltic low flow sampling techniques by an experienced ADE environmental scientist. Purged water was passed through a low-flow cell until the stabilisation of physio-chemical parameters, including dissolved oxygen (DO), pH, electrical conductivity (EC), redox potential and temperature. • Groundwater samples collected for dissolved metals analysis were filtered using syringe filtration with 0.45 µm filters in the field prior to transferring to the sample container. • Samples were packed into appropriate sample containers supplied by the analytical laboratory and placed into a chilled esky. • Samples were transferred to the laboratory and analysed under chain of custody control. • Calibration records for the water quality meter is provided in **Appendix D**. Groundwater sampling field sheets are provided in **Appendix E**.
QC Samples	• One intra-laboratory duplicate sample was collected and analysed (BR01), parent sample (GW02). • Quality control samples were collected in line with the DQOs and DQIs presented above in **Section 5.6**.
Decontamination	• New dedicated tubing was used at each well location to avoid any potential cross contamination. • Disposable nitrile gloves were worn at all times to minimise cross-contamination of samples.

Item	Description
	• The interphase probe was decontaminated through the use of a three-stage decontamination process involving a LIQUI-NOX (a phosphate-free detergent) scrub, a rinse with tap water and final rinse using deionised water.

Survey	• Following completion of wells ADE subcontracted a registered surveyor from Robertson Surveying record spatial location / elevation details for the three groundwater wells, including:
	  ◦ Elevation of top of well casing in metres Australian Height Datum (mAHD).
	  ◦ Elevation of ground surface (mAHD).
	  ◦ Spatial / MGA coordinates (in eastings / nothings).
	• Spatial coordinates were also recorded for the other drilled boreholes (BH04 to BH08, BH202, BH203, BH205, BH206 and BH208)
	• A survey report produced by the surveyor is included in **Appendix F**.

7.4 Analytical programme

All soil and groundwater samples were transported to the following laboratories accredited with the National Association of Testing Authorities (NATA) for each analytical method used:

- Soil:
  - Primary: Sydney Laboratory Services (SLS) (Primary samples)
  - Secondary: Envirolab Servies Sydney (Envirolab) (Inter-laboratory duplicate samples)
- Groundwater:
  - Australian Laboratory Services Pty Ltd (ALS)

Based on field observations made during investigation works, selected samples were submitted for analysis of the key CoPCs detailed in **Table 19** below.

Table 19: Analytical Programme

Matrix	Analytes	Primary Samples	Duplicates/ Triplicates	Trip Blank / Trip Spike
Soil	TPH, TRH, BTEX, PAH, Heavy Metals	47	4/3	1*
	OCP/OPP, PCB	36	2/1	-
	Asbestos +/-	21	-	-
	PFAS	5	-	-
	pH/EC	11	1/-	-
	CEC, TOC, total Fe	1	-	-
	pH / pH_{ox}	7	-	-
Groundwater	TRH/BTEX/VOC/PAH, Heavy Metals	3	1/-	-
	OCC/OCP	3	1/-	-
	PFAS - short suite (12 analytes)	3	1/-	-
	Ca, Mg, Na, K, Cl, SO4, Alkalinity	3	1/-	-

Notes

Heavy Metals	Arsenic, Cadmium, Copper, Chromium, Mercury, Nickel, Lead and Zinc
BTEX	Benzene, toluene, ethylbenzene and total xylenes
TRH	Total Recoverable Hydrocarbon
PAH	Polycyclic Aromatic Hydrocarbons
OCP/OPP	Organochlorine pesticides/ Organophosphate pesticides
PCB	Polychlorinated biphenyls
Asbestos +/-	Asbestos (presence/absence) in soil
*	BTEX only

8 Results

8.1 Soil Investigation

8.1.1 Site features

Photographs of the site and the subsurface conditions are presented in **Appendix B** with **Figure 2** presenting site features and sampling locations. At the time of the investigation, the investigation area was covered with grass and used for horse agistment paddocks. A small shed, constructed from corrugated steel and used to store horse feed, was situated along the northern boundary of the investigation area. The topography of the site is level with the assessment area situated on a broad low-lying crest.

The grass onsite appeared to be in good condition and there were no indications of visual / olfactory contamination or potential ACM noted upon the surface at the investigation area. There was no onsite indication or evidence of potential sources of contamination (e.g., bulk fuel/ chemical storage).

The nearby petrol station and motor vehicle mechanic shop were operational with the petrol station noted to be operating an UPSS with bulk below ground storage to support the sale of fuels.

8.1.2 Soil profile

The 3 boreholes converted to groundwater wells were advanced to 9.0 m BGL. (ID: GW01, GW02 and GW03). Five boreholes were advanced to 4.0 m BGL (ID: BH04 – BH08). The 6 hand auger boreholes were advanced to 0.5 m BGL (HA01 – HA06, HA201 – HA214). Bores BH201, BH203, BH205, BH206 and BH208 were advanced far deeper for geotechnical purposes however the shallow profile was the same.

The lithology across the site typically comprised a thin layer of topsoil described as brown, silty clay with organic material (grass rootlets) underlain by residual natural soils typically described as brown-red, high plasticity, silty clay. The clay was noted to have inclusions of ironstone gravels from approximately 1.5 m BGL, with the clay becoming red with light grey mottles from approximately 5.0 m BGL.

See **Table 20** below for summary of the soil lithology across the site and **Appendix C** for detailed lithological bore logs.

Table 20: Ground Model		**Material Description**
Lithology	**Approximate Depth Range**	
Fill/Topsoil	0.00 – 0.20	Silty CLAY; brown, firm, high plasticity with grass rootlets.
Residual Soils	0.20 – 1.50	Silty CLAY; brown-red, stiff, high plasticity, moist
	1.5 – 5.0	Silty CLAY; brown-red, very stiff, high plasticity, moist with trace of dark red ironstone gravels, rounded.
	5.0 – 7.0	Silty CLAY; red with light grey mottles, low to medium plasticity
	7.0 – 9.0	Silty CLAY; pale grey to grey, low to medium plasticity with very stiff bands (ironstone).
	9.0 – 45	Silty CLAY; pale grey to grey, low to medium plasticity with highly weathered siltstone vertical bands.
Bedrock	45 – 49	Mudstone; brown to grey, low to very low strength

Soil samples were screened in the field for the potential presence of VOCs using a calibrated PID. Screened soil samples returned PID readings below 1 ppm, which is not indicative of hydrocarbon/ VOC impact. Refer to bore logs in **Appendix C** for PID values and **Appendix D** for the PID calibration certificate.

8.1.3 Analytical Results

Tabulated laboratory results compared to the adopted SAC are presented in **Table A** in the **Results Summary Tables** at the end of this report with laboratory transcripts are provided in **Appendix D**.

A summary of the analytical results from sample submitted and analysed by the NATA accredited laboratory is provided below:

- Asbestos or ACM was not detected in any soil samples analysed.
- Concentrations of heavy metals were generally within anticipated background ranges with one result for Zn exceeding the adopted EIL (270 mg/kg) from sample HA212_0.4-0.5 at 325.5 mg/kg. All other results were below either the LOR or adopted SAC.
- TPH/ TRH, BTEX and PAH compounds were reported below the LOR in all samples.
- OCP/ OPP and PCB were below the LOR.

8.1.4 Acid Sulfate Soils Testing

The site is situated upon a Class 5 Acid Sulfate Soils risk management zone. Whilst Actual Acid Sulfate Soils (AASS) and Potential Acid Sulfate Soils (PASS) are not typically found in Class 5 areas, a preliminary screening test of initial pH and oxidised pH was undertaken as part of the geotechnical investigation at borehole location BH05.

To test for Potential Acid Sulfate Soil (PASS) which contains unoxidised sulfides, 30% hydrogen peroxide was used to rapidly oxidise any sulfides present resulting in the production of acid and a corresponding drop in pH. According to the Acid Sulfate Soils Assessment Guidelines (ASSMAC, 1998), potential positive observations during the reaction, which can indicate PASS, may include one or more of the following:

- Change in colour of the soil from grey tones to brown tones.
- Effervescence.
- The release of sulphurous odours.
- Lowering of the soil pH (pH – pH_{ox}) by at least one unit.
- A final pH < 3.5 and preferably pH <3.

The results of the peroxide test are presented in **Table 21** below:

Table 21: Peroxide Test Summary Results

Sample ID	Depth range (m BGL)	Matrix	Analysis			
			pH	pH_{OX}	pH- pH_{OX}	Reaction rate
BH05_0.0-0.1	0.0-0.1	Silty Clay	6.9	4.2	2.7	1
BH05_0.5-0.6	0.5-0.6	Silty Clay	6.0	4.9	1.1	1
BH05_1.0-1.1	1.0-1.1	Silty Clay	5.8	5.0	0.8	1
BH05_1.5-1.6	1.5-1.6	Silty Clay	5.6	4.6	1.0	1
BH05_2.0-2.1	2.0-2.1	Silty Clay	5.5	4.5	1.0	1
BH05_2.5-2.6	2.5-2.6	Silty Clay	5.3	4.6	0.7	1
BH05_3.0-3.1	3.0-3.1	Silty Clay	5.8	4.6	1.2	1

Notes
pH_{OX} = pH after reaction with hydrogen peroxide
Reaction rate 1 = Slight

Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

The screening results from the peroxide test did not indicate Actual Acid Sulfate Soils (AASS) conditions with no samples with initial pH readings ≤ 4.

During field testing, there was a large reduction is pH in one sample (BH05_0.0-0.1). However, this may be considered to be associated with large amounts of organic material present within the topsoil which is expected to produce large amounts of acidity following addition of hydrogen peroxide, and does not present a source of PASS/AASS.

Based on observations of soil texture/ type, site conditions and the results from the peroxide test, AASS/PASS soils are not considered likely at the site.

8.1.1 Waste Classification

Chemical results compared to the waste classification guidelines are presented in **Table B** in **Results Summary Tables.**

The reported concentrations of analytes were below Contaminant Threshold 1 (CT1) threshold criteria indicated that the material meets the requirements to be characterised as General Solid Waste for all samples analysed and the material was considered to be 'non-putrescible' in nature.

8.2 Groundwater

8.2.1 Field observations

Physiochemical readings and observations taken during groundwater sampling on 03 May 2024 have been summarised in **Table 22** below.

Table 22: Summary of physiochemical readings and observations

Parameter / Bore ID	GW01	GW02	GW03
Bottom of well (m BTOC)	9.77	9.72	9.73
Standing water level (m BTOC)	3.56	4.49	3.35
Temperature (°C)	22.1	20.3	20.5
pH	5.5	5.7	5.84
Dissolved oxygen (%)	55.9	68.6	56.4
Electrical Conductivity (µS/cm)	241.0	203.9	206.6
Oxygen Reducing Potential (mV)	138.7	109.2	140.2
Odour	no odour	no odour	no odour
Colour	Slightly pink, cloudy	Slightly pink, cloudy	Slightly pink, cloudy
Comment	Slow recharge, draw down noted	Very slow recharge, draw down noted	Free flowing

Notes

mBTOC	Metres below top of casing
°C	Degrees Celcius
ppm	Parts per million
µS/cm	Micro-Siemens per centimetre
mV	Millivolts

8.2.2 Inferred groundwater flow direction

Spatial coordinates, elevation of top of well casing and gauged water levels are summarised in **Table 23** below.

Table 23: Groundwater well survey and gauging – 2 May 2024

Bore ID	Easting	Northing	Ground level (m AHD)	TOC (m AHD)	Gauged groundwater level (m BTOC)	Groundwater Level (m AHD)
BH01/ GW01	392712.53	6376950.1	15.4	16.22	3.56	12.66
BH02/ GW02	392669.39	6376860.86	15.94	16.76	4.49	12.27
BH03/ GW03	392751.99	6376891.8	15.00	15.81	3.35	12.46

Notes

M AHD	Metres Australian Heights Datum
TOC	Top of Casing
m BTOC	metres below Top of Casing
m BGL	metres below Ground Level

The inferred groundwater contours from gauged standing water levels are presented in **Figure 3.** Groundwater is inferred to flow to the south-southeast with a shallow hydraulic gradient of 0.005. Given the low-lying nature of the site, it is considered likely that groundwater beneath the site flows to the south, towards Campvale Swamp and Campvale Drain.

8.2.3 Groundwater Laboratory Results

Tabulated laboratory results compared to the adopted groundwater criteria are presented in **Tables D** and **E** in the **Results Summary Tables** with laboratory certificates of analysis provided in **Appendix G**.

A summary of the reported results compared to SAC has been listed below.

- The reported concentrations of zinc in the three samples exceeded the toxicant guideline value for the protection of aquatic ecosystems in freshwater at 95% LOSP (0.008 mg/L).
    - GW01: 0.042 mg/L
    - GW02: 0.018 mg/L
    - GW03: 0.018 mg/L
- All other heavy metals were reported below the SAC with the majority below the laboratory LOR.
- Marginal detections of perfluorohexane sulfonic acid (PFHxS) at the LOR limit of 0.00001 mg/L were detected in sample GW01 and in the intra-laboratory duplicate sample BR01. All other PFAS compounds reported concentrations below the laboratory LOR.
- Concentrations of all other analytes (TRH, BTEX, PAH, OCC, OPP and VOCs) were below the laboratory LOR.

The exceedances for zinc is considered to be derived from the Tomago Coal Measures, underlying the site, which is known to have naturally elevated zinc concentrations. Thus, the zinc concentrations above the aquatic guideline values are interpretated as background levels.

8.2.4 Ionic chemistry

The major cation and anion concentrations were plotted on a Schoeller plot below (**Chart 1**). The concentrations of all major cations and ions were low which, together with the low EC readings (**Table 22**) indicate that the groundwater is fresh and is likely influenced by rainwater infiltration and surface water interactions rather than seawater. The major cation and anion analysis indicated that the groundwater at the site is dominated by Na+/ Cl- (sodium chloride) ions.

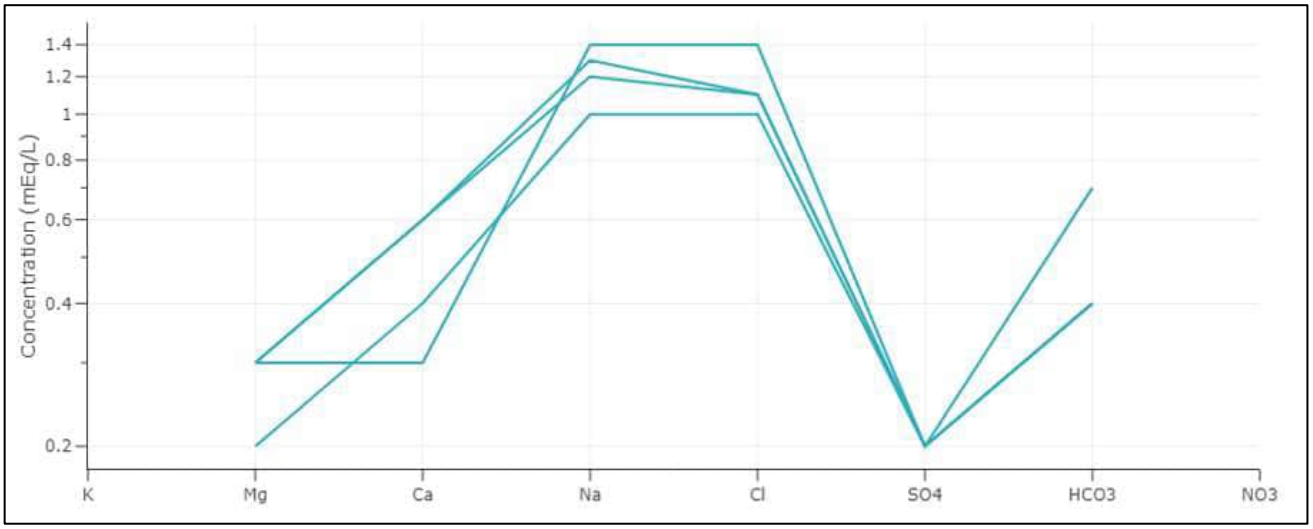

Chart 1: Shoeller plot of groundwater ionic composition at the site.

9 Quality Assurance and Quality Control

A review of the laboratory QA/QC data was completed by ADE. The QA/QC review indicated that results were generally within the relevant DQI acceptance criteria for the analysis conducted. A Data Quality Evaluation is provided in **Appendix H**.

Based on an assessment of the collected data set and in consideration of the adopted DQIs for the project it is the opinion of ADE that the data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of soil and groundwater conditions at the sample locations at the time of sampling, and that the overall quality of the analytical data produced is considered acceptably reliable for the purposes of this investigation.

10 Discussion and Revised Conceptual Site Model

The conceptual site model has been updated to reflect the findings of the recent environmental investigation, including soil and groundwater analytical data, and is presented in the sections below.

10.1 Aesthetics

During the intrusive investigation, no visual or olfactory evidence of contamination was noted. There were no signs of uncontrolled fill present in any of the sampling locations.

The lithology was consistent across the investigation area with a thin layer of topsoil (approximately 0.2 m thick) underlain by natural silty clay, with bands of ironstone present at depth. Mudstone bedrock was encountered from 45 mBGL.

An area of waste was observed in a vegetated area the southwestern portion of the site (outside the current area of investigation). Should the Master Plan of the development change and include this area, further consideration would be given to characterise waste materials in this area.

10.2 Soil

No significant sources of soil contamination were identified. The intrusive investigation did not identify any signs of uncontrolled fill across the investigation area and in and around the footprint areas of previous farm building on site. While the site has an agricultural history associated with orchards, this ceased prior to 1998 and was relatively small scale with well-spaced trees. Subsequent agriculture at the site as observed during the site inspection was limited to hobby-scale livestock rearing and application of OCP/ OPP (if any) would have been limited. In addition, the adjacent operational service station weas not listed on NSW EPA records as either a notified or significantly contaminated site.

Laboratory analysis supported visual observations with concentrations of CoPC reported below the selected screening criteria for all soil samples analysed for the proposed land use with the exception of one result for Zn exceeding the EIL. This was not considered significant or representative of the contamination status of the site.

Asbestos was not detected in any samples during the intrusive investigation and no fragments of PACM were noted at surface or within soil profile during fieldwork.

Analytical results were compared to the waste classification guidelines for General Solid Waste (GSW). There were no exceedances above the CT1 criteria for all sampled analysed. The material at the site is preliminary classified as GSW, should it be required for off-site disposal. However, the waste classification within this report is indicative only. Any soils excavated from the site requiring offsite disposal/management as part of the proposed development works will require confirmation of waste classification in accordance with the NSW EPA 2014.

10.3 Groundwater

As presented in **Section 8.2**, concentrations of zinc were identified in all groundwater samples above the screening criteria for the ecological protection of 95% species in freshwater. This is considered to be associated

with regional background values of groundwater derived from the Tomago Coal Measures and not associated with any contamination from onsite sources.

A groundwater impact assessment to support the development is not considered necessary for the following reasons:

- The building(s) will not intersect the watertable (although piles may) and temporary construction dewatering will not be required.
- The building(s) will be founded on piles which may intersect the watertable however no construction dewatering will be required to install these piles.
- The installation of the piles may locally increase the pH of the groundwater due to interaction with the grout, however this is a temporary impact with initial water quality being re-established soon afterwards.
- The identified GDE located in the southwestern part of the site will not be impacted since the development footprint is outside the area of the GDE.
- Long term if the piles intersect the watertable they will not create a barrier to groundwater flow since groundwater will flow around the piles.
- Long term groundwater recharge may be reduced due to rainfall captured of roofs and hardstand areas is likely to be extracted from the local system via discharge to stormwater. This slight recharge reduction is considered negligible given the relatively small area of the hardstand and roof area of the development compared to the unpaved area of the development area and surrounds.

10.4 Revised Risk Linkage Evaluation

A potential source of contamination is the active service station that borders the north -western part of the site. There is potential for hydrocarbons to migrate from the site to the school site, however this risk is considered low for the following reasons:

- Soil sampling and groundwater sampling did not detect any hydrocarbons (TRH and BTEX) indicating that hydrocarbons have not migrated to the subject site
- VOCs are controlled by vapour recovery systems to capture petrol vapours before they enter the atmosphere. This is managed under the UPSS.
- Under the UPSS underground storage tank (UST) integrity tests are routinely undertaken to monitor for any tank leakage
- Under the UPSS routine groundwater monitoring is undertaken at the service station to monitor for groundwater hydrocarbon contamination that would indicate leaking USTs.
- Service stations are required to be bunded to capture any fuels from surface spills or accidents
- The monitoring wells installed as part of this program could be routinely monitored for hydrocarbons for added confidence, although this is not considered necessary due to the routine monitoring that is undertaken by the service station under the UPSS.

Based upon the results and findings of this assessment with no identified sources of contamination, there were no completed risk linkages identified within the CSM evaluation.

11 Conclusions

ADE Consulting Group Pty Ltd (ADE) was engaged by Colliers on behalf of the NSW Department of Education (DoE) to undertake a Detailed Site Investigation (DSI) to assess site suitability for the proposed new High School for Medowie (the "activity").

The intrusive investigation was undertaken in April, November and December 2024 and comprised the advancement of 33 soil bores and installation of three groundwater monitoring wells across the investigation area in the north of the site to determine the contamination status of the site and suitability for the activity. The results of the soil assessment were also used to provide indicative advice regarding the offsite management of material which may be surplus to requirements in accordance with the Waste Guidelines.

A groundwater monitoring event was also undertaken to close out any potential off-site contamination within groundwater from an adjacent service station.

Based on the results of the investigation, the following conclusions are made:

- There were no signs of uncontrolled fill present in any of the sampling locations. The lithology was consistent across the investigation area with shallow clay topsoil overlaying natural silty clay.
- The results of the soil investigation revealed that no significant sources of soil contamination were identified with no visual or olfactory evidence of contamination observed.
- No exceedances of Site Assessment Criteria and / or CT1 Criteria for General Solid Waste. The waste classification within this report is indicative only. Any soils excavated from the site requiring offsite disposal/management as part of the proposed development works will require confirmation of waste classification in accordance with NSW EPA (2014).
- Concentrations of the majority of CoPC in groundwater were below the screening criteria with the exception of zinc, which was recorded above the guidelines value for the 95% protection of ecological freshwater receptors. These concentrations are however considered likely to be associated with regional background values and not representative of contamination at the site.
- It is considered a groundwater impact assessment will not be required as the development will not intersect the water table, no construction dewatering will be required, the GDE identified in the southwest part of the site will not be part of the development and long-term groundwater flow or quality will not be impacted by the development.

The results of the intrusive investigation demonstrated that there were no hydrocarbons detected in soil or groundwater indicating that the offsite service station is unlikely to have impacted soil and groundwater beneath the site. Similarly, no visual or olfactory signs of contamination were noted. In addition, management measures required to be undertaken by the service station reduces the risk of hydrocarbon contamination migrating from the site and will likely be sufficient into the future and while the school is in operation. These management measures as outlined in **Section 10.4** include the installation of vapour recovery systems, routine UST integrity tests, routine groundwater monitoring under UPSS and bunding. For these reasons the service station is not considered to represent a risk to site receptors.

Based on the analytical results collected from soil and groundwater at the investigation area, a potential risk to identified human health or ecological receptors has not been identified.

ADE considers that the investigation area is suitable for the intended land use (secondary education facility) and the proposed development.

Mitigation measures to be implemented during the demolition and construction phase of the activity were outlined in **Table 24** (**Section 12**)

12 Mitigation Measures

The potential project environmental risks and recommended mitigation measures have been summarised in **Table 24**.

Table 24: Summary of Potential Risks and Mitigation Measures

Potential Risk	Mitigation Measure
Unexpected finds during development.	Develop and prepare an unexpected finds protocol to be implemented during the demolition and construction phase of the activity.
Erosion and Sediment.	Develop and prepare a soil and water management plan/ sub-plan to prevent erosion and generation of sediment.
Environmental harm during construction.	Develop and prepare a construction environmental management plan to be implemented during the course of demolition and construction phase of the activity.
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.

13 Limitations and Disclaimer

This report has been prepared for the exclusive use of the client and is limited to the scope of the work agreed in the terms and conditions of contract (including assumptions, limitations and qualifications, circumstances, and constraints). ADE has relied upon the accuracy of information and data provided to it by the client and others.

ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia. No other warranty, expressed or implied, is made or intended. No one section or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendixes and attachments. The report is an integral document and must be read in its entirety.

To the fullest extent permitted by law, ADE does not accept or assume responsibility to any third party (other than the client) for the investigative work, the report or the opinions given.

The scope of work conducted, and report herein may not meet the specific needs (of which ADE is not aware) of third parties. ADE cannot be held liable for third party reliance on this document. Any third party who relies upon this report does so at its own risk.

The subsurface environment can present substantial uncertainty due to it complex heterogeneity. The conclusions presented in this report are based on limited investigation of conditions at specific sampling locations chosen to be as representative as possible under the given circumstances. However, it is possible that this investigation may not have encountered all areas of contamination at the site due to the limited sampling and testing program undertaken.

The material subject to classification pertains only to the site and subject area outlined within the report and must be consistent with the waste description reported. If there are any unexpected finds that are not consistent with this classification, ADE must be notified immediately.

ADE does not verify the accuracy or completeness of, or adopt as its own, the information or data supplied by others and excludes all liability with respect to such information and data. To the extent that conditions differ from assumptions set out in the report, and to the extent that information provided to ADE is inaccurate or incomplete or has changed since it was provided to ADE, the opinions expressed in this report may not be valid and should be reviewed.

ADE's professional opinions are based upon its professional judgement, experience, training, and results from analytical data. In some cases, further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited its investigation to the scope agreed upon with its client.

This Limitation and Disclaimer must accompany every copy of this report.

14 References

ADE (2024a) *Preliminary Site Investigation – Proposed Medowie High School, 6 Abundance Road, Medowie*. ref: A101024.0124 PSI v1d, dated: 19 April 2024

ADE (2024b) *Detailed Site Investigation – Proposed Medowie High School, 6 Abundance Road, Medowie*. ref: A101024.0124 DSI v1f, dated: 13 November 2024

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Figures

Legend

- Campvale Drain
- Approximate Site Boundary

0 100 m 200 m

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Produced by **Datanest.earth**

Title: Site locality		
Client: SINSW		Size: A3
Project: 24.0124 SINSW Medowie	Drawn: KA	Figure No.: 1
Date: 19-04-2024	Checked: SG	
Proj No: A101024.0124	Scale: 1:6200	Version: draft

Legend

- Borehole / Groundwater wells Apr 2024
- Hand auger location - Apr 2024
- Boreholes - Nov 2024
- Hand auger location - Dec 2024
- Assessment Area
- Approximate Site Boundary

0 25 m 50 m

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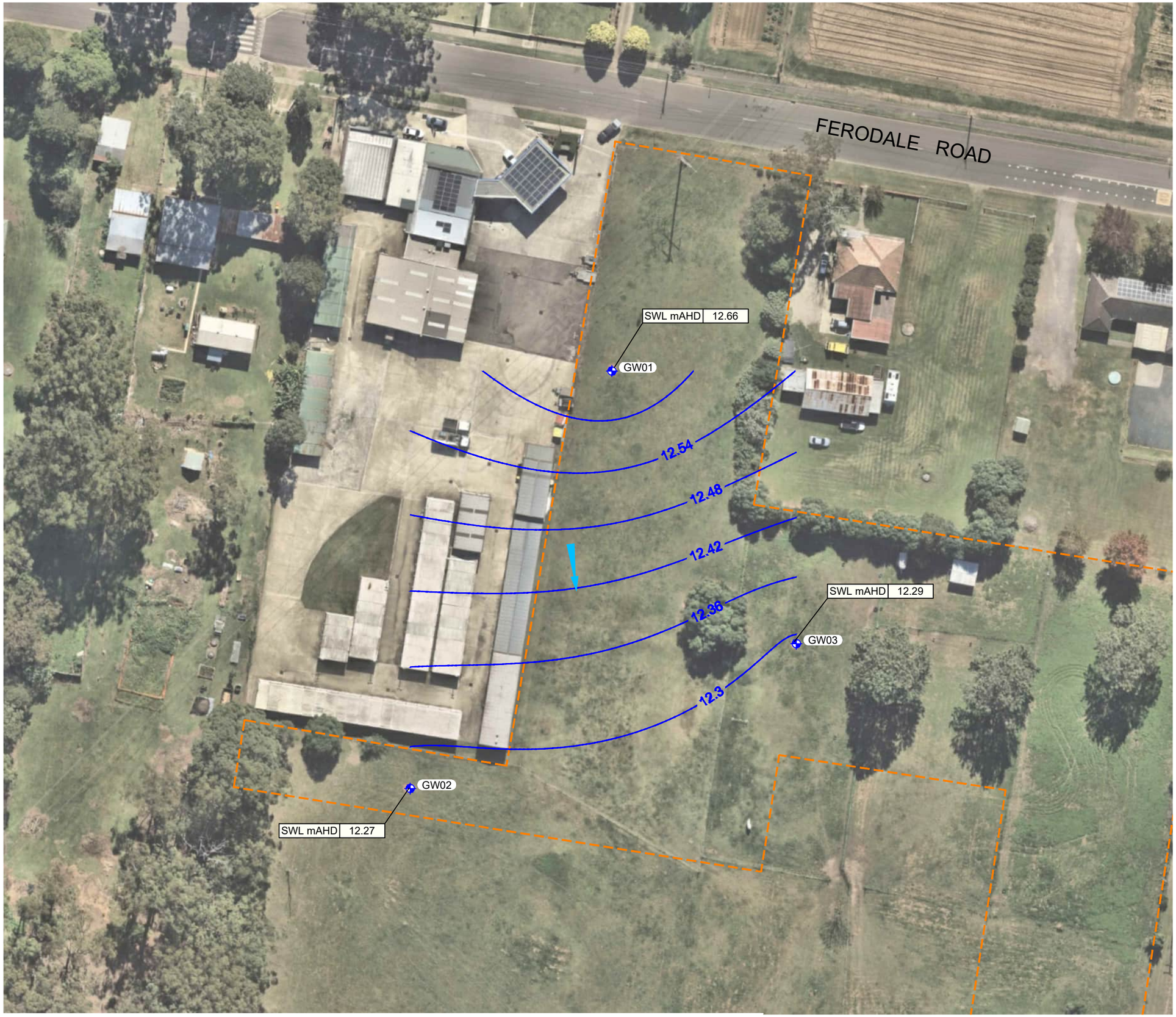
Produced by **Datanest.earth**

Title: Figure 2 - Sample locations		
Client: SINSW		Size: A4
Project: 24.0124 SINSW Medowie	Drawn: KA	Figure No.: 2
Date: 17-12-2024	Checked: SG	
Proj No: A101024.0124	Scale: 1:1380	Version: draft



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client: SCHOOL INFRASTRUCTURE NSW

project: DSI - GROUNDWATER ASSESSMENT
LOT3, DP788451, PROPOSED MEDOWIE HIGH SCHOOL
6 ABUNDANCE ROAD, MEDOWIE, NSW

title: INFERRED GROUNDWATER CONTOURS AND FLOW DIRECTION (03 MAY 2024)

project no:	figure no:	rev:
A101024.0124.00	FIGURE 3	A

drawn	approved	date
MC	KA	14/05/2024

original size: A3 | scale: AS SHOWN

N

0 8 16 24 32 40
SCALE 1:800 @A3 METRES

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	MC	KA	14/05/24

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM, 29 FEB 2024.

LEGEND

- INVESTIGATION AREA
- GW — GROUNDWATER WELL
- INFERRED GROUNDWATER FLOW DIRECTION
- 3.2 — INFERRED GROUNDWATER ELEVATION CONTOUR (mAHD)
- SWL mAHD — GROUNDWATER ELEVATION (mAHD)

NOTE: SWL GAUGED ON 03 MAY 2024

PLOT DATE: 31/05/2024 11:54:40 AM DWG FILE: C:\USERS\MIRANDA.CHAU\ADE CONSULTING GROUP PTY LTD\DIS-WORKING - DOCUMENTS\NSW\PROJECT\24.0124 MEDOWIE NEW HS - CONTAM & GEOTECH\5 WORKING DOCS\04 CAD (MC)\A101024.0124.00_DSI.DWG

Results Summary Tables

A101024.0124.00 / 6 Abundance Road, Medowie NSW

Table A - Soil Analytical Results - NEPM (SAC) 2013

		Physical			Metals								PAH												
	Asbestos (Presence/Absence)	Moisture Content	Electrical Conductivity (Lab)	pH 1:5 soil:water	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benzo(b+j+k)fluoranthene	Benz[a]anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene
	Y/N	%	µS/cm	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		1			5	0.1	1	5	5	0.1	1	5	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
NEPM 2013 Table 1A(1) HILs Res A Soil					100	20		6,000	300	40	400	7,400														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=0m, <1m																									5	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=1m, <2m																										
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																										
NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space					100		800	100	1100		35	270													170	
NEPM 2013 Table 1B(6) ESLs for Urban Res and public open space, Fine Soil >=0m, <2m																		0.7								
Lab Report Number	**Field ID**	**Date**	**Depth**																							
A101024.0124.00 (332-367)/2401877	BH01_0.0-0.1	22 Apr 2024	0 - 0.1	N	22.1	-	-	<5.0	<0.30	20.7	<5.0	6.9	<0.10	2.4	16.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH01_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	16.1	10	5.9	<5.0	0.36	43.3	<5.0	5.7	<0.10	3.9	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH02_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.4	-	-	<5.0	<0.30	16.1	<5.0	6.5	<0.10	1.2	11.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH02_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	16.8	10	5.6	<5.0	<0.30	34.4	<5.0	<5.0	<0.10	2.3	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH03_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.1	-	-	<5.0	0.37	21.0	<5.0	23.9	<0.10	2.8	51.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH03_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	20.9	20	5.8	<5.0	0.38	47.0	<5.0	5.4	<0.10	3.4	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH04_0.0-0.1	22 Apr 2024	0 - 0.1	N	21.9	-	-	<5.0	<0.30	21.0	<5.0	7.3	<0.10	2.6	22.2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH04_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	17.3	10	5.9	<5.0	<0.30	39.5	<5.0	<5.0	<0.10	4.0	5.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH05_0.0-0.1	22 Apr 2024	0 - 0.1	N	25.2	-	-	<5.0	<0.30	17.5	7.1	7.2	<0.10	1.9	22.7	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH05_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	16.4	20	5.8	<5.0	<0.30	26.0	<5.0	<5.0	<0.10	2.5	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH06_0.0-0.1	22 Apr 2024	0 - 0.1	N	17.3	-	-	<5.0	0.36	15.4	<5.0	7.4	<0.10	1.7	17.8	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH06_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	15.6	40	5.1	<5.0	<0.30	31.8	<5.0	<5.0	<0.10	3.3	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH07_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.7	-	-	<5.0	0.37	22.4	<5.0	7.1	<0.10	2.3	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
A101024.0124.00 (332-367)	BH07_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	16.5	20	5.8	<5.0	<0.30	26.8	<5.0	<5.0	<0.10	1.7	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH08_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.5	-	-	<5.0	<0.30	16.6	<5.0	<5.0	<0.10	1.6	11.2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH08_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	15.2	20	5.5	<5.0	<0.30	28.8	<5.0	<5.0	<0.10	2.1	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BR01	22 Apr 2024		-	19.4	-	-	<5.0	<0.30	16.4	<5.0	<5.0	<0.10	1.2	9.4	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BR02	22 Apr 2024		-	15.6	20	5.6	<5.0	<0.30	30.9	<5.0	<5.0	<0.10	1.5	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA01_0.0-0.1	22 Apr 2024	0 - 0.1	N	19.5	-	-	<5.0	<0.30	12.2	<5.0	<5.0	<0.10	1.1	11.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	HA01_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	16.8	10	5.8	<5.0	0.36	29.1	<5.0	<5.0	<0.10	1.8	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA02_0.0-0.1	22 Apr 2024	0 - 0.1	N	20.0	-	-	<5.0	<0.30	18.4	<5.0	6.3	<0.10	1.8	26.8	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	HA02_0.3-0.4	22 Apr 2024	0.3 - 0.4	-	15.4	20	5.4	<5.0	<0.30	24.3	<5.0	<5.0	<0.10	1.2	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA03_0.0-0.1	22 Apr 2024	0 - 0.1	N	24.6	-	-	<5.0	<0.30	16.8	<5.0	7.2	<0.10	1.6	20.2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	HA03_0.3-0.4	22 Apr 2024	0.3 - 0.4	-	15.0	10	6.1	<5.0	<0.30	28.6	<5.0	<5.0	<0.10	1.6	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA04_0.0-0.1	22 Apr 2024	0 - 0.1	N	20.4	-	-	<5.0	<0.30	17.5	6.7	12.3	<0.10	2.5	151.1	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA05_0.0-0.1	22 Apr 2024	0 - 0.1	N	20.9	-	-	<5.0	<0.30	12.3	<5.0	10.0	<0.10	<1.0	82.9	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA06_0.0-0.1	22 Apr 2024	0 - 0.1	N	17.8	-	-	<5.0	0.49	41.0	<5.0	6.6	<0.10	<1.0	8.4	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)	BH202_0.0-0.2	19 Nov 2024	0 - 0.2	-	15.4	-	-	<5.0	0.12	12.5	<5.0	6.3	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)/2405560	BH203_0.0-0.1	20 Nov 2024	0 - 0.1	N	19.6	-	-	5.1	0.12	15.3	<5.0	8.7	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
2405560	BH205_0.0-0.1	25 Nov 2024	0.4 - 0.5	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH205_0.0-0.4	25 Nov 2024	0 - 0.4	-	5.6	-	-	<5.0	0.11	25.4	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)	BH205_0.8-1.0	25 Nov 2024	0.8 - 1	-	19.2	-	-	<5.0	0.25	31.6	<5.0	8.8	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)	BH206_0.0-0.5	20 Nov 2024	0 - 0.5	-	13.9	-	-	<5.0	0.12	21.7	<5.0	<5.0	<0.10	1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
2405560	BH206_0.0-0.2	20 Nov 2024	0.0-0.2	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH206_0.9-1.0	20 Nov 2024	0.9 - 1	-	18.0	-	-	<5.0	0.37	39.3	<5.0	7.1	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)/2405560	BH208_0.4-0.5	21 Nov 2024	0.4 - 0.5	N	18.3	-	-	<5.0	0.24	37.8	<5.0	6.9	<0.10	1.7	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)	BR	20 Nov 2024		-	16.2	-	-	<5.0	0.12	13.8	<5.0	6.7	<0.10	1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	BR01	03 Dec 2024		-	13.2	-	-	<5.0	<0.10	21.1	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA201_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	9.6	-	-	<5.0	<0.10	12.2	<5.0	10.0	<0.10	<1.0	22.9	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA202_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	9.7	-	-	<5.0	<0.10	24.0	<5.0	8.9	<0.10	<1.0	8.4	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA203_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	19.2	-	-	<5.0	<0.10	13.2	<5.0	<5.0	<0.10	1.1	11.1	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA204_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	12.5	-	-	<5.0	<0.10	16.6	<5.0	5.1	<0.10	1.1	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA205_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	9.6	-	-	<5.0	<0.10	17.3	<5.0	14.6	<0.10	1.4	18.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA206_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	12.0	-	-	<5.0	<0.10	13.9	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA207_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	6.8	-	-	<5.0	<0.10	13.0	<5.0	7.5	<0.10	<1.0	15.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA208_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.6	-	-	<5.0	<0.10	20.6	<5.0	7.2	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA209_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	18.7	-	-	<5.0	<0.10	10.3	<5.0	6.4	<0.10	<1.0	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
A101024.0124.00 (871-886)	HA210_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	16.6	-	-	<5.0	<0.10	27.1	<5.0	5.8	<0.10	1.3	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA211_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	8.5	-	-	<5.0	<0.10	18.4	<5.0	5.7	<0.10	<1.0	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
A101024.0124.00 (871-886)	HA211_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.5	-	-	<5.0	<0.10	21.8	<5.0	5.4	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA212_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.0	-	-	<5.0	<0.10	19.1	<5.0	5.3	<0.10	<1.0	325.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA213_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	13.9	-	-	<5.0	<0.10	8.8	<5.0	7.0	<0.10	<1.0	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
A101024.0124.00 (871-886)	HA214_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.9	-	-	<5.0	<0.10	15.7	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Statistics																										
Number of Detects		-	51	12	12	1	15	51	2	32	0	32	25	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration		-	5.6	10	5.1	<5	<0.1	8.8	<5	<5	<0.1	1	<5	<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
Maximum Concentration		-	25.2	40	6.1	5.1	0.49	47	7.1	23.9	<0.1	4	325.5	<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
Average Concentration *		-	16	18	5.7	5	0.23	22	5.1	6.8	0.1	1.6	21	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

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

2013, NEPM Table 1A(1) HILs Res A Soil
2013, NEPM Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM Table 1B(5) Site Specific EIL - Urban Res & Public Open Space
2013, NEPM Table 1B(6) ESLs for Urban Res, Fine Soil

A101024.0124.00 / 6 Abundance Road, Medowie NSW

Table A - Soil Analytical Results - NEPM (SAC) 2013

						BTEX							TRH						TPH						
	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	Arochlor 1016	Arochlor 1221
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.3	0.3	0.3	0.3	0.3	0.5	0.5	1	2	1	2	2	35	35	50	100	100	100	25	50	100	100	100	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil		**3**	**3**	**3**	**300**																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=0m, <1m						**0.7**	**480**				**110**			**50**											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=1m, <2m						**1**					**310**			**90**											
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil													**800**		**1,000**	**3,500**	**10,000**								
NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space																									
NEPM 2013 Table 1B(6) ESLs for Urban Res and public open space, Fine Soil >=0m, <2m						**65**	**105**	**125**			**45**			**180**	**120**	**1,300**	**5,600**								

Lab Report Number	Field ID	Date	Depth																								
A101024.0124.00 (332-367)/2401877	**BH01_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH01_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**BH02_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH02_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**BH03_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH03_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**BH04_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH04_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**BH05_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH05_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**BH06_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH06_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**BH07_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH07_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**BH08_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BH08_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)	**BR01**	**22 Apr 2024**		*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**BR02**	**22 Apr 2024**		*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**HA01_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**HA01_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**HA02_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**HA02_0.3-0.4**	**22 Apr 2024**	**0.3 - 0.4**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**HA03_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)	**HA03_0.3-0.4**	**22 Apr 2024**	**0.3 - 0.4**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	-	-
A101024.0124.00 (332-367)/2401877	**HA04_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)/2401877	**HA05_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (332-367)/2401877	**HA06_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (250-257)	**BH202_0.0-0.2**	**19 Nov 2024**	**0 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (250-257)/2405560	**BH203_0.0-0.1**	**20 Nov 2024**	**0 - 0.1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
2405560	**BH205_0.0-0.1**	**25 Nov 2024**	**0.4 - 0.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	**BH205_0.0-0.4**	**25 Nov 2024**	**0 - 0.4**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (250-257)	**BH205_0.8-1.0**	**25 Nov 2024**	**0.8 - 1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (250-257)	**BH206_0.0-0.5**	**20 Nov 2024**	**0 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
2405560	**BH206_0.0-0.2**	**20 Nov 2024**	**0.0-0.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	**BH206_0.9-1.0**	**20 Nov 2024**	**0.9 - 1**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (250-257)/2405560	**BH208_0.4-0.5**	**21 Nov 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (250-257)	**BR**	**20 Nov 2024**		*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**BR01**	**03 Dec 2024**		*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)/2405575	**HA201_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA202_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)/2405575	**HA203_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA204_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)/2405575	**HA205_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA206_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)/2405575	**HA207_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA208_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)/2405575	**HA209_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA210_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)/2405575	**HA211_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA211_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA212_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)/2405575	**HA213_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*
A101024.0124.00 (871-886)	**HA214_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	*<0.30*	**0.35**	**0.70**	*<0.30*	*<0.30*	*<0.50*	*<0.50*	*<1.0*	*<2.0*	*<1.0*	*<2.0*	*<2.00*	*<35*	*<35*	*<50*	*<100*	*<100*	*<100*	*<25*	*<50*	*<100*	*<100*	*<100*	*<0.50*	*<0.50*

Statistics

Number of Detects	**0**	**51**	**51**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.3**	**0.35**	**0.7**	**<0.3**	**<0.3**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<2**	**<35**	**<35**	**<50**	**<100**	**<100**	**<100**	**<25**	**<50**	**<100**	**<100**	**<100**	**<0.5**	**<0.5**
Maximum Concentration	**<0.3**	**0.35**	**0.7**	**<0.3**	**<0.3**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<2**	**<35**	**<35**	**<50**	**<100**	**<100**	**<100**	**<25**	**<50**	**<100**	**<100**	**<100**	**<0.5**	**<0.5**
Average Concentration *	**0.3**	**0.35**	**0.7**	**0.3**	**0.3**	**0.5**	**0.5**	**1**	**2**	**1**	**2**	**2**	**35**	**35**	**50**	**100**	**100**	**100**	**25**	**50**	**100**	**100**	**100**	**0.5**	**0.5**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

2013, NEPM Table 1A(1) HILs Res A Soil
2013, NEPM Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM Table 1B(5) Site Specific EIL - Urban Res & Public Open Space
2013, NEPM Table 1B(6) ESLs for Urban Res, Fine Soil

A101024.0124.00 / 6 Abundance Road, Medowie NSW

Table A - Soil Analytical Results - NEPM (SAC) 2013

				PCBs						Halogenated Benzenes	Organochlorine Pesticides																
				Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Hexachlorobenzene	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Endosulfan I	Dieldrin	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil									1	10														10				6
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=0m, <1m																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=1m, <2m																												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																												
NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space																			180									
NEPM 2013 Table 1B(6) ESLs for Urban Res and public open space, Fine Soil >=0m, <2m																												
Lab Report Number	**Field ID**	**Date**	**Depth**																									
A101024.0124.00 (332-367)/2401877	BH01_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH01_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH02_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH02_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH03_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH03_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH04_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH04_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH05_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH05_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH06_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH06_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH07_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH07_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH08_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH08_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)	BR01	22 Apr 2024		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BR02	22 Apr 2024		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA01_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	HA01_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA02_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	HA02_0.3-0.4	22 Apr 2024	0.3 - 0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA03_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	HA03_0.3-0.4	22 Apr 2024	0.3 - 0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA04_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)/2401877	HA05_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)/2401877	HA06_0.0-0.1	22 Apr 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BH202_0.0-0.2	19 Nov 2024	0 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)/2405560	BH203_0.0-0.1	20 Nov 2024	0 - 0.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
2405560	BH205_0.0-0.1	25 Nov 2024	0.4 - 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH205_0.0-0.4	25 Nov 2024	0 - 0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BH205_0.8-1.0	25 Nov 2024	0.8 - 1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BH206_0.0-0.5	20 Nov 2024	0 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
2405560	BH206_0.0-0.2	20 Nov 2024	0.0-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH206_0.9-1.0	20 Nov 2024	0.9 - 1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)/2405560	BH208_0.4-0.5	21 Nov 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BR	20 Nov 2024		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	BR01	03 Dec 2024		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA201_0.1-0.2	03 Dec 2024	0.1 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA202_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA203_0.1-0.2	03 Dec 2024	0.1 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA204_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA205_0.1-0.2	03 Dec 2024	0.1 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA206_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA207_0.1-0.2	03 Dec 2024	0.1 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA208_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA209_0.1-0.2	03 Dec 2024	0.1 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA210_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA211_0.1-0.2	03 Dec 2024	0.1 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA211_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA212_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA213_0.1-0.2	03 Dec 2024	0.1 - 0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA214_0.4-0.5	03 Dec 2024	0.4 - 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10

Statistics

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
Minimum Concentration				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1
Maximum Concentration				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1
Average Concentration *				0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

2013, NEPM Table 1A(1) HILs Res A Soil
2013, NEPM Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM Table 1B(5) Site Specific EIL - Urban Res & Public Open Space
2013, NEPM Table 1B(6) ESLs for Urban Res, Fine Soil

Table A - Soil Analytical Results - NEPM (SAC) 2013

					Organophosphorous Pesticides								
					Heptachlor epoxide	Methoxychlor	Chlorpyrifos	Chlorpyrifos-methyl	Tribuphos	Diazinon	Ethoprop	Methyl parathion	Ronnel
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil						300	160						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=0m, <1m													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=1m, <2m													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil													
NEPM 2013 Table 1B(5) Site Specific EIL - Urban Res & Public Open Space													
NEPM 2013 Table 1B(6) ESLs for Urban Res and public open space, Fine Soil >=0m, <2m													
Lab Report Number	Field ID	Date	Depth										
A101024.0124.00 (332-367)/2401877	BH01_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH01_0.4-0.5	22 Apr 2024	0.4 - 0.5		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH02_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH02_0.5-0.6	22 Apr 2024	0.5 - 0.6		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH03_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH03_0.5-0.6	22 Apr 2024	0.5 - 0.6		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH04_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH04_0.4-0.5	22 Apr 2024	0.4 - 0.5		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH05_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH05_0.5-0.6	22 Apr 2024	0.5 - 0.6		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH06_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH06_0.5-0.6	22 Apr 2024	0.5 - 0.6		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH07_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH07_0.4-0.5	22 Apr 2024	0.4 - 0.5		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH08_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BH08_0.5-0.6	22 Apr 2024	0.5 - 0.6		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)	BR01	22 Apr 2024			<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	BR02	22 Apr 2024			-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA01_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	HA01_0.4-0.5	22 Apr 2024	0.4 - 0.5		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA02_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	HA02_0.3-0.4	22 Apr 2024	0.3 - 0.4		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA03_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)	HA03_0.3-0.4	22 Apr 2024	0.3 - 0.4		-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA04_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)/2401877	HA05_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (332-367)/2401877	HA06_0.0-0.1	22 Apr 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BH202_0.0-0.2	19 Nov 2024	0 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)/2405560	BH203_0.0-0.1	20 Nov 2024	0 - 0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
2405560	BH205_0.0-0.1	25 Nov 2024	0.4 - 0.5		-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH205_0.0-0.4	25 Nov 2024	0 - 0.4		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BH205_0.8-1.0	25 Nov 2024	0.8 - 1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BH206_0.0-0.5	20 Nov 2024	0 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
2405560	BH206_0.0-0.2	20 Nov 2024	0.0-0.2		-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH206_0.9-1.0	20 Nov 2024	0.9 - 1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)/2405560	BH208_0.4-0.5	21 Nov 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (250-257)	BR	20 Nov 2024			<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	BR01	03 Dec 2024			<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA201_0.1-0.2	03 Dec 2024	0.1 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA202_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA203_0.1-0.2	03 Dec 2024	0.1 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA204_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA205_0.1-0.2	03 Dec 2024	0.1 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA206_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA207_0.1-0.2	03 Dec 2024	0.1 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA208_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA209_0.1-0.2	03 Dec 2024	0.1 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA210_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA211_0.1-0.2	03 Dec 2024	0.1 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA211_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA212_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)/2405575	HA213_0.1-0.2	03 Dec 2024	0.1 - 0.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A101024.0124.00 (871-886)	HA214_0.4-0.5	03 Dec 2024	0.4 - 0.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Statistics													
Number of Detects					0	0	0	0	0	0	0	0	0
Minimum Concentration					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Concentration					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Average Concentration *					0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

2013, NEPM Table 1A(1) HILs Res A Soil
2013, NEPM Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM Table 1B(5) Site Specific EIL - Urban Res & Public Open Space
2013, NEPM Table 1B(6) ESLs for Urban Res, Fine Soil

Table B: Soil analytical Results - General Solid Waste criteria (CT1)

				Asbestos	Physical			Metals								PAH										
				Asbestos (Presence/Absence)	Moisture Content	Electrical Conductivity (Lab)	pH 1:5 soil:water	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benzo(b+j+k)fluoranthene	Benz[a]anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene
				Y/N	%	µS/cm	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1			5	0.1	1	5	5	0.1	1	5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
NSW 2014 General Solid Waste CT1 (No Leaching)								100	20			100	4	40							0.8					
Lab Report Number	**Field ID**	**Date**	**Depth**																							
A101024.0124.00 (250-257)	BH202_0.0-0.2	19 Nov 2024	0 - 0.2	-	15.4	-	-	<5.0	0.12	12.5	<5.0	6.3	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)/2405560	BH203_0.0-0.1	20 Nov 2024	0 - 0.1	N	19.6	-	-	5.1	0.12	15.3	<5.0	8.7	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)	BH205_0.0-0.4	25 Nov 2024	0 - 0.4	-	5.6	-	-	<5.0	0.11	25.4	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
2405560	BH205_0.0-0.1	25 Nov 2024	0.0-0.1	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH205_0.8-1.0	25 Nov 2024	0.8 - 1	-	19.2	-	-	<5.0	0.25	31.6	<5.0	8.8	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)	BH206_0.0-0.5	20 Nov 2024	0 - 0.5	-	13.9	-	-	<5.0	0.12	21.7	<5.0	<5.0	<0.10	1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
2405560	BH206_0.0-0.2	20 Nov 2024	0.0-0.2	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH206_0.9-1.0	20 Nov 2024	0.9 - 1	-	18.0	-	-	<5.0	0.37	39.3	<5.0	7.1	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)/2405560	BH208_0.4-0.5	21 Nov 2024	0.4 - 0.5	N	18.3	-	-	<5.0	0.24	37.8	<5.0	6.9	<0.10	1.7	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (250-257)	BR	20 Nov 2024		-	16.2	-	-	<5.0	0.12	13.8	<5.0	6.7	<0.10	1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH01_0.0-0.1	22 Apr 2024	0 - 0.1	N	22.1	-	-	<5.0	<0.30	20.7	<5.0	6.9	<0.10	2.4	16.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH01_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	16.1	10	5.9	<5.0	0.36	43.3	<5.0	5.7	<0.10	3.9	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH02_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.4	-	-	<5.0	<0.30	16.1	<5.0	6.5	<0.10	1.2	11.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH02_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	16.8	10	5.6	<5.0	<0.30	34.4	<5.0	<5.0	<0.10	2.3	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH03_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.1	-	-	<5.0	0.37	21.0	<5.0	23.9	<0.10	2.8	51.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH03_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	20.9	20	5.8	<5.0	0.38	47.0	<5.0	5.4	<0.10	3.4	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH04_0.0-0.1	22 Apr 2024	0 - 0.1	N	21.9	-	-	<5.0	<0.30	21.0	<5.0	7.3	<0.10	2.6	22.2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH04_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	17.3	10	5.9	<5.0	<0.30	39.5	<5.0	<5.0	<0.10	4.0	5.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH05_0.0-0.1	22 Apr 2024	0 - 0.1	N	25.2	-	-	<5.0	<0.30	17.5	7.1	7.2	<0.10	1.9	22.7	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH05_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	16.4	20	5.8	<5.0	<0.30	26.0	<5.0	<5.0	<0.10	2.5	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH06_0.0-0.1	22 Apr 2024	0 - 0.1	N	17.3	-	-	<5.0	0.36	15.4	<5.0	7.4	<0.10	1.7	17.8	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH06_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	15.6	40	5.1	<5.0	<0.30	31.8	<5.0	<5.0	<0.10	3.3	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH07_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.7	-	-	<5.0	0.37	22.4	<5.0	7.1	<0.10	2.3	15.4	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH07_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	16.5	20	5.8	<5.0	<0.30	26.8	<5.0	<5.0	<0.10	1.7	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	BH08_0.0-0.1	22 Apr 2024	0 - 0.1	N	18.5	-	-	<5.0	<0.30	16.6	<5.0	<5.0	<0.10	1.6	11.2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BH08_0.5-0.6	22 Apr 2024	0.5 - 0.6	-	15.2	20	5.5	<5.0	<0.30	28.8	<5.0	<5.0	<0.10	2.1	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BR01	22 Apr 2024		-	19.4	-	-	<5.0	<0.30	16.4	<5.0	<5.0	<0.10	1.2	9.4	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	BR02	22 Apr 2024		-	15.6	20	5.6	<5.0	<0.30	30.9	<5.0	<5.0	<0.10	1.5	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA01_0.0-0.1	22 Apr 2024	0 - 0.1	N	19.5	-	-	<5.0	<0.30	12.2	<5.0	<5.0	<0.10	1.1	11.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	HA01_0.4-0.5	22 Apr 2024	0.4 - 0.5	-	16.8	10	5.8	<5.0	0.36	29.1	<5.0	<5.0	<0.10	1.8	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA02_0.0-0.1	22 Apr 2024	0 - 0.1	N	20.0	-	-	<5.0	<0.30	18.4	<5.0	6.3	<0.10	1.8	26.8	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	HA02_0.3-0.4	22 Apr 2024	0.3 - 0.4	-	15.4	20	5.4	<5.0	<0.30	24.3	<5.0	<5.0	<0.10	1.2	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA03_0.0-0.1	22 Apr 2024	0 - 0.1	N	24.6	-	-	<5.0	<0.30	16.8	<5.0	7.2	<0.10	1.6	20.2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)	HA03_0.3-0.4	22 Apr 2024	0.3 - 0.4	-	15.0	10	6.1	<5.0	<0.30	28.6	<5.0	<5.0	<0.10	1.6	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA04_0.0-0.1	22 Apr 2024	0 - 0.1	N	20.4	-	-	<5.0	<0.30	17.5	6.7	12.3	<0.10	2.5	151.1	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA05_0.0-0.1	22 Apr 2024	0 - 0.1	N	20.9	-	-	<5.0	<0.30	12.3	<5.0	10.0	<0.10	<1.0	82.9	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (332-367)/2401877	HA06_0.0-0.1	22 Apr 2024	0 - 0.1	N	17.8	-	-	<5.0	0.49	41.0	<5.0	6.6	<0.10	<1.0	8.4	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	BR01	03 Dec 2024		-	13.2	-	-	<5.0	<0.10	21.1	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA201_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	9.6	-	-	<5.0	<0.10	12.2	<5.0	10.0	<0.10	<1.0	22.9	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA202_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	9.7	-	-	<5.0	<0.10	24.0	<5.0	8.9	<0.10	<1.0	8.4	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA203_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	19.2	-	-	<5.0	<0.10	13.2	<5.0	<5.0	<0.10	1.1	11.1	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA204_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	12.5	-	-	<5.0	<0.10	16.6	<5.0	5.1	<0.10	1.1	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA205_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	9.6	-	-	<5.0	<0.10	17.3	<5.0	14.6	<0.10	1.4	18.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA206_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	12.0	-	-	<5.0	<0.10	13.9	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA207_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	6.8	-	-	<5.0	<0.10	13.0	<5.0	7.5	<0.10	<1.0	15.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA208_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.6	-	-	<5.0	<0.10	20.6	<5.0	7.2	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA209_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	18.7	-	-	<5.0	<0.10	10.3	<5.0	6.4	<0.10	<1.0	17.1	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA210_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	16.6	-	-	<5.0	<0.10	27.1	<5.0	5.8	<0.10	1.3	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA211_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	8.5	-	-	<5.0	<0.10	18.4	<5.0	5.7	<0.10	<1.0	19.7	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA211_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.5	-	-	<5.0	<0.10	21.8	<5.0	5.4	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA212_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.0	-	-	<5.0	<0.10	19.1	<5.0	5.3	<0.10	<1.0	325.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)/2405575	HA213_0.1-0.2	03 Dec 2024	0.1 - 0.2	N	13.9	-	-	<5.0	<0.10	8.8	<5.0	7.0	<0.10	<1.0	17.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
A101024.0124.00 (871-886)	HA214_0.4-0.5	03 Dec 2024	0.4 - 0.5	-	11.9	-	-	<5.0	<0.10	15.7	<5.0	<5.0	<0.10	<1.0	<5.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Statistics																										
Number of Results				25	51	12	12	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Number of Detects				0	51	12	12	1	15	51	2	32	0	32	25	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				-	5.6	10	5.1	<5	<0.1	8.8	<5	<5	<0.1	1	<5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Maximum Concentration				-	25.2	40	6.1	5.1	0.49	47	7.1	23.9	<0.1	4	325.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Average Concentration *				-	16	18	5.7	5	0.23	22	5.1	6.8	0.1	1.6	21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)

Table B: Soil analytical Results - General Solid Waste criteria (CT1)

										BTEX							TRH							
				Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	1	2	1	2	2	35	35	50	100	100	100	25	50
NSW 2014 General Solid Waste CT1 (No Leaching)											200	10	288	600			1,000								650	
Lab Report Number	**Field ID**	**Date**	**Depth**																							
A101024.0124.00 (250-257)	**BH202_0.0-0.2**	**19 Nov 2024**	**0 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (250-257)/2405560	**BH203_0.0-0.1**	**20 Nov 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (250-257)	**BH205_0.0-0.4**	**25 Nov 2024**	**0 - 0.4**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
2405560	**BH205_0.0-0.1**	**25 Nov 2024**	**0.0-0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	**BH205_0.8-1.0**	**25 Nov 2024**	**0.8 - 1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (250-257)	**BH206_0.0-0.5**	**20 Nov 2024**	**0 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
2405560	**BH206_0.0-0.2**	**20 Nov 2024**	**0.0-0.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	**BH206_0.9-1.0**	**20 Nov 2024**	**0.9 - 1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (250-257)/2405560	**BH208_0.4-0.5**	**21 Nov 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (250-257)	**BR**	**20 Nov 2024**		<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH01_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH01_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH02_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH02_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH03_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH03_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH04_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH04_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH05_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH05_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH06_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH06_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH07_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH07_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**BH08_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BH08_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BR01**	**22 Apr 2024**		<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**BR02**	**22 Apr 2024**		<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**HA01_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**HA01_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**HA02_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**HA02_0.3-0.4**	**22 Apr 2024**	**0.3 - 0.4**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**HA03_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)	**HA03_0.3-0.4**	**22 Apr 2024**	**0.3 - 0.4**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**HA04_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**HA05_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (332-367)/2401877	**HA06_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**BR01**	**03 Dec 2024**		<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)/2405575	**HA201_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA202_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)/2405575	**HA203_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA204_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)/2405575	**HA205_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA206_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)/2405575	**HA207_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA208_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)/2405575	**HA209_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA210_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)/2405575	**HA211_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA211_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA212_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)/2405575	**HA213_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
A101024.0124.00 (871-886)	**HA214_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.30	<0.30	<0.30	<0.30	**0.35**	**0.70**	<0.30	<0.30	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	<100	<100	<100	<25	<50
Statistics																										
Number of Results				**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**	**51**
Number of Detects				**0**	**0**	**0**	**0**	**51**	**51**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration				**<0.3**	**<0.3**	**<0.3**	**<0.3**	**0.35**	**0.7**	**<0.3**	**<0.3**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<2**	**<35**	**<35**	**<50**	**<100**	**<100**	**<100**	**<25**	**<50**
Maximum Concentration				**<0.3**	**<0.3**	**<0.3**	**<0.3**	**0.35**	**0.7**	**<0.3**	**<0.3**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<2**	**<35**	**<35**	**<50**	**<100**	**<100**	**<100**	**<25**	**<50**
Average Concentration *				**0.3**	**0.3**	**0.3**	**0.3**	**0.35**	**0.7**	**0.3**	**0.3**	**0.5**	**0.5**	**1**	**2**	**1**	**2**	**2**	**35**	**35**	**50**	**100**	**100**	**100**	**25**	**50**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)

Table B: Soil analytical Results - General Solid Waste criteria (CT1)

				TPH			PCBs								Halogenated Benzenes	Organochlorine Pesticide										
				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)	Hexachlorobenzene	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Endosulfan I	Dieldrin
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				100	100	100	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)						10,000								50												
Lab Report Number	**Field ID**	**Date**	**Depth**																							
A101024.0124.00 (250-257)	BH202_0.0-0.2	19 Nov 2024	0 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (250-257)/2405560	BH203_0.0-0.1	20 Nov 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (250-257)	BH205_0.0-0.4	25 Nov 2024	0 - 0.4	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
2405560	BH205_0.0-0.1	25 Nov 2024	0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH205_0.8-1.0	25 Nov 2024	0.8 - 1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (250-257)	BH206_0.0-0.5	20 Nov 2024	0 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
2405560	BH206_0.0-0.2	20 Nov 2024	0.0-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	BH206_0.9-1.0	20 Nov 2024	0.9 - 1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (250-257)/2405560	BH208_0.4-0.5	21 Nov 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (250-257)	BR	20 Nov 2024		<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)/2401877	BH01_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH01_0.4-0.5	22 Apr 2024	0.4 - 0.5	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH02_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH02_0.5-0.6	22 Apr 2024	0.5 - 0.6	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH03_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH03_0.5-0.6	22 Apr 2024	0.5 - 0.6	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH04_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH04_0.4-0.5	22 Apr 2024	0.4 - 0.5	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH05_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH05_0.5-0.6	22 Apr 2024	0.5 - 0.6	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH06_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH06_0.5-0.6	22 Apr 2024	0.5 - 0.6	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH07_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH07_0.4-0.5	22 Apr 2024	0.4 - 0.5	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	BH08_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BH08_0.5-0.6	22 Apr 2024	0.5 - 0.6	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)	BR01	22 Apr 2024		<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	BR02	22 Apr 2024		<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA01_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	HA01_0.4-0.5	22 Apr 2024	0.4 - 0.5	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA02_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	HA02_0.3-0.4	22 Apr 2024	0.3 - 0.4	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA03_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)	HA03_0.3-0.4	22 Apr 2024	0.3 - 0.4	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	HA04_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)/2401877	HA05_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (332-367)/2401877	HA06_0.0-0.1	22 Apr 2024	0 - 0.1	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	BR01	03 Dec 2024		<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)/2405575	HA201_0.1-0.2	03 Dec 2024	0.1 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA202_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)/2405575	HA203_0.1-0.2	03 Dec 2024	0.1 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA204_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)/2405575	HA205_0.1-0.2	03 Dec 2024	0.1 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA206_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)/2405575	HA207_0.1-0.2	03 Dec 2024	0.1 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA208_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)/2405575	HA209_0.1-0.2	03 Dec 2024	0.1 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA210_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)/2405575	HA211_0.1-0.2	03 Dec 2024	0.1 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA211_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA212_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)/2405575	HA213_0.1-0.2	03 Dec 2024	0.1 - 0.2	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10
A101024.0124.00 (871-886)	HA214_0.4-0.5	03 Dec 2024	0.4 - 0.5	<100	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.10

Statistics

Number of Results				51	51	51	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
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
Minimum Concentration				<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
Maximum Concentration				<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
Average Concentration *				100	100	100	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)

Table B: Soil analytical Results - General Solid Waste criteria (CT1)

				s								Organophosphorous Pesticides						
				Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Chlorpyrifos	Chlorpyrifos-methyl	Tribuphos	Diazinon	Ethoprop	Methyl parathion	Ronnel
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.1	0.2	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
NSW 2014 General Solid Waste CT1 (No Leaching)													4						
Lab Report Number	**Field ID**	**Date**	**Depth**																
A101024.0124.00 (250-257)	**BH202_0.0-0.2**	**19 Nov 2024**	**0 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (250-257)/2405560	**BH203_0.0-0.1**	**20 Nov 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (250-257)	**BH205_0.0-0.4**	**25 Nov 2024**	**0 - 0.4**	<0.20	<0.10	<0.20	<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
2405560	**BH205_0.0-0.1**	**25 Nov 2024**	**0.0-0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	**BH205_0.8-1.0**	**25 Nov 2024**	**0.8 - 1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (250-257)	**BH206_0.0-0.5**	**20 Nov 2024**	**0 - 0.5**	<0.20	<0.10	<0.20	<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
2405560	**BH206_0.0-0.2**	**20 Nov 2024**	**0.0-0.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (250-257)	**BH206_0.9-1.0**	**20 Nov 2024**	**0.9 - 1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (250-257)/2405560	**BH208_0.4-0.5**	**21 Nov 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (250-257)	**BR**	**20 Nov 2024**		<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)/2401877	**BH01_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH01_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**BH02_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH02_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**BH03_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH03_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**BH04_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH04_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**BH05_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH05_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**BH06_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH06_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**BH07_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH07_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**BH08_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BH08_0.5-0.6**	**22 Apr 2024**	**0.5 - 0.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)	**BR01**	**22 Apr 2024**		<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**BR02**	**22 Apr 2024**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**HA01_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**HA01_0.4-0.5**	**22 Apr 2024**	**0.4 - 0.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**HA02_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**HA02_0.3-0.4**	**22 Apr 2024**	**0.3 - 0.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**HA03_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)	**HA03_0.3-0.4**	**22 Apr 2024**	**0.3 - 0.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A101024.0124.00 (332-367)/2401877	**HA04_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)/2401877	**HA05_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (332-367)/2401877	**HA06_0.0-0.1**	**22 Apr 2024**	**0 - 0.1**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**BR01**	**03 Dec 2024**		<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)/2405575	**HA201_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA202_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)/2405575	**HA203_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA204_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)/2405575	**HA205_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA206_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)/2405575	**HA207_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA208_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)/2405575	**HA209_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA210_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)/2405575	**HA211_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA211_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA212_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)/2405575	**HA213_0.1-0.2**	**03 Dec 2024**	**0.1 - 0.2**	<0.20	<0.10	<0.20	<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
A101024.0124.00 (871-886)	**HA214_0.4-0.5**	**03 Dec 2024**	**0.4 - 0.5**	<0.20	<0.10	<0.20	<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

Statistics

Number of Results	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**	**39**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.2**	**<0.1**	**<0.2**	**<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**
Maximum Concentration	**<0.2**	**<0.1**	**<0.2**	**<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**
Average Concentration *	**0.2**	**0.1**	**0.2**	**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**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)

Table C: Soil Analytical Results - PFAS NEMP 2020

		Physical	Perfluoroalkane Sulfonic Acids					Perfluoroalkane Carboxylic Acids										
		Moisture Content	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)
		%	mg/kg	mg/kg	mg/kg	mg/kg	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			0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Ecological direct exposure							1					10						
PFAS NEMP 2020 Ecological indirect exposure							0.01											
PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)					0.01		0.01					0.1						
Field ID	**Date**	**Matrix**	**Sample Type**																
BH01_0.4-0.5	**22 Apr 2024**	**Soil**	**Normal**	16.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH04_0.0-0.1	**22 Apr 2024**	**Soil**	**Normal**	16.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH06_0.5-0.6	**22 Apr 2024**	**Soil**	**Normal**	15.2	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
HA01_0.0-0.1	**22 Apr 2024**	**Soil**	**Normal**	16.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
HA04_0.0-0.1	**22 Apr 2024**	**Soil**	**Normal**	18.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Statistics																			
Number of Results		**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects		**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**15.2**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
Maximum Concentration		**18.3**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
Average Concentration *		**17**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**
Standard Deviation *		**1.1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *		**17.66**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure
HEPA, January 2020, PFAS NEMP 2020 Ecological indirect exposure
HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

Table D: Groundwater Analytical Results - Health and Ecological Criteria

				Inorganics									Metals								
				Sulfate as SO4 - Turbidimetric (filtered)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Anions Total	Cations Total	Chloride	Sodium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Calcium (filtered)
				mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				1	1	1	1	1	0.01	0.01	1	1	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	1
ADWG 2022 Aesthetic											**250**	**180**				**1**				**3**	
ADWG 2022 Health													**0.01**	**0.002**	**0.05[2]**	**2**	**0.01**	**0.001**	**0.02**		
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)													**13[1]**	**0.0002**	**1.0[2]**	**0.0014**	**0.0034**	**0.0006**	**0.011**	**0.008**	
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay >=2m, <4m																					
Field ID	**Date**	**Sample Matrix**	**Sample Type**																		
BR01	**03 May 2024**	**Water**	**Field Duplicate**	**9**	**18**	<1	<1	**18**	**1.62**	**2.17**	**38**	**28**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	**0.016**	**12**
GW01	**03 May 2024**	**Water**	**Normal**	**8**	**18**	<1	<1	**18**	**1.91**	**2.05**	**49**	**32**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	**0.001**	**0.042**	**6**
GW02	**03 May 2024**	**Water**	**Normal**	**11**	**18**	<1	<1	**18**	**1.72**	**2.22**	**40**	**29**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	**0.001**	**0.018**	**12**
GW03	**03 May 2024**	**Water**	**Normal**	**8**	**34**	<1	<1	**34**	**1.80**	**1.74**	**34**	**24**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	**0.018**	**9**
Statistics																					
Number of Results				**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects				**4**	**4**	**0**	**0**	**4**	**4**	**4**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**4**
Maximum Concentration				**11**	**34**	**<1**	**<1**	**34**	**1.91**	**2.22**	**49**	**32**	**<0.001**	**<0.0001**	**<0.001**	**<0.001**	**<0.001**	**<0.0001**	**0.001**	**0.042**	**12**
Average Concentration *				**9**	**22**	**1**	**1**	**22**	**1.8**	**2**	**40**	**28**	**0.001**	**0.0001**	**0.001**	**0.001**	**0.001**	**0.0001**	**0.001**	**0.024**	**9.8**
Median Concentration *				**8.5**	**18**	**1**	**1**	**18**	**1.76**	**2.11**	**39**	**28.5**	**0.001**	**0.0001**	**0.001**	**0.001**	**0.001**	**0.0001**	**0.001**	**0.018**	**10.5**
Standard Deviation *				**1.4**	**8**	**0**	**0**	**8**	**0.12**	**0.22**	**6.3**	**3.3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.012**	**2.9**
95% UCL (Student's-t) *				**10.66**	**31.41**	**1**	**1**	**31.41**	**1.907**	**2.299**	**47.72**	**32.14**	**0.001**	**0.0001**	**0.001**	**0.001**	**0.001**	**0.0001**	**0.001**	**0.0381**	**13.13**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this toxicant, a 99% species protectin level DGV was used.

As a conservative measure, the default guidelines for the below were adopted:
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table D: Groundwater Analytical Results - Health and Ecological Criteria

				BTEX							MAH											
		Magnesium (filtered)	Potassium (filtered)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Naphthalene	Naphthalene (VOC)	Acenaphthylene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		1	1	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.005	0.001
ADWG 2022 Aesthetic					**0.025**	**0.003**			**0.02**									**0.004**				
ADWG 2022 Health				**0.001**	**0.8**	**0.3**			**0.6**									**0.03**				
ANZG Freshwater Toxicant DGVs LOSP 95% (July 20				**0.95**	**0.18**	**0.08**	**75[3]**	**0.35**					**0.03**							**0.016**	**0.016**	
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapo				**5**																		
Field ID	**Date**																					
BR01	**03 May 2024**	**4**	**1**	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0010	<0.005	<0.0010
GW01	**03 May 2024**	**4**	**1**	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0010	<0.005	<0.0010
GW02	**03 May 2024**	**4**	**1**	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0010	<0.005	<0.0010
GW03	**03 May 2024**	**3**	<1	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0010	<0.005	<0.0010
Statistics																						
Number of Results		**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects		**4**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Maximum Concentration		**4**	**1**	**<0.001**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.001**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.001**	**<0.005**	**<0.001**
Average Concentration *		**3.8**	**1**	**0.001**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.001**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.001**	**0.005**	**0.001**
Median Concentration *		**4**	**1**	**0.001**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.001**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.001**	**0.005**	**0.001**
Standard Deviation *		**0.5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *		**4.338**	**1**	**0.001**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.001**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.001**	**0.005**	**0.001**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LO
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this

As a conservative measure, the default guidelines fo
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table D: Groundwater Analytical Results - Health and Ecological Criteria

		PAH														Halogenated Benzenes					
		Acenaphthene	Fluorene	Anthracene	Phenanthrene	Pyrene	Fluoranthene	Chrysene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-c,d)pyrene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	PAHs (Sum of total)	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0005	0.001	0.001	0.001	0.001	0.001	0.0005	0.005	0.005	0.005	0.005	0.005	0.005
ADWG 2022 Aesthetic																			**0.001**	**0.02**	**0.0003**	
ADWG 2022 Health										**0.00001**									**1.5**		**0.04**	
ANZG Freshwater Toxicant DGVs LOSP 95% (July 20				**0.00001***	**0.00006***		**0.001***			**0.00001***							**0.01**	**0.008***	**0.16**	**0.26**	**0.06**	
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapo																						
Field ID	**Date**																					
BR01	**03 May 2024**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
GW01	**03 May 2024**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
GW02	**03 May 2024**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
GW03	**03 May 2024**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Statistics																						
Number of Results		**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Maximum Concentration		**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.0005**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.0005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
Average Concentration *		**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.0005**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.0005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**
Median Concentration *		**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.0005**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.0005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**
Standard Deviation *		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *		**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.0005**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.0005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LO
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this

As a conservative measure, the default guidelines fo
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table D: Groundwater Analytical Results - Health and Ecological Criteria

						Halogenated Hydrocarbons																	
		4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	Vinyl chloride	cis-1,2-dichloroethene	1,1-dichloroethene	trans-1,2-dichloroethene	1,2-dichloroethane	Chloroform	Trichloroethene	1,1,1-trichloroethane	1,1,2-trichloroethane	Carbon tetrachloride	Tetrachloroethene	1,1,2,2-tetrachloroethane
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.005	0.005	0.005	0.0005	0.005	0.05	0.05	0.005	0.05	0.05	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
ADWG 2022 Aesthetic				**0.01**																		
ADWG 2022 Health				**0.3**		**0.001**	**0.001**				**0.0003**		**0.03**		**0.003**					**0.003**	**0.05**	
ANZG Freshwater Toxicant DGVs LOSP 95% (July 20				**0.055**	**0.00005***						**0.1**		**0.7**		**1.9**	**0.77**	**0.33**	**0.27**	**6.5**	**0.24**	**0.07**	**0.4**
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapo																						
Field ID	**Date**																					
BR01	**03 May 2024**	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.05	<0.05	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
GW01	**03 May 2024**	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.05	<0.05	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
GW02	**03 May 2024**	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.05	<0.05	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
GW03	**03 May 2024**	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.05	<0.05	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Statistics																						
Number of Results		**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Maximum Concentration		**<0.005**	**<0.005**	**<0.005**	**<0.0005**	**<0.005**	**<0.05**	**<0.05**	**<0.005**	**<0.05**	**<0.05**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
Average Concentration *		**0.005**	**0.005**	**0.005**	**0.0005**	**0.005**	**0.05**	**0.05**	**0.005**	**0.05**	**0.05**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**
Median Concentration *		**0.005**	**0.005**	**0.005**	**0.0005**	**0.005**	**0.05**	**0.05**	**0.005**	**0.05**	**0.05**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**
Standard Deviation *		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *		**0.005**	**0.005**	**0.005**	**0.0005**	**0.005**	**0.05**	**0.05**	**0.005**	**0.05**	**0.05**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LO
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this

As a conservative measure, the default guidelines fo
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table D: Groundwater Analytical Results - Health and Ecological Criteria

		Chlorinated Hydrocarbons																	TPH			
		Hexachlorobutadiene	1,1,1,2-tetrachloroethane	1,1-dichloroethane	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroethane	Chloromethane	cis-1,3-dichloropropene	Dibromomethane	trans-1,3-dichloropropene	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.05	0.05	0.005	0.005	0.005	0.02	0.05	0.1	0.05
ADWG 2022 Aesthetic																						
ADWG 2022 Health		0.0007																				
ANZG Freshwater Toxicant DGVs LOSP 95% (July 20								0.9	1.1													
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapo																						
Field ID	**Date**																					
BR01	03 May 2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.02	<0.05	<0.1	<0.05
GW01	03 May 2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.02	<0.05	<0.1	<0.05
GW02	03 May 2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.02	<0.05	<0.1	<0.05
GW03	03 May 2024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.02	<0.05	<0.1	<0.05
Statistics																						
Number of Results		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Concentration		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.02	<0.05	<0.1	<0.05
Average Concentration *		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.05	0.05	0.005	0.005	0.005	0.02	0.05	0.1	0.05
Median Concentration *		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.05	0.05	0.005	0.005	0.005	0.02	0.05	0.1	0.05
Standard Deviation *		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.05	0.05	0.005	0.005	0.005	0.02	0.05	0.1	0.05

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LO
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this

As a conservative measure, the default guidelines fo
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table D: Groundwater Analytical Results - Health and Ecological Criteria

			TRH							Organophosphorous Pesticides												
		C10-C36 Fraction (Sum)	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)	>C10-C40 Fraction (Sum)	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.05	0.02	0.02	0.1	0.1	0.1	0.1	0.1	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
ADWG 2022 Aesthetic																						
ADWG 2022 Health										**0.03**	**0.01**	**0.0005**	**0.002**	**0.01**		**0.004**	**0.005**	**0.007**	**0.004**	**0.0005**	**0.007**	**0.07**
ANZG Freshwater Toxicant DGVs LOSP 95% (July 20										**0.00002**				**0.00001**		**0.00001**		**0.00015**				**0.00005**
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapo																						
Field ID	**Date**																					
BR01	**03 May 2024**	<0.05	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
GW01	**03 May 2024**	<0.05	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
GW02	**03 May 2024**	<0.05	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
GW03	**03 May 2024**	<0.05	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Statistics																						
Number of Results		**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Maximum Concentration		**<0.05**	**<0.02**	**<0.02**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**
Average Concentration *		**0.05**	**0.02**	**0.02**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**
Median Concentration *		**0.05**	**0.02**	**0.02**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**
Standard Deviation *		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *		**0.05**	**0.02**	**0.02**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LO
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this

As a conservative measure, the default guidelines fo
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table D: Groundwater Analytical Results - Health and Ecological Criteria

						Organochlorine Pesticides																
		Methyl parathion	Monocrotophos	Parathion	Prothiofos	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.002	0.002	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
ADWG 2022 Aesthetic																						
ADWG 2022 Health		**0.0007**	**0.002**	**0.02**					**0.0003**		**0.002**					**0.009**						
ANZG Freshwater Toxicant DGVs LOSP 95% (July 20				**0.000004**							**0.00008**					**0.00001**						**0.00002**
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapo																						
Field ID	**Date**																					
BR01	**03 May 2024**	<0.0020	<0.0020	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
GW01	**03 May 2024**	<0.0020	<0.0020	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
GW02	**03 May 2024**	<0.0020	<0.0020	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
GW03	**03 May 2024**	<0.0020	<0.0020	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Statistics																						
Number of Results		**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Maximum Concentration		**<0.002**	**<0.002**	**<0.002**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.002**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**
Average Concentration *		**0.002**	**0.002**	**0.002**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.002**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**
Median Concentration *		**0.002**	**0.002**	**0.002**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.002**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**
Standard Deviation *		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *		**0.002**	**0.002**	**0.002**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.002**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LO
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this

As a conservative measure, the default guidelines fo
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table D: Groundwater Analytical Results - Health and Ecological Criteria

								VOCs			Solvents				
		Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Vinyl acetate
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.0005	0.0005	0.0005	0.0005	0.0005	0.002	0.005	0.005	0.005	0.05	0.05	0.05	0.005	0.05
ADWG 2022 Aesthetic															
ADWG 2022 Health				**0.01**	**0.0003**										
ANZG Freshwater Toxicant DGVs LOSP 95% (July 20				**0.0002**	**0.00009**					**0.08**					
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapo															
Field ID	**Date**														
BR01	**03 May 2024**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005	<0.05
GW01	**03 May 2024**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005	<0.05
GW02	**03 May 2024**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005	<0.05
GW03	**03 May 2024**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0020	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005	<0.05
Statistics															
Number of Results		**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Maximum Concentration		**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.002**	**<0.005**	**<0.005**	**<0.005**	**<0.05**	**<0.05**	**<0.05**	**<0.005**	**<0.05**
Average Concentration *		**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.002**	**0.005**	**0.005**	**0.005**	**0.05**	**0.05**	**0.05**	**0.005**	**0.05**
Median Concentration *		**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.002**	**0.005**	**0.005**	**0.005**	**0.05**	**0.05**	**0.05**	**0.005**	**0.05**
Standard Deviation *		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *		**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.0005**	**0.002**	**0.005**	**0.005**	**0.005**	**0.05**	**0.05**	**0.05**	**0.005**	**0.05**

* A Non Detect Multiplier of 1 has been applied.

Environmental Standards
NHMRC, September 2022, ADWG 2022 Aesthetic
NHMRC, May 2022, ADWG 2022 Health
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LO
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for

Notes:
NL: Not Limiting
* To account for the bioaccumulating nature of this

As a conservative measure, the default guidelines fo
1. Arsenic (V)
2. Chromium (IV)
3. m-Xylene

Table E - Groundwater Analytical Results - PFAS NEMP 2020

	Perfluoroalkane Sulfonic Acids			(n:2) Fluorotelomer Sulfonic Acids				Perfluoroalkane Carboxylic Acids					PFAS	
	Perfluorobutane sulfonic acid (PFBS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL	0.00002	0.00001	0.00001	0.00005	0.00005	0.00005	0.00005	0.0001	0.00002	0.00002	0.00002	0.00001	0.00001	0.00001
PFAS NEMP 2020 Drinking Water		**0.00007**	**0.00007**									**0.00056**	**0.00007**	
PFAS NEMP 2020 Recreational Water		**0.002**	**0.002**									**0.01**	**0.002**	
PFAS NEMP 2020 Freshwater 95%			**0.00013**									**0.22**		
Field ID	**Date**	**Sample Matrix**	**Sample Type**											
BR01	**3 May 2024**	**Water**	**Field Duplicate**	<0.00002	<0.00001	**0.00001**	<0.00005	0.00011	<0.00005	<0.00005	<0.0001	<0.00002	<0.00002	<0.00002	<0.00001	0.00001	0.00012
GW01	**3 May 2024**	**Water**	**Normal**	<0.00002	0.00002	**0.00001**	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00002	<0.00002	<0.00002	<0.00001	0.00003	0.00003
GW02	**3 May 2024**	**Water**	**Normal**	<0.00002	<0.00001	<0.00001	<0.00005	0.00008	<0.00005	<0.00005	<0.0001	<0.00002	<0.00002	<0.00002	<0.00001	<0.00001	0.00008
GW03	**3 May 2024**	**Water**	**Normal**	<0.00002	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00002	<0.00002	<0.00002	<0.00001	<0.00001	<0.00001
Statistics														
Number of Results	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Number of Detects	**0**	**1**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**
Minimum Concentration	**<0.00002**	**<0.00001**	**0.00001**	**<0.00005**	**<0.00005**	**<0.00005**	**<0.00005**	**<0.0001**	**<0.00002**	**<0.00002**	**<0.00002**	**<0.00001**	**0.00001**	**<0.00001**
Maximum Concentration	**<0.00002**	**0.00002**	**0.00001**	**<0.00005**	**0.00011**	**<0.00005**	**<0.00005**	**<0.0001**	**<0.00002**	**<0.00002**	**<0.00002**	**<0.00001**	**0.00003**	**0.00012**
Average Concentration *	**0.00002**	**0.000012**	**0.00001**	**0.00005**	**0.000073**	**0.00005**	**0.00005**	**0.0001**	**0.00002**	**0.00002**	**0.00002**	**0.00001**	**0.000015**	**0.00006**

* A Non Detect Multiplier of 1 has been applied.

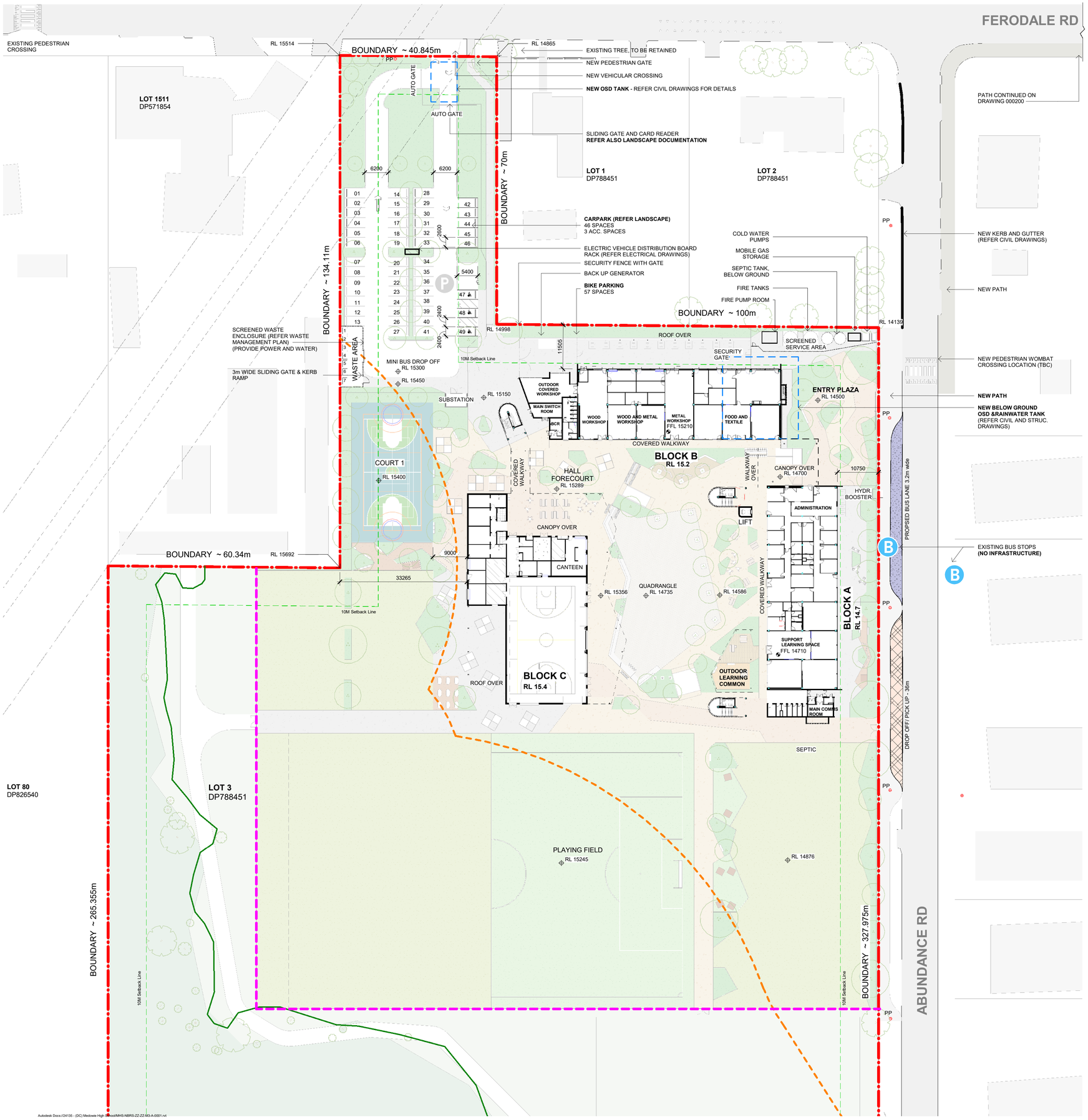
Environmental Standards

HEPA, January 2020, PFAS NEMP 2020 Drinking Water

HEPA, January 2020, PFAS NEMP 2020 Recreational Water

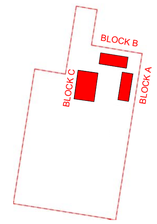
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

Appendix A: Masterplan of Proposed High School



LEGEND

- BIODIVERSITY VALUE MAP
- FLOOD ZONE BOUNDARY
- 10m SETBACK LINE
- APZ ZONE EXTENT
- INDICATIVE SCHOOL/ FENCING BOUNDARY
- INGROUND OSD TANK
- HV POWER LINES & ASSOCIATED EASEMENT
- PICK UP AND DROP OFF
- BUS ZONE
- B EXISTING BUS BAY
- P CAR PARK
- PP EXISTING POWER POLE



KEY PLAN

SUMMARY OF AREAS

Function	Area	SLU Total	Special Teaching Space Total	Workshop /Labs Totals	Teaching Space Totals
	11 m²	0	0	0	0
AMENITIES	130 m²	0	0	0	0
HS 101 GENERAL LEARNING SPACES	1228 m²	0	0	0	14
HS 101.03 LEARNING COMMONS	345 m²	0	0	0	0
HS 102 GENERAL LEARNING SPACES (SUPPORT)	517 m²	3	0	0	0
HS 201 ADMINISTRATION HUB	369 m²	0	0	0	0
HS 202 STAFF HUB	413 m²	0	0	0	0
HS 203 GYMNASIUM + CANTEEN	977 m²	0	0	0	0
HS 204 LIBRARY HUB	528 m²	0	1	0	0
HS 301 SCIENCE LEARNING HUB	332 m²	0	2	1	0
HS 302 VISUAL ARTS LEARNING HUB	326 m²	0	2	1	0
HS 303 WOOD + METAL TECHNOLOGY LEARNING HUB	608 m²	0	2	2	0
HS 304 FOOD + TEXTILES LEARNING HUB	392 m²	0	2	1	0
HS 305 HEALTH/PE LEARNING HUB	315 m²	0	2	1	0
HS 306 PERFORMING ARTS LEARNING HUB	263 m²	0	2	1	0
HS 401 STUDENT AMENITIES	119 m²	0	0	0	0
HS 402 OTHER STORAGE	46 m²	0	0	0	0
HS 501 OUTDOOR AREAS	191 m²	0	0	0	0
HS CIRCULATION	1167 m²	0	0	0	0
HS SERVICES	468 m²	0	0	0	0
SERVICES	13 m²	0	0	0	0
VER	7 m²	0	0	0	0
Grand total: 218	8766 m²	3	13	7	14

REF

Issue

No.	Date	Description	Chkd
1	2024/11/29	ISSUE FOR DRAFT REF	
2	2025/01/15	DRAFT REF (FINAL ISSUE)	

Changes to this Revision

NBRS
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Project
24135 - MEDOWIE HIGH SCHOOL

at
6 Abundance Rd, Medowie NSW 2318

NSW GOVERNMENT Education

Drawing Title
SITE PLAN

Date 15/01/2025 11:44:44 AM
Scale 1:500 @ A1
NBRS Project # 24135
Drawing Reference MHS-NBRS-ZZ-ZZ-DR-A-000201
Revision 2

0 5m 10m 15m 20m 25m 30m 35m 40m 1:500

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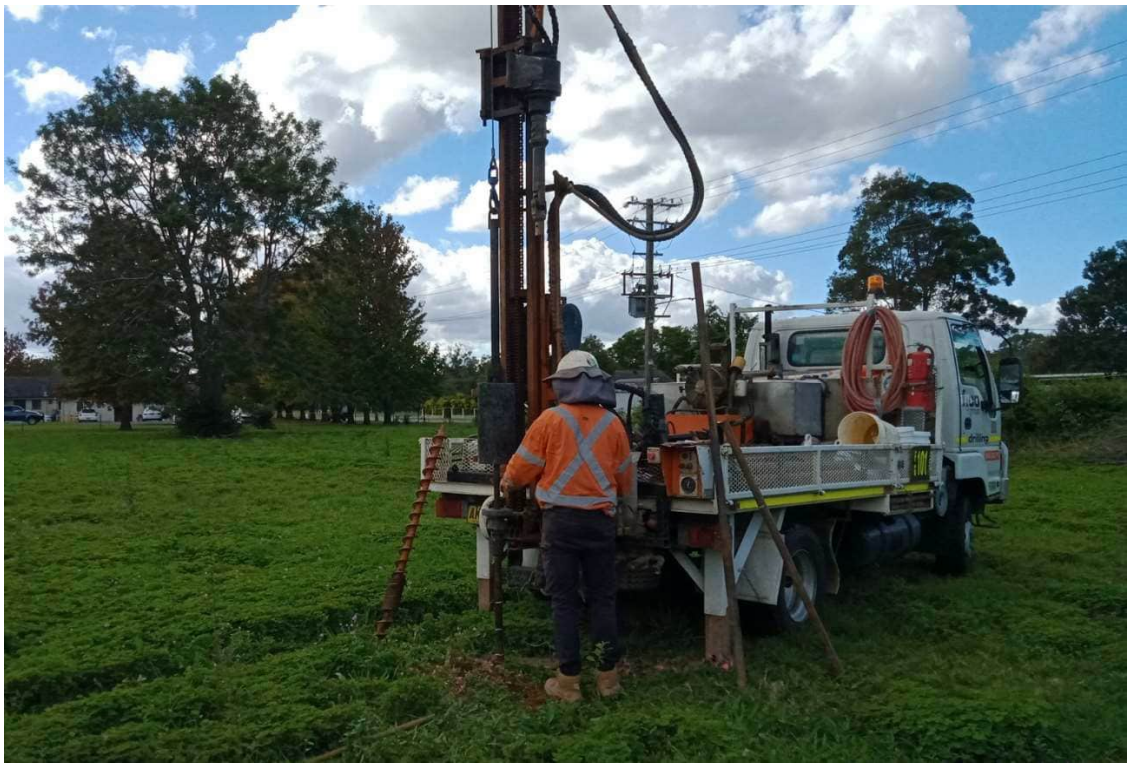
Appendix B: Photographs

Photograph 1: Facing north towards location BH01/GW01 with Ferodale Road beyond. Pearl Energy Petrol Station visible to the left in the photograph (22 April 2024).

Photograph 2: Facing south from location BH01/ GW01. Self-storage sheds seen to the right in the photograph (22 April 2024).

Photograph 3: Hand auger location HA03 showing dark brown clay topsoil, representative of near surface material across the investigation area (22 April 2024).



Photograph 4: Location BH06, facing northeast. Abundance Road visible in backround (22 April 2024).

Photograph 5: Location BH06. Natural red, silty clay at 1.5 m BGL, representative of natural sub-soil clay across the investigation area (22 April 2024).

Photograph 6: Location BH02/GW02, facing northeast. Self-storage sheds and containers visible in background (23 April 2024).

Photograph 7: Location BH062/ GW02. Dark red ironstone gravels noted within natural clay from approximately 3.0 m BGL (23 April 2024).

Photograph 8: Location BH03/GW03, facing northwest with Pearl Energy Petrol Station visible in the background (23 April 2024).

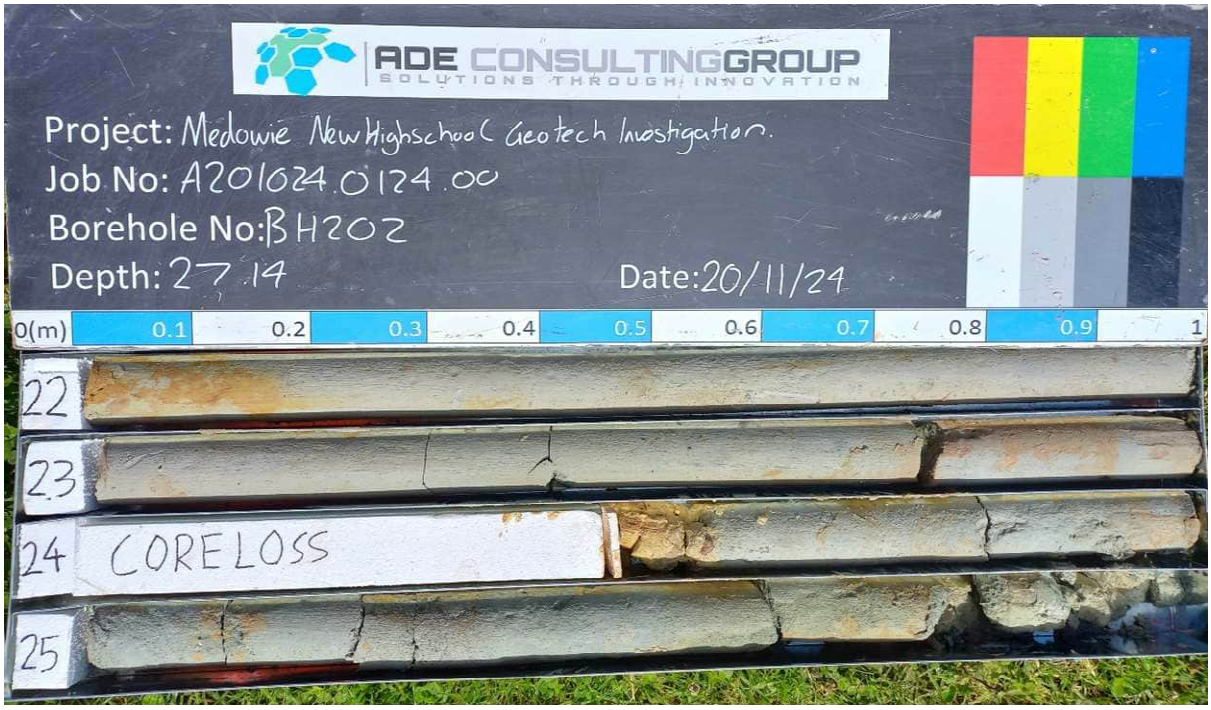
Photograph 9: Location BH03/GW03. Mottled red, brown and light grey clay at approximately 4.5 mBGL (23 April 2024).

Photograph 10: Location BH03/GW03. Saturated clay material encountered from 7.0 mBGL (23 April 2024).

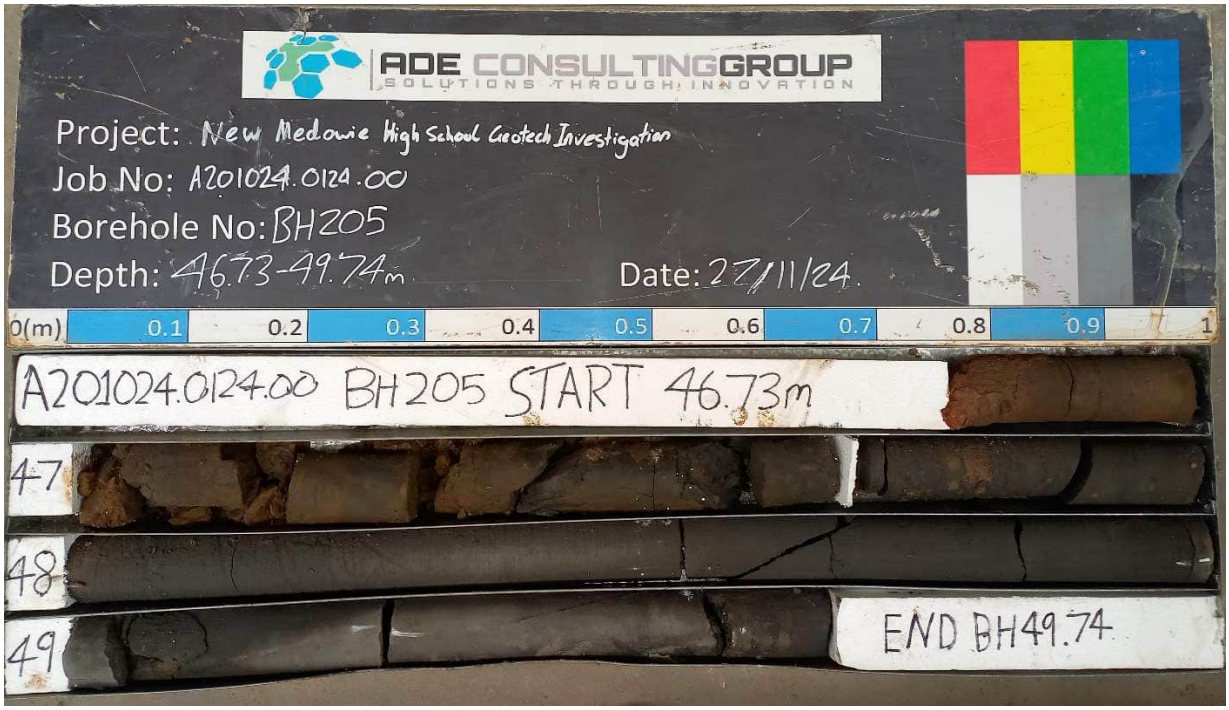
Photograph 11: Groundwater well GW02 post installation (23 April 2024).

Photograph 12: Groundwater monitoring at GW01 post (03 May 2024).

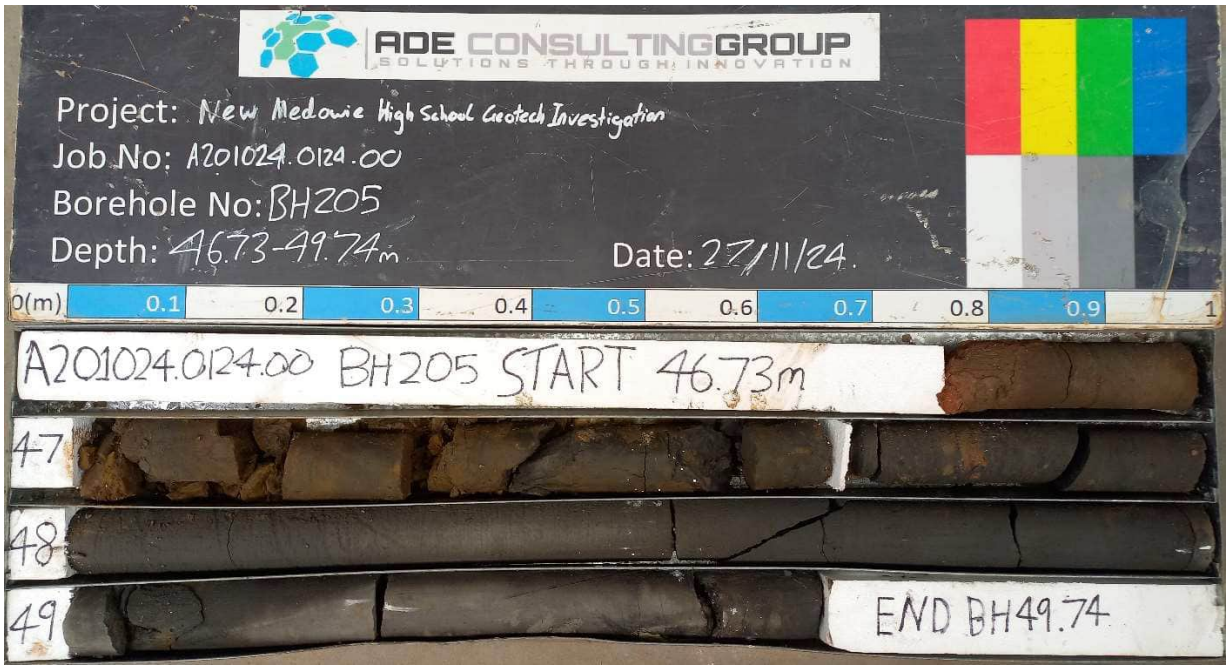
Photograph 13: Borehole Investigation – Borehole BH202 (20 November 2024).



Photograph 14: Borehole Investigation – Borehole BH202 (20 November 2024).



Photograph 15: Borehole Investigation –Rock coring at location BH205 (27 November 2024).



Photograph 16: Borehole Investigation –Rock coring at location BH205 (27 November 2024).

Photograph 17: Boreholes advanced by handauger – location HA202 (3 December 2024).

Photograph 18: Boreholes advanced by handauger – location HA204 (3 December 2024).

Photograph 19: Boreholes advanced by handauger – location HA205 (3 December 2024).

Photograph 20: Boreholes advanced by handauger – location HA212 (3 December 2024).

Appendix C: Borehole Logs

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

BORE HOLE NUMBER HA01

CLIENT School Infrastructure NSW
PROJECT NAME Detailed Site Investigation
PROJECT NUMBER A101024.0124
PROJECT LOCATION 6 Abundance Road, Medowie, NSW

DATE STARTED 22/4/24 **COMPLETED** 22/4/24 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR ADE **SLOPE** -90° **BEARING** ---
EQUIPMENT Hand auger **COORDINATES**
HOLE DIAMETER **LOGGED BY** MR **CHECKED BY** KA
NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA					CH	**TOPSOIL** Silty CLAY, high plasticity, brown, with organic matter (grass root fibres).	M	F	0.2	HA01_0.0-0.1	
			0.5		CH	**RESIDUAL** Silty CLAY, high plasticity, red-brown.	M	St	0.4	HA01_0.4-0.5	
			1.0			HA01 terminated at 0.5m					

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

BORE HOLE NUMBER HA02

CLIENT School Infrastructure NSW
PROJECT NAME Detailed Site Investigation
PROJECT NUMBER A101024.0124
PROJECT LOCATION 6 Abundance Road, Medowie, NSW

DATE STARTED 22/4/24 **COMPLETED** 22/4/24 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR ADE **SLOPE** -90° **BEARING** ---
EQUIPMENT Hand auger **COORDINATES**
HOLE DIAMETER **LOGGED BY** MR **CHECKED BY** KA
NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA					CH	**TOPSOIL** Silty CLAY, high plasticity, brown, with organic matter (grass root fibres).	M	F	0.2	HA02_0.0-0.1	
			0.5		CH	**RESIDUAL** Silty CLAY, high plasticity, red-brown.	M	St	0.4	HA02_0.3-0.4	
			1.0			HA02 terminated at 0.5m					

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

BORE HOLE NUMBER HA03

CLIENT School Infrastructure NSW
PROJECT NAME Detailed Site Investigation
PROJECT NUMBER A101024.0124
PROJECT LOCATION 6 Abundance Road, Medowie, NSW

DATE STARTED 22/4/24 **COMPLETED** 22/4/24 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR ADE **SLOPE** -90° **BEARING** ---
EQUIPMENT Hand auger **COORDINATES**
HOLE DIAMETER **LOGGED BY** MR **CHECKED BY** KA
NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA					CH	**TOPSOIL** Silty CLAY, high plasticity, brown, with organic matter (grass root fibres).	M	F	0.2	HA03_0.0-0.1	
					CH	**RESIDUAL** Silty CLAY, high plasticity, red-brown.	M	St	0.3	HA03_0.3-0.4	
			0.5			HA03 terminated at 0.5m					
			1.0								

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

BORE HOLE NUMBER HA04

CLIENT School Infrastructure NSW
PROJECT NAME Detailed Site Investigation
PROJECT NUMBER A101024.0124
PROJECT LOCATION 6 Abundance Road, Medowie, NSW

DATE STARTED 23/4/24 **COMPLETED** 23/4/24 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR ADE **SLOPE** -90° **BEARING** ---
EQUIPMENT Hand auger **COORDINATES**
HOLE DIAMETER **LOGGED BY** MR **CHECKED BY** KA
NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA					CH	**TOPSOIL** Silty CLAY, high plasticity, brown, with organic matter (grass root fibres).	M	F	0.6	HA04_0.0-0.1	
					CH	**RESIDUAL** Silty CLAY, high plasticity, red-brown.	M		0.3	HA04_0.4-0.5	
			0.5								
						HA04 terminated at 0.5m					
			1.0								

ADE_BOREHOLE 24.0124_HA.GPJ GINT STD AUSTRALIA.GDT 31/5/24

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SILVERWATER NSW 2128
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BORE HOLE NUMBER HA05

CLIENT School Infrastructure NSW
PROJECT NAME Detailed Site Investigation
PROJECT NUMBER A101024.0124
PROJECT LOCATION 6 Abundance Road, Medowie, NSW

DATE STARTED 23/4/24 **COMPLETED** 23/4/24 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR ADE **SLOPE** -90° **BEARING** ---
EQUIPMENT Hand auger **COORDINATES**
HOLE DIAMETER **LOGGED BY** MR **CHECKED BY** KA
NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA					CH	**TOPSOIL** Silty CLAY, high plasticity, brown, with organic matter (grass root fibres).	M	St	0.4	HA05_0.0-0.1	
			0.5		CH	**RESIDUAL** Silty CLAY, high plasticity, red-brown.	M	St	0.4	HA05_0.4-0.5	
			1.0			HA05 terminated at 0.5m					

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

BORE HOLE NUMBER HA06

CLIENT School Infrastructure NSW **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Road, Medowie, NSW

DATE STARTED 23/4/24 **COMPLETED** 23/4/24 **R.L. SURFACE** **DATUM**

DRILLING CONTRACTOR ADE **SLOPE** -90° **BEARING** ---

EQUIPMENT Hand auger **COORDINATES**

HOLE DIAMETER **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA					CH	**TOPSOIL** Silty CLAY, high plasticity, brown, with organic matter (grass root fibres).	M	F	0.3	HA06_0.0-0.1	
			0.5		CH	**RESIDUAL** Silty CLAY, high plasticity, red-brown.	M	St	0.4	HA06_0.4-0.5	
			1.0			HA06 terminated at 0.5m					

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH01/GW01

FILE / JOB NO : A201024.0124
SHEET : 1 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392712.5, N: 6376950.1 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : AS CHECKED BY : JK

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T			Not encountered	ES 0.10m	0.0			**TOPSOIL / Silty CLAY**: red-brown, high plasticity, with rootlets.	M	St	TOPSOIL BH01_0.0-0.1 (PID: 0.2)
								0.20m			
				0.40m ES 0.50m				**Silty CLAY**: red-brown, high plasticity.			RESIDUAL SOIL
				SPT 3,4,4 N=8	0.5						BH01_0.4-0.5 (PID: 0.3)
				0.95m 1.00m							
		E		1.10m	1.0						BH01_ 1.0-1.1 (PID: 0.2)
				SPT 4,4,6 N=10	1.5		CH			St	
				1.95m	2.0				M		
					2.5						
								2.80m			
								Silty CLAY: red-brown mottled pale brown, high plasticity with ironstone gravel.			
				SPT 12,14,18 N=32	3.0						
				3.45m							
		F			3.5		CH			VSt	
					4.0						
								4.50m			
				SPT 12,15,14/70mm HB N=R	4.5			**Silty CLAY**: red-brown mottled pale brown, medium to high plasticity with sub-angular to angular ironstone gravel.			
		H		4.88m			CI-CH			H	
					5.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:03 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH01/GW01

FILE / JOB NO : A201024.0124
SHEET : 2 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392712.5, N: 6376950.1 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : AS CHECKED BY : JK

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T		H			5.0		CI-CH	5.10m **Silty CLAY**: red-brown mottled pale grey, medium to high plasticity with sub-angular to angular ironstone gravel.			RESIDUAL SOIL
					5.5		CI-CH				
					6.0			6.00m **Silty CLAY**: pale grey and grey, low to medium plasticity with very-stiff clay bands.			
					6.5						
					7.0				M	H	
					7.5		CL-CI				
		F			8.0						
					8.5						
					9.0			9.00m Target depth achieved Hole Terminated at 9.00 m			
					9.5						
					10.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:03 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

ADE CONSULTING GROUP

HOLE NO : **BH02/GW02**
FILE / JOB NO : A201024.0124
SHEET : 1 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392669.4, N: 6376860.9 (MGA2020-56) | SURFACE ELEVATION : | ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 | MOUNTING : Truck | CONTRACTOR : Fico Group | DRILLER : Sean Currie

DATE STARTED : 23/4/2024 | DATE COMPLETED : 23/4/2024 | DATE LOGGED : 23/4/2024 | LOGGED BY : KA | CHECKED BY : JK

Depth (m)	Drilling & Casing	Water	Drilling Penetration	Ground Water Levels	Samples & Field Tests	Graphic Log / Group Symbol	Material Description	Moisture Condition	Consistency / Relative Density	Structure & Other Observations
0.0–0.20	AD/T		E	Not encountered	ES 0.0–0.10m		**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets.	M	F	TOPSOIL; BH02_ 0.0-0.1 (PID: 0.2)
0.20–1.5			E		SPT 0.50m–0.95m, 3,3,4, N=7; ES 0.50–0.60m; ES 1.00–1.10m	CH	**Silty CLAY**: red-brown, high plasticity.	M	St	RESIDUAL SOIL; BH02_ 0.5-0.6 (PID: 0.5); BH02_ 1.0-1.1 (PID: 0.3)
1.5–3.0			E		SPT 1.50m–1.95m, 4,6,8, N=14	CH	At 1.5m, as above but medium to high plasticity, with red-brown sub-angular to angular ironstone gravel.	M	VSt	PID: 0.3
3.0–5.0			F		SPT 3.00m–3.45m, 7,8,15, N=23	CH		M	VSt	PID: 0.4

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH02/GW02

FILE / JOB NO : A201024.0124
SHEET : 2 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392669.4, N: 6376860.9 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 23/4/2024 DATE COMPLETED : 23/4/2024 DATE LOGGED : 23/4/2024 LOGGED BY : KA CHECKED BY : JK

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					5.0		CH	**Silty CLAY**: red-brown, high plasticity. *(continued)*			RESIDUAL SOIL
								5.10m **Silty CLAY**: red-brown mottled pale grey, low to medium plasticity, with sub-angular ironstone gravel			
					5.5						
					6.0			At 6m, with pale grey stiff bands.			
AD/T		F			6.5						
					7.0		CL-CI		M	VSt	
					7.5						
					8.0						
					8.5						
					9.0			9.00m Target depth achieved Hole Terminated at 9.00 m			
					9.5						
					10.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:03 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

ADE CONSULTING GROUP

HOLE NO : BH03/GW03
FILE / JOB NO : A201024.0124
SHEET : 1 OF 2

CLIENT : SINSW | PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392752.0, N: 6376891.8 (MGA2020-56) | SURFACE ELEVATION : | ANGLE FROM HORIZONTAL : 90°
RIG TYPE : BA1 | MOUNTING : Truck | CONTRACTOR : Fico Group | DRILLER : Sean Currie
DATE STARTED : 23/4/2024 | DATE COMPLETED : 23/4/2024 | DATE LOGGED : 23/4/2024 | LOGGED BY : KA | CHECKED BY : JK

DRILLING & CASING	WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T		E		ES 0.10m	0.0			**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets. (to 0.20m)	M	F	TOPSOIL; BH03_ 0.0-0.1 (PID: 0.3)
				0.50m ES 0.60m; SPT 2,3,5 N=8	0.5		CH	**Silty CLAY**: red-brown, high plasticity. (0.20m to 3.00m)	M	St	RESIDUAL SOIL; BH03_ 0.5-0.6 (PID: 0.4)
				0.95m; 1.00m ES 1.10m	1.0						BH03_ 1.0-1.1 (PID: 0.3)
				SPT 5,6,10 N=16; 1.95m	1.5						PID: 0.4
		F-H		SPT 16,25,0/150mm HB N=R; 3.30m	3.0		CH	**Silty CLAY**: red-brown, high plasticity, with layers of sub-angular to angular ironstone gravels. (3.00m to 5.00m)			PID: 0.4
		F		SPT 15,15,13 N=28; 4.95m	4.5						PID: 0.5
					5.0			5.00m			

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH03/GW03

FILE / JOB NO : A201024.0124
SHEET : 2 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392752.0, N: 6376891.8 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 23/4/2024 DATE COMPLETED : 23/4/2024 DATE LOGGED : 23/4/2024 LOGGED BY : KA CHECKED BY : JK

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T		F	▶		5.0			**Silty CLAY**: red-brown mottled pale grey, low to medium plasticity.			RESIDUAL SOIL
					6.0		CL-CI		M	VSt	
					6.5						PID: 0.3
					7.0			7.00m **Silty CLAY**: red-brown, medium plasticity, with course sand.			PID: 0.3
					7.5						
					8.0		CL-CI		W	F	
					8.5						
					9.0			9.00m Target depth achieved Hole Terminated at 9.00 m			
					9.5						
					10.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH04

FILE / JOB NO : A201024.0124
SHEET : 1 OF 1

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392701.8, N: 6376881.9 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : KA CHECKED BY : JK

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T			Not encountered	ES-341 0.10m	0.0			**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets.	M	St	TOPSOIL BH04_ 0.0-0.1 (PID: 0.3)
				0.40m				0.20m **Silty CLAY**: red brown, high plasticity.			RESIDUAL SOIL
				ES-342 0.50m	0.5						BH04_ 0.4-0.5 (PID: 0.2)
				SPT 2,4,5 N=9							
				0.95m	1.0						(PID: 0.3)
		E		SPT 4,5,6 N=11	1.5		CH		M	St	
				1.95m	2.0						
					2.5						
					3.0			3.00m			
		F		SPT 8,11,16 N=27			CH	At 3m as above, but with subangular to angular ironstone gravels.		VSt	
				3.45m	3.5						
					4.0			4.00m Target Depth reached Hole Terminated at 4.00 m			
					4.5						
					5.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH05

FILE / JOB NO : A201024.0124
SHEET : 1 OF 1

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392817.8, N: 6376878.5 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : KA CHECKED BY : JK

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T		E	Not encountered	ES 0.10m	0.0			**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets.	M	St	TOPSOIL **BH05_ 0.0-0.1 (PID: 0.3)**
								0.20m			
		F		SPT 1,2,3 N=5	0.5		CH	**Silty CLAY**: red-brown, high plasticity.		St	RESIDUAL SOIL BH05_ 0.5-0.6 (PID: 0.4)
				0.95m 1.00m ES 1.10m	1.0						
				SPT 4,6,6 N=12	1.5			At 1.5 as above, with medium-high plasticity.			PID: 0.4
				1.95m 2.00m ES 2.10m	2.0				M		
				2.50m	2.5			2.50m			
		H		ES 2.60m				**Silty CLAY**: red-brown mottled pale grey, medium to high plasticity, with sub-angular to angular ironstone gravels.		H	
				SPT 8,19,29 N=48	3.0		CI-CH				3.00-3.10: ES
				3.45m	3.5						
					4.0			4.00m Target Depth reached Hole Terminated at 4.00 m			
					4.5						
					5.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH06

FILE / JOB NO : A201024.0124
SHEET : 1 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392813.7, N: 6376849.8 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : AS CHECKED BY : JK

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T		E	Not encountered	SPT 4,4,17 N=11 0.95m	0.0			**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets. 0.20m	M	St	TOPSOIL
					0.5		CH	**Silty CLAY**: red-brown, high plasticity.		St	RESIDUAL SOIL
					1.0						
				SPT 6,7,11 N=18 1.95m	1.5			1.50m			
					2.0		CH	At 1.5m as above, but with angular to sub-angular ironstone gravels.	M		
		F		SPT 6,11,15 N=26 3.45m	2.5			3.00m			
					3.0			**Silty CLAY**: red-brown, medium to low plasticity with ironstone gravels		VSt	
					3.5		CL-CI				
					4.0			4.50m			
				SPT 6,7,12 N=19 4.95m	4.5		CL-CI	**Silty CLAY**: red-brown mottled pale grey, low to medium plasticity, with sub-angular to angular ironstone gravels.			
					5.0			5.00m			

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH06

FILE / JOB NO : A201024.0124
SHEET : 2 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392813.7, N: 6376849.8 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : AS CHECKED BY : JK

DRILLING						MATERIAL					
PROGRESS		DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
DRILLING & CASING	WATER				5.0			Target Depth reached Hole Terminated at 5.00 m			
					5.5						
					6.0						
					6.5						
					7.0						
					7.5						
					8.0						
					8.5						
					9.0						
					9.5						
					10.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : **BH07**

FILE / JOB NO : A201024.0124

SHEET : 1 OF 2

CLIENT : SINSW

PROJECT : Medowie Public School

LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392807.0, N: 6376808.7 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : AS CHECKED BY : JK

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T		E	Not encountered		0.0			**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets. 0.20m	M	St	TOPSOIL
		E		SPT 2,3,5 N=8 0.95m	0.5 1.0		CH	**Silty CLAY**: red-brown, high plasticity. 1.50m		St	RESIDUAL SOIL
		F		SPT 5,7,10 N=17 1.95m	1.5 2.0		CI-CH	**Silty CLAY**: red-brown, medium to high plasticity. 3.00m	M		
		F		SPT 10,10,13 N=26 3.45m	3.0 3.5		CI-CH	**Silty CLAY**: red-brown, medium to high plasticity, with sub-angular to angular ironstone gravels		VSt	
				SPT 11,13,16 N=29 4.95m	4.5 5.0			5.00m			

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH07

FILE / JOB NO : A201024.0124
SHEET : 2 OF 2

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392807.0, N: 6376808.7 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 22/4/2024 DATE COMPLETED : 22/4/2024 DATE LOGGED : 22/4/2024 LOGGED BY : AS CHECKED BY : JK

DRILLING						MATERIAL					
PROGRESS		DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
DRILLING & CASING	WATER				5.0			Target Depth reached Hole Terminated at 5.00 m			
					5.5						
					6.0						
					6.5						
					7.0						
					7.5						
					8.0						
					8.5						
					9.0						
					9.5						
					10.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH08

FILE / JOB NO : A201024.0124
SHEET : 1 OF 1

CLIENT : SINSW
PROJECT : Medowie Public School
LOCATION : 6 Abundance Rd, Medowie NSW 2318

POSITION : E: 392800.4, N: 6376770.9 (MGA2020-56) SURFACE ELEVATION : ANGLE FROM HORIZONTAL : 90°

RIG TYPE : BA1 MOUNTING : Truck CONTRACTOR : Fico Group DRILLER : Sean Currie

DATE STARTED : 23/4/2024 DATE COMPLETED : 23/4/2024 DATE LOGGED : 24/4/2024 LOGGED BY : KA CHECKED BY : JK

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AD/T			Not encountered		0.0			**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets.	M	F	TOPSOIL
					0.20m						
				SPT 2,4,6 N=10	0.5		CH	**Silty CLAY**: brown-red, high plasticity.			RESIDUAL SOIL
				0.95m	1.0						
					1.5						
				SPT 2,6,9 N=15				**Silty CLAY**: brown-red, high plasticity, with sub-angular ironstone gravels	M	St	
				1.95m	2.0						
					2.5		CH				
				SPT 3,8,11 N=19	3.0						
				3.45m	3.5						
					4.0						
								4.00m Target Depth reached Hole Terminated at 4.00 m			
					4.5						
					5.0						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:04 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

Borehole No.

BH01/GW01

Page 1 of 1

Engineering Log - Borehole

Project No.: A201024.0124

Client:	SINSW	Commenced:	22/4/2024
Project Name:	Medowie Public School	Completed:	22/4/2024
Hole Location:	6 Abundance Rd, Medowie NSW 2318	Logged By:	AS
Hole Position:	392712.5 m E 6376950.1 m N MGA2020-56	Checked By:	JK

Drill Model and Mounting: BA1 Inclination: -90° RL Surface: No survey Permit Number :

Hole Diameter: Bearing: Datum: AHD Operator: Sean Currie

Drilling Information					Soil Description			Piezometer Construction Details
Method	Support	Water	RL (m)	Depth (m)	Graphic Log	Group Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	ID 0 Type Standpipe Piezometer Stick Up & RL Tip Depth & RL 9.00 m Installation Date 22/4/2024 Static Water Level
AD/T		Not encountered		2		CH	**TOPSOIL / Silty CLAY**: red-brown, high plasticity, with rootlets.	Concrete
						CH	**Silty CLAY**: red-brown, high plasticity.	Sand
				4		CH	**Silty CLAY**: red-brown mottled pale brown, high plasticity with ironstone gravel.	Bentonite
						CI-CH	**Silty CLAY**: red-brown mottled pale brown, medium to high plasticity with sub-angular to angular ironstone gravel.	2.95 m
						CI-CH	**Silty CLAY**: red-brown mottled pale grey, medium to high plasticity with sub-angular to angular ironstone gravel.	Sand
				6		CL-CI	**Silty CLAY**: pale grey and grey, low to medium plasticity with very-stiff clay bands.	
				8				8.95 m
							Target depth achieved Hole Terminated at 9.00 m	

Method

AS - Auger Screwing
ADV Auger V Bit
ADT Auger Tungsten Carbide Bit
RR - Rock Roller
WB- Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

ADE 2.00.0 LIB.GLB Log IS AU PIEZOMETER INSTALLATION 1 MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:06 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

Borehole No.

BH02/GW02

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Engineering Log - Borehole

Project No.: A201024.0124

Client:	SINSW	Commenced:	23/4/2024
Project Name:	Medowie Public School	Completed:	23/4/2024
Hole Location:	6 Abundance Rd, Medowie NSW 2318	Logged By:	KA
Hole Position:	392669.4 m E 6376860.9 m N MGA2020-56	Checked By:	JK

Drill Model and Mounting: BA1 Inclination: -90° RL Surface: No survey Permit Number :

Hole Diameter: Bearing: Datum: AHD Operator: Sean Currie

Drilling Information					Soil Description			Piezometer Construction Details
Method	Support	Water	RL (m)	Depth (m)	Graphic Log	Group Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	ID 0 / Type Standpipe Piezometer / Stick Up & RL -0.82 m / Tip Depth & RL 9.00 m / Installation Date 22/4/2024 / Static Water Level
AD/T		Not encountered		0		CH	**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets.	Concrete
							Silty CLAY: red-brown, high plasticity.	Sand
				2			At 1.5m, as above but medium to high plasticity, with red-brown sub-angular to angular ironstone gravel.	Bentonite
				4				2.95 m
						CL-CI	**Silty CLAY**: red-brown mottled pale grey, low to medium plasticity, with sub-angular ironstone gravel	Sand
				6			At 6m, with pale grey stiff bands.	
				8				8.95 m
							Target depth achieved Hole Terminated at 9.00 m	

Method
AS - Auger Screwing
ADV Auger V Bit
ADT Auger Tungsten Carbide Bit
RR - Rock Roller
WB- Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

ADE 2.00.0 LIB.GLB Log IS AU PIEZOMETER INSTALLATION 1 MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:06 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

Borehole No.

BH03/GW03

Page 1 of 1

Engineering Log - Borehole

Project No.: A201024.0124

Client:	SINSW	Commenced:	23/4/2024
Project Name:	Medowie Public School	Completed:	23/4/2024
Hole Location:	6 Abundance Rd, Medowie NSW 2318	Logged By:	KA
Hole Position:	392752.0 m E 6376891.8 m N MGA2020-56	Checked By:	JK

Drill Model and Mounting: BA1 Inclination: -90° RL Surface: No survey Permit Number :

Hole Diameter: Bearing: Datum: AHD Operator: Sean Currie

Drilling Information					Soil Description			Piezometer Construction Details
Method	Support	Water	RL (m)	Depth (m)	Graphic Log	Group Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	ID 0 / Type Standpipe Piezometer / Stick Up & RL -0.81 m / Tip Depth & RL 9.00 m / Installation Date 22/4/2024 / Static Water Level
AD/T		▶		2		CH	**TOPSOIL / Silty CLAY**: brown, high plasticity, with rootlets. **Silty CLAY**: red-brown, high plasticity.	No Completion Sand Bentonite
				4		CH	**Silty CLAY**: red-brown, high plasticity, with layers of sub-angular to angular ironstone gravels.	2.95 m
				6		CL-CI	**Silty CLAY**: red-brown mottled pale grey, low to medium plasticity.	Sand
				8		CL-CI	**Silty CLAY**: red-brown, medium plasticity, with course sand.	8.95 m
							Target depth achieved Hole Terminated at 9.00 m	

Method

AS - Auger Screwing
ADV Auger V Bit
ADT Auger Tungsten Carbide Bit
RR - Rock Roller
WB- Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

ADE 2.00.0 LIB.GLB Log IS AU PIEZOMETER INSTALLATION 1 MEDOWIE PUBLIC SCHOOL - JOB NO. A201024.0124 JK REV.GPJ <<DrawingFile>> 31/5/2024 17:06 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH202

FILE / JOB NO :

SHEET : 1 OF 4

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392738.54, N: 6379858.34 (MGA2020-56) SURFACE ELEVATION : 15.10 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 19/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AS		F	▶	ES-1 0.20m	0.0 15.1			<TOPSOIL> Silty CLAY: low to medium plasticity, black, with rootlets. 0.20m			TOPSOIL
							CL-CI	Silty CLAY: low to medium plasticity, red-brown. 1.00m			ALLUVIAL SOIL
				SPT 4,7,9 N=16 1.45m	1.0 14.1			Silty CLAY: low to medium plasticity, orange-brown, with ironstone gravels.	D		1.00: PP =300 - 350 kPa
					2.0 13.1		CL-CI	2.50m		VSt	
				SPT 5,8,9 N=17 2.95m				Silty CLAY: medium to high plasticity, orange-brown mottled red, trace ironstone gravels.			2.50: PP =350 - 380 kPa
					3.0 12.1		CI-CH	4.00m	M		
				SPT 8,14,19 N=33 4.45m	4.0 11.1			Sandy CLAY: low to medium plasticity, orange-brown mottled red-brown, fine to medium grained.		H	
					5.0 10.1		CL-CI	5.50m			
				SPT 5,10,10 N=20 5.95m				Silty Sandy CLAY: low to medium plasticity, pale grey mottled orange-red.			
					6.0 9.1		CL-CI	7.00m	w≈LL	VSt	
				SPT 5,9,17 N=26 7.45m	7.0 8.1			Sandy CLAY: low to medium plasticity, pale grey mottled orange, iron indurated bands.			
					8.0 7.1		CL-CI		w≈PL		

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH202

FILE / JOB NO :

SHEET : 2 OF 4

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392738.54, N: 6379858.34 (MGA2020-56) SURFACE ELEVATION : 15.10 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 19/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 7.1		CL-CI	Sandy CLAY: low to medium plasticity, pale grey mottled orange, iron indurated bands. *(continued)* 8.50m			ALLUVIAL SOIL
				SPT 6,11,15 N=26 8.95m	9.0 6.1		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled purple-red, with iron indurated bands. 10.00m	w≈PL	VSt	
AS				SPT 8,21 HB N=R 10.30m	10.0 5.1		SC	Clayey SAND: fine to coarse grained, pale grey mottled red, with iron indurated bands, with quartz gravels. 10.30m	W	MD	
					11.0 4.1		CL-CI	Sandy CLAY: low to medium plasticity, orange-brown, fine to coarse grained. 11.60m			
		F			12.0 3.1		CL-CI	Silty CLAY: low to medium plasticity, pale grey mottled red-brown, with ironstone gravels. 12.90m			
WB					13.0 2.1		CL-CI	Sandy CLAY: low to medium plasticity, orange-brown, fine to coarse grained.	w≈PL		
					14.0 1.1						
					15.0 0.1						
					16.0 -0.9						

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

ADE 2.00.0.LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH202

FILE / JOB NO :

SHEET : 3 OF 4

CLIENT : SINSW PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392738.54, N: 6379858.34 (MGA2020-56) SURFACE ELEVATION : 15.10 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 19/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					16.0 -0.9		CL-Cl	Sandy CLAY: low to medium plasticity, orange-brown, fine to coarse grained. *(continued)*			ALLUVIAL SOIL
								16.30m Silty CLAY: low to medium plasticity, grey mottled orange-brown.			
					17.0 -1.9						
					18.0 -2.9		CL-Cl		w≈PL		
					19.0 -3.9						
WB		F			20.0 -4.9			20.20m			
							CL-Cl	20.40m Gravelly CLAY: lot to medium plasticity, orange-brown, fine to coarse grained.			
							CL-Cl	Silty CLAY: low to medium plasticity, grey mottled orange-brown. 20.90m			
					21.0 -5.9		GC	Clayey GRAVEL: fine to coarse grained, subrounded to rounded, orange-brown, low to medium plasticity.	W	MD	
								21.65m			
							CL-Cl	Silty CLAY: low to medium plasticity, grey mottled orange-brown.			
					22.0 -6.9			22.20m			
								Silty CLAY: low to medium plasticity, pale grey.			
					23.0 -7.9		CL-Cl		w≈PL	VSt	
					24.0 -8.9			24.00m			

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH202

FILE / JOB NO :

SHEET : 4 OF 4

CLIENT : SINSW PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392738.54, N: 6379858.34 (MGA2020-56) SURFACE ELEVATION : 15.10 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 19/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					24.0 -8.9		GC	Clayey GRAVEL: fine to coarse grained, subrounded to rounded, orange-brown, low to medium plasticity.	W		ALLUVIAL SOIL
WB		F						24.50m			
					25.0 -9.9		CL-CI	Silty CLAY: low to medium plasticity, pale grey.			
								25.80m			
							SC	Sandy CLAY: low plasticity, pale grey, fine to medium grained.	w≈PL	H	
					26.0 -10.9			26.25m			
							CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled orange-brown.			
					27.0 -11.9			27.20m			
								Hole Terminated at 27.20 m			
					28.0 -12.9						
					29.0 -13.9						
					30.0 -14.9						
					31.0 -15.9						
					32.0 -16.9						

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH203

FILE / JOB NO :

SHEET : 1 OF 2

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392738.77, N: 6376875.94 (MGA2020-56) SURFACE ELEVATION : 15.10 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 20/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
				ES-2 0.10m	0.0 15.1			<TOPSOIL> Silty CLAY: black, with rootlets.	M		TOPSOIL
								0.20m Silty CLAY: low to medium plasticity, orange-brown, with trace ironstone gravels.			RESIDUAL SOIL
				SPT 3,6,7 N=13 1.45m	1.0 14.1		CL-CI		M	St	
					2.0 13.1						
				SPT 6,8,11 N=19 2.95m				2.50m Silty CLAY: low to medium plasticity, orange-brown mottled red-brown, with ironstone gravels.	D		
AS		F			3.0 12.1		CL-CI				
				SPT 6,11,14 N=25 4.45m	4.0 11.1			4.00m Silty CLAY: low to medium plasticity, red-brown mottled pale grey, with ironstone gravels.	M	VSt	
				SPT 6,18,23 N=41 5.95m	5.0 10.1		CL-CI				
					6.0 9.1						
				SPT 6,8,13 N=21 7.45m	7.0 8.1			7.00m Silty CLAY: medium to high plasticity, pale grey mottled red-brown, with iron indurated bands.			
							CI-CH		w≈PL	VSt	
					8.0 7.1						

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

ADE 2.00.01.LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH203

FILE / JOB NO :

SHEET : 2 OF 2

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392738.77, N: 6376875.94 (MGA2020-56) SURFACE ELEVATION : 15.10 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 20/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 7.1		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled red-brown, with iron indurated bands. *(continued)*			RESIDUAL SOIL
								8.50m			
				SPT 6,9,11 N=20				Silty CLAY: low to medium plasticity, pale grey mottled red-brown, with iron indurated bands.			
				8.95m	9.0 6.1		CL-CI			VSt	
								10.00m			
				SPT 10,8,6 N=14	10.0 5.1			Sandy CLAY: medium to high plasticity, red-brown mottled pale grey, fine to coarse grained, with gravel.			
				10.45m					w≈PL		
					11.0 4.1		CI-CH			St	
AS		F						11.50m			
				SPT 5,8,11 N=19				Sandy CLAY: medium to high plasticity, pale grey mottled yellow brown, fine to coarse grained.			
				11.95m	12.0 3.1		CI-CH				
								12.80m			
							SC	Clayey SAND: fine to coarse grained, pale grey mottled orange-brown,	W	MD	
								13.00m medium to high plasticity.			
				SPT 4,5,7 N=12	13.0 2.1			Silty Sandy CLAY: medium to high plasticity, orange-brown mottled pale grey, fine grained.			
				13.45m							
					14.0 1.1		CI-CH		w≈PL	St	
				SPT 4,9,12 N=21							
				14.95m				14.95m			
					15.0 0.1			Hole Terminated at 14.95 m			
					16.0 -0.9						

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 1 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AS		F		ES-3 0.40m	0.0 14.6			<TOPSOIL> Silty Clay: brown-black, with rootlets. 0.20m	D		TOPSOIL
				0.80m ES-4 1.00m SPT 5,7,9 N=16 1.45m	1.0 13.6		CL-CI	Silty CLAY: low to medium plasticity, orange-brown mottled red-brown, trace ironstone gravels.		VSt	ALLUVIAL SOIL
					2.0 12.6			2.50m			
				SPT 6,6,9 N=15 2.95m	3.0 11.6		CL-CI	Silty CLAY: low to medium plasticity, orange-brown mottled yellow-brown, red-brown, with ironstone gravels.		St	
								4.00m			
				SPT 8,12,16 N=28 4.45m	4.0 10.6		CL-CI	Silty CLAY: low to medium plasticity, pale grey mottled red-brown, with ironstone gravels.	M		
					5.0 9.6			5.50m			
				SPT 7,16,14 N=30 5.95m	6.0 8.6		CL-CI	Silty CLAY: low to medium plasticity, pale grey mottled red-brown, with iron indurated bands.		VSt	
								7.00m			
				SPT 8,11,14 N=25 7.45m	7.0 7.6		CL-CI	Silty CLAY: low to medium plasticity, pale grey mottled pale red, with iron indurated bands.			
					8.0 6.6			8.00m			

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 2 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 6.6		SM	Silty SAND: fine grained, red.	M	MD	ALLUVIAL SOIL
								8.50m			
				SPT 5,7,9 N=16				Silty CLAY: medium to high plasticity, pale grey mottled red, with iron indurated bands.			
				8.95m							
AS		F			9.0 5.6				W		
					10.0 4.6		CI-CH				
				SPT 7,10,10 N=20							
				10.45m							
					11.0 3.6						
								11.50m			
				SPT 4,6,9 N=15				Silty CLAY: medium to high plasticity, pale grey mottled red-brown.			
				11.95m							
					12.0 2.6		CI-CH			VSt	
								13.00m			
WB		F		SPT 5,8,11 N=19	13.0 1.6			Silty CLAY: medium to high plasticity, yellow-brown mottled pale grey.	w≈PL		
				13.45m			CI-CH				
					14.0 0.6						
								14.50m			
				SPT 4,8,9 N=17				Silty CLAY: medium to high plasticity, pale red mottled pale grey, with sand, fine grained			
				14.95m							
					15.0 -0.4		CI-CH				
					16.0 -1.4			16.00m			

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

ADE 2.00.0.LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 3 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
WB		F		SPT 5,6,8 N=14 16.45m	16.0 -1.4		CI-CH	Silty CLAY: medium to high plasticity, pale grey mottled yellow-brown.			ALLUVIAL SOIL
					17.0 -2.4			17.50m			
				SPT 5,6,8 N=14 17.95m			CI-CH	Silty CLAY: medium to high plasticity, orange-brown mottled pale grey, with gravel, with extremely weathered clay bands.		St	
					18.0 -3.4						
				SPT 14,19,10/70mm HB N=R 19.37m	19.0 -4.4				w≈PL		
								19.50m			
								Sandy CLAY: low to medium plasticity, pale grey, medium to coarse grained, with river gravel.			
				SPT 6,11,15 N=26 20.95m	20.0 -5.4		CL-CI			VSt	
					21.0 -6.4						
								22.00m			
				SPT 7,8,11 N=19 22.45m	22.0 -7.4		SC	Clayey SAND: fine to coarse grained, pale grey, low to medium plasticity, with subangular gravel.	W	MD	
					23.0 -8.4			23.50m			
				SPT 6,7,9 N=16 23.95m			CH	Silty CLAY: high plasticity, pale grey-pale yellow, with trace gravels.	w≈PL	VSt	
					24.0 -9.4						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION 1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 4 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					24.0 -9.4		CH	Silty CLAY: high plasticity, pale grey-pale yellow, with trace gravels. *(continued)*			ALLUVIAL SOIL
								25.00m			
				SPT 6,9,11 N=20	25.0 -10.4		CL-CI	Silty CLAY: low to medium plasticity, pale grey mottled yellow brown			
				25.45m							
					26.0 -11.4						
								26.50m			
				SPT 7,10,14 N=24				Silty CLAY: low to medium plasticity, pale grey mottled red-brown.			
				26.95m							
		F			27.0 -12.4						
				SPT 5,8,10 N=18	28.0 -13.4				w≈PL	VSt	28.00: PP =400 - 350 kPa
				28.45m							
					29.0 -14.4		CL-CI				
				SPT 7,8,13 N=21							29.50: PP =500 - 550 kPa
				29.95m							
					30.0 -15.4						
		H			31.0 -16.4						
					32.0 -17.4						

WB

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 5 OF 8

CLIENT : SINSW PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					32.0 -17.4			Silty CLAY: low to medium plasticity, pale grey mottled red-brown. *(continued)*			ALLUVIAL SOIL
					33.0 -18.4		CL-CI			VSt	
					34.0 -19.4						
					35.0 -20.4			35.00m			
				SPT 10,16,23 N=39				Silty CLAY: low to medium plasticity, brown, extremely weathered siltstone vertical bands.			
				35.45m							
WB		H			36.0 -21.4				w≈PL		
					37.0 -22.4		CL-CI			H	
					38.0 -23.4						
					39.0 -24.4						
					40.0 -25.4						

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 6 OF 8

CLIENT : SINSW PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
WB		H		SPT 13,21,17/40mm HB N=R 40.34m	40.0 -25.4		CL-Cl	Silty CLAY: low to medium plasticity, brown, extremely weathered siltstone vertical bands. *(continued)*	w≈PL	H	ALLUVIAL SOIL
					41.0 -26.4						
					42.0 -27.4						
					43.0 -28.4						
					44.0 -29.4						
					45.0 -30.4						
					46.0 -31.4			46.73m			
								Continued as Cored Drill Hole			
					47.0 -32.4						
					48.0 -33.4						

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

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CORED DRILL HOLE LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 7 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

CASING DIAMETER : BARREL (Length) : BIT : BIT CONDITION :

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL 0.03 VL 0.1 L 0.3 M 1 H 3 VH 10 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					40.0							
					41.0							
					42.0							
					43.0							
					44.0							
					45.0							
					46.0							
							46.73m START CORING AT 46.73m					
HQ3			27.47	Is(50) A=0.290 MPa Is(50) D=0.190 MPa	47.0		MUDSTONE: brown, low strength, highly weathered.	HW				EW Seam, clay JT, 0°, CN, UN, RF JT, 85°, clay CN, PR, VR EW Seam, clay EW Seam, clay JT, 40°, EW Rock CN, IR, RF
		47.64					47.67m					JT, 45°, EW Rock CN, IR, VR
			80	Is(50) A=0.280 MPa Is(50)	48.0		MUDSTONE: dark grey, low to medium strength, highly weathered to moderately weathered.	HW to MW				JTEW Rock, 90°, clay CN, PR, RF DB

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

ADE 2.00.0 LIB.GLB Log IS AU CORED BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION 1.GPJ <<DrawingFile>> 11/12/2024 14:29 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

CORED DRILL HOLE LOG

HOLE NO : BH205

FILE / JOB NO :

SHEET : 8 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392786.00, N: 6379899.00 (MGA2020-56) SURFACE ELEVATION : 14.61 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 25/11/2024 DATE COMPLETED : 27/11/2024 DATE LOGGED : 27/11/2024 LOGGED BY : CH CHECKED BY :

CASING DIAMETER : BARREL (Length) : BIT : BIT CONDITION :

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL -0.03 VL -0.1 L -0.3 M -1 H -3 VH -10 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3			80	D=0.220 MPa	48.0		MUDSTONE: dark grey, low to medium strength, highly weathered to moderately weathered. *(continued)*	HW to MW				DB
												DB
				Is(50) D=0.210 MPa Is(50) A=0.160 MPa	49.0							DB JT, 5°, CN, PR, RF
												DB JT, 30°, Pl, RF
				Is(50) D=0.420 MPa Is(50) A=0.490 MPa								DB
		49.74					49.74m					JT, 30°, clay, Pl, RF
							Hole Terminated at 49.74 m					
					50.0							
					51.0							
					52.0							
					53.0							
					54.0							
					55.0							
					56.0							

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH206

FILE / JOB NO :

SHEET : 1 OF 2

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392813.00, N: 6376896.00 (MGA2020-56) SURFACE ELEVATION : 14.34 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 20/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
AS		F	▶	ES-5	0.0 14.3			<TOPSOIL> Silty CLAY: black, with rootlets.	D		TOPSOIL
				0.50m				0.20m Silty CLAY: low to medium plasticity, red-brown.			ALLUVIAL SOIL
				0.80m ES-6 1.00m SPT 4,6,11 N=17	1.0 13.3		CL-CI		D		
				1.45m							
					2.0 12.3			2.50m Silty CLAY: low to medium plasticity, orange-brown mottled red-brown, with ironstone gravels.			
				SPT 5,8,12 N=20							
				2.95m	3.0 11.3		CL-CI				
				SPT 2,7,12 N=19	4.0 10.3			4.00m Silty CLAY: medium to high plasticity, red-brown mottled orange-brown, with ironstone gravels.		VSt	4.00: PP =210 - 250 kPa
				4.45m			CI-CH		M		
					5.0 9.3			5.50m Silty CLAY: low to medium plasticity, pale grey mottled red-orange, with sand, with quartz gravels.			5.50: PP =500 - 550 kPa
				SPT 6,9,13 N=22							
				5.95m	6.0 8.3		CL-CI				
								7.00m Silty Sandy CLAY: low to medium plasticity, grey mottled red-brown, fine to medium grained.			7.00: PP =410 - 410 kPa
				SPT 8,7,11 N=18	7.0 7.3						
				7.45m			CL-CI				
					8.0 6.3						

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH206

FILE / JOB NO :

SHEET : 2 OF 2

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392813.00, N: 6376896.00 (MGA2020-56) SURFACE ELEVATION : 14.34 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 20/11/2024 DATE COMPLETED : 20/11/2024 DATE LOGGED : 20/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 6.3		CL-CI	Silty Sandy CLAY: low to medium plasticity, grey mottled red-brown, fine to medium grained. *(continued)*			ALLUVIAL SOIL
								8.50m			
				SPT 3,5,10 N=15				Silty CLAY: medium to high plasticity, red-brown mottled grey, with ironstone gravels.			
				8.95m							
					9.0 5.3		CI-CH				
									M		
								10.00m			
				SPT 4,6,10 N=16	10.0 4.3			Silty CLAY: medium to high plasticity, pale red mottled pale grey, with ironstone gravels.			10.00: PP =400 - 300 kPa
				10.45m							
							CI-CH				
					11.0 3.3					VSt	
AS		F						11.50m			
				SPT 5,7,12 N=19				Silty CLAY: medium to high plasticity, pale grey mottled orange-brown.			
				11.95m							
					12.0 2.3		CI-CH				
								13.00m			
				SPT 6,7,10 N=17	13.0 1.3			Silty CLAY: low to medium plasticity, pale grey mottled orange-brown.	w≈PL		13.00: PP =400 - 350 kPa
				13.45m							
					14.0 0.3		CL-CI				
				SPT 4,7,9 N=16							
				14.95m				14.95m			
					15.0 -0.7			Hole Terminated at 14.95 m			
					16.0 -1.7						

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH208

FILE / JOB NO :

SHEET : 1 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					0.0 14.3			<TOPSOIL> Silty CLAY: black, with rootlets. 0.20m	D		TOPSOIL
AS				0.40m ES-7 0.50m				Silty CLAY: low to medium plasticity, brown-orange.			RESIDUAL SOIL
				SPT 4,5,5 N=10 1.45m	1.0 13.3		CL-CI		D	St	
					2.0 12.3			2.50m			
				SPT 3,8,11 N=19 2.95m	3.0 11.3		CL-CI	Silty CLAY: low to medium plasticity, orange-brown mottled red-brown, with ironstone gravels.			
		E		SPT 3,8,11 N=19 4.45m	4.0 10.3			4.00m Silty CLAY: low to medium plasticity, pale grey mottled red-brown, with ironstone gravels.			
				SPT 7,11,16 N=27 5.95m	5.0 9.3				M	VSt	
					6.0 8.3		CL-CI				
				SPT 6,8,11 N=19 7.45m	7.0 7.3						
					8.0 6.3						

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

ADE 2.00.01.LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH208

FILE / JOB NO :

SHEET : 2 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 6.3		CL-Cl	Silty CLAY: low to medium plasticity, pale grey mottled red-brown, with ironstone gravels. *(continued)*			RESIDUAL SOIL
								8.50m			
				SPT 10,17,19 N=36				Silty CLAY: low to medium plasticity, pale grey mottled red-brown, with iron indurated bands.			
				8.95m							
		E			9.0 5.3		CL-Cl		M		
					10.0 4.3			10.00m			
				SPT 4,8,11 N=19				Silty CLAY: low to medium plasticity, pale grey mottled pale red-brown.			10.00: PP =450 - 550 kPa
				10.45m						VSt	
							CL-Cl				
AS					11.0 3.3						
								11.50m			
				SPT 4,7,9 N=16				Silty CLAY: medium to high plasticity, pale grey mottled red-brown, with sand.			11.50: PP =300 - 350 kPa
				11.95m							
					12.0 2.3		CI-CH				
								13.00m			
		F		SPT 3,5,8 N=13	13.0 1.3			Sandy CLAY: medium to high plasticity, red-brown, fine to coarse grained, with silt, with river gravels.	w≈PL		
				13.45m						St	
							CI-CH				
					14.0 0.3						
								14.50m			
				SPT 5,8,11 N=19				Silty CLAY: medium to high plasticity, yellow-brown.			14.50: PP =300 - 400 kPa
				14.95m							
					15.0 -0.8		CI-CH			VSt	
WB											
					16.0 -1.8						

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

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NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH208

FILE / JOB NO :

SHEET : 3 OF 8

CLIENT : SINSW PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
				SPT 5,7,11 N=18 16.45m	16.0 -1.8		CI-CH	Silty CLAY: medium to high plasticity, yellow-brown. *(continued)*			RESIDUAL SOIL 16.00: PP =300 - 400 kPa
								16.50m Silty CLAY: medium to high plasticity, pale grey.			
				SPT 5,7,10 N=17 17.95m	17.0 -2.8						17.50: PP =300 - 350 kPa
					18.0 -3.8		CI-CH				
				SPT 4,7,8 N=15 19.45m	19.0 -4.8						19.00: PP =250 - 250 kPa
WB		F			20.0 -5.8				w≈PL	VSt	
				SPT 5,9,12 N=21 20.95m				20.50m Silty CLAY: medium to high plasticity, grey mottled yellow-brown.			20.50: PP =550 - 450 kPa
					21.0 -6.8						
				SPT 8,12,17 N=29 22.45m	22.0 -7.8		CI-CH				
					23.0 -8.8			23.50m Silty CLAY: medium to high plasticity, pale grey.			
				SPT 3,8,11 N=19 23.95m			CI-CH				23.50: PP =400 - 350 kPa
					24.0 -9.8						

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

ADE 2.00.0.LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH208

FILE / JOB NO :

SHEET : 4 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
		F			24.0 -9.8		CI-CH	Silty CLAY: medium to high plasticity, pale grey. *(continued)*		VSt	RESIDUAL SOIL
					25.00m						
				SPT 8,13,17 N=30 25.45m	25.0 -10.8			Silty CLAY: low to medium plasticity, pale grey mottled orange-brown.			25.00: PP =600 - 550 kPa
					26.0 -11.8						
				SPT 8,16,18 N=34 26.95m							26.50: PP >600 - >600 kPa
					27.0 -12.8						
	WB			SPT 12,17,20 N=37 28.45m	28.0 -13.8				w≈PL		28.00: PP >600 - >600 kPa
		H					CL-CI			H	
					29.0 -14.8						
				SPT 12,18,22 N=40 29.95m							
					30.0 -15.8						
					31.0 -16.8						
					32.0 -17.8						

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

ADE 2.00.0.LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION.1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH208

FILE / JOB NO :

SHEET : 5 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					32.0 -17.8		CL-CI	Silty CLAY: low to medium plasticity, pale grey mottled orange-brown. *(continued)*	w≈PL	H	RESIDUAL SOIL
								32.50m			
					33.0 -18.8		GC	Clayey GRAVEL: fine to coarse grained, subrounded, pale grey, low to medium plasticity.	W	VD	ALLUVIAL SOIL
								34.00m			
WB		H			34.0 -19.8			Silty CLAY: low to medium plasticity, pale grey mottled orange-brown.			RESIDUAL SOIL
					35.0 -20.8						
					36.0 -21.8						
					37.0 -22.8		CL-CI		w≈PL	H	
					38.0 -23.8						
					39.0 -24.8						
					40.0 -25.8						

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

ADE 2.00.0 LIB.GLB Log IS AU BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION 1.GPJ <<DrawingFile>> 17/12/2024 10:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH208

FILE / JOB NO :

SHEET : 6 OF 8

CLIENT : SINSW PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					40.0 -25.8			Silty CLAY: low to medium plasticity, pale grey mottled orange-brown. *(continued)*			RESIDUAL SOIL
					41.0 -26.8						
WB		H			42.0 -27.8		CL-CI		w≈PL	H	
					43.0 -28.8						
								43.90m			
					44.0 -29.8		SC	Clayey SAND: fine to coarse grained, grey, low to medium plasticity.	W	VD	
								44.60m			
								Continued as Cored Drill Hole			
					45.0 -30.8						
					46.0 -31.8						
					47.0 -32.8						
					48.0 -33.8						

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

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CORED DRILL HOLE LOG

HOLE NO : BH208

FILE / JOB NO :

SHEET : 7 OF 8

CLIENT : SINSW

PROJECT : Medowie High School Geotechnical Investigation

LOCATION : 6 Abundance Road, Medowie NSW 2318

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

CASING DIAMETER : BARREL (Length) : BIT : BIT CONDITION :

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL 0.03 VL 0.1 L 0.3 M 1 H 3 VH 10 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					40.0							
					41.0							
					42.0							
					43.0							
					44.0		44.60m START CORING AT 44.60m					
HQ3			0		45.0		MUDSTONE: grey-brown					
							45.51m					EWZ
		45.87	0				NO CORE 0.36m (45.51-45.87) CORE LOSS					
		45.94					45.87m					
			44		46.0		MUDSTONE: grey-brown					
							46.31m					
				Is(50) A=0.0400 MPa Is(50) D=0.0400 MPa Is(50) A=0.0400 MPa Is(50) D=0.0500 MPa			MUDSTONE: dark grey.					JT, 10°, clay CN, PR, RF JT, 20°, rock CN, PR, RF JT, 20°, clay CN, PR, RF JT, 20°, rock CN, PR, RF JT, 20°, rock CN, PR, RF CZ JT, 10°, rock CN, PR, RF DB JT, 80°, rock, clay CN, UN, RF
		47.70		Is(50) A=0.160 MPa Is(50) D=0.0600 MPa	47.0							JT, 30°, rock CN, PR, RF JT, 0°, rock CN, PR, RF JT, 10°, rock CN, PR, VR JT, 10°, clay CN, PR, VR CZ
			93.7	Is(50) A=0.230 MPa								JT, 20°, clay CN, UN, RF JT, 0°, clay CN, PR, RF
					48.0							

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

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CORED DRILL HOLE LOG

HOLE NO : BH208

FILE / JOB NO :
SHEET : 8 OF 8

CLIENT : SINSW
LOCATION : 6 Abundance Road, Medowie NSW 2318
PROJECT : Medowie High School Geotechnical Investigation

POSITION : E: 392818.98, N: 6376848.76 (MGA2020-56) SURFACE ELEVATION : 14.25 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MC 450 MOUNTING : Track CONTRACTOR : Terratest DRILLER : Toby

DATE STARTED : 21/11/2024 DATE COMPLETED : 25/11/2024 DATE LOGGED : 25/11/2024 LOGGED BY : CH CHECKED BY :

CASING DIAMETER : BARREL (Length) : BIT : BIT CONDITION :

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL 0.03 VL 0.1 L 0.3 M 1 H 3 VH 10 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3		48.34	93.7	Is(50) D=0.330 MPa Is(50) A=0.280 MPa Is(50) D=0.330 MPa	48.0		MUDSTONE: dark grey. *(continued)* 48.40m Hole Terminated at 48.40 m					DB JT, 0°, clay CN, PR, RF JT, 45°, Fe CN, PR, RF
					49.0							
					50.0							
					51.0							
					52.0							
					53.0							
					54.0							
					55.0							
					56.0							

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

ADE 2.00.0 LIB.GLB Log IS AU CORED BOREHOLE 2A MEDOWIE NOVEMBER INVESTIGATION 1.GPJ <<DrawingFile>> 11/12/2024 14:29 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: ADE 2.00.0 2023-12-01 Prj: ADE 2.00.0 2023-12-01

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

BOREHOLE NUMBER HA201

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA201_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA201_0.4-0.5	
			0.5								
						HA201 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA202

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA202_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA202_0.4-0.5	
			0.5								
						HA202 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA203

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA203_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA203_0.4-0.5	
			0.5								
						HA203 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA204

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA204_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA204_0.4-0.5	
			0.5			HA204 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA205

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA205_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA205_0.4-0.5	
			0.5								
						HA205 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA206

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA206_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA206_0.4-0.5	
			0.5								
						HA206 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA207

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA207_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA207_0.4-0.5	
			0.5			HA207 terminated at 0.5m					
			1.0								

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Telephone: 1300976922

BOREHOLE NUMBER HA208

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA208_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA208_0.4-0.5	
			0.5			HA208 terminated at 0.5m					
			1.0								

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Telephone: 1300976922

BOREHOLE NUMBER HA209

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA209_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA209_0.4-0.5	
			0.5								
						HA209 terminated at 0.5m					
			1.0								

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Telephone: 1300976922

BOREHOLE NUMBER HA210

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA210_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA210_0.4-0.5	
			0.5			HA210 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA211

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA211_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA211_0.4-0.5	
			0.5								
						HA211 terminated at 0.5m					
			1.0								

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BOREHOLE NUMBER HA212

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA212_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA212_0.4-0.5	
			0.5								
						HA212 terminated at 0.5m					
			1.0								

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Telephone: 1300976922

BOREHOLE NUMBER HA213

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA213_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA213_0.4-0.5	
			0.5								
						HA213 terminated at 0.5m					
			1.0								

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

BOREHOLE NUMBER HA214

CLIENT School Infrastructure New South Wales **PROJECT NAME** SINSW Medowie

PROJECT NUMBER A101024.0124 **PROJECT LOCATION** 6 Abundance Rd, Medowie NSW

DATE STARTED 3/12/24 **COMPLETED** 3/12/24 **R.L. SURFACE** **DATUM** m -

DRILLING CONTRACTOR **SLOPE** -90° **BEARING** n.a

EQUIPMENT Hand Auger **COORDINATES**

HOLE DIAMETER 150mm **LOGGED BY** MR **CHECKED BY** KA

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
HA						TOPSOIL / Silty CLAY: brown, medium plasticity, with rootlets	D	L		HA214_0.1-0.2	
					CH	NATURAL / Silty CLAY: red to brown, high plasticity	D-M	D		HA214_0.4-0.5	
			0.5			HA214 terminated at 0.5m					
			1.0								

Appendix D: Calibration Certificates

AES
sensing safety

Calibration and Service Report – PID

Company:	ADE Consulting Group (NSW) F	**Manufacturer:**	RAE	**Serial #:**	595-002222
Contact:	Michelle Ridley	**Instrument:**	MINIRAE LITE SN: 595-002222	**Asset #:**	PID 3
Address:	Unit 6 7 Millennium Court Silverwater NSW 2128	**Model:**	MINIRAE LITE	**Part #:**	059-A126-000
		Configuration:	VOC 10.6EV	**Sold:**	20.02.2017
		Wireless:	-	**Last Cal:**	03.03.2023
Phone:	1300796922	**Network ID:**	-	**Job #:**	152491
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	michelle.ridley@ade.group	**Details:**		**Order #:**	PID 3

Item	Test	Pass/Fail	Comments	Serial Number
Battery	NiCd, NiMH, Dry cell, LiIon	P		
Charger	Power Supply	P		
	Cradle, Travel Charger	P		
Pump	Flow	P	>450ml/min	
Filter	Filter, fitting, etc	x	Dirty, replaced	
Alarms	Audible, visual, vibration	P		
Display	Operation	P		
Switches	Operation	P		
PCB	Operation	P		
Connectors	Condition	P		
Firmware	Version	P	V2.22A Fumigation	
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

Cleaned lamp, lamp housing and sensor electrode
Checked moisture sensitivity
Checked flowrate and stall values
Checked unit settings and PC configuration
Unit serviced and calibrated.

AES sensing safety

Calibration and Service Report – PID

Company:	ADE Consulting Group (NSW) F	**Manufacturer:**	RAE	**Serial #:**	595-002222
Contact:	Michelle Ridley	**Instrument:**	MINIRAE LITE SN: 595-002222	**Asset #:**	PID 3
Address:	Unit 6 7 Millennium Court Silverwater NSW 2128	**Model:**	MINIRAE LITE	**Part #:**	059-A126-000
		Configuration:	VOC 10.6EV	**Sold:**	20.02.2017
		Wireless:	-	**Last Cal:**	03.03.2023
Phone:	1300796922	**Network ID:**	-	**Job #:**	152491
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	michelle.ridley@ade.group	**Details:**		**Order #:**	PID 3

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	050-0000-004, 10.6EV 1/2 INCH LAMP	S023060055TC/1062R012710	Isobutylene	100ppm	WO371138-58		0	100.0
Battery	059-3051-000, MINIRAE 3000 LI-ION BATTERY	159TCW0532						
Toxic 1								
Toxic 2								
Toxic 3								
Toxic 4								
Toxic 5								
Toxic 6	PGM-7350							

Calibrated/Repaired by: JERRY JI Date: 21.07.2023 Next Due: 21.01.2024

Appendix E: Groundwater Field Sheets

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

Well Gauging Form

PROJECT NAME: SINSW Medowie **PROJECT NUMBER:** 24.0124

FIELD PERSONNEL: MR **DATE:** 3/5/24

PROJECT MANAGER: KA

FIELD EQUIPMENT:

Equipment Used: Peristaltic Pump IP Serial Number: 2662

REFER TO SOPs WHEN GAUGING WELLS:

SOP - Monitoring Well Gauging and SOP – Decontamination of Sampling Equipment

Time of Day	Well ID	Well Diameter	Total Well Depth note 1	Depth to PSH (NAPL) [A]	Depth to Groundwater [B]	PSH Thickness [B-A]	Height of Well Stick-Up	COMMENTS (notes 2 & 3) ODOUR, COLOUR, SHEEN, NAPL (and its colour), REMEDIATION SYSTEM, etc
		mm	m	mBTOC	mBTOC	mm	m	
9:50	GW02	50	9.716	–	4.493	–		Slightly Cloudy, clear slight pink, no odour
12:10	GW01	50	9.768	–	3.557	–		As above
14:00	GW03	50	9.734	–	3.352	–		As above

Notes: 1 Indicate in 'Comments' column if measured Total Well Depth differs from log. 2 Do not attempt to sniff the monitoring well to detect any odours, only note any apparent odour when the well cap is opened.
3 If no site map / field sketch or detailed survey information is available for each well, please provide a description of the well location and or hand held GPS co-ordinates to positively identify the well.

ADE CONSULTING GROUP

Groundwater Sampling Form – Micro Purge

PAGE ____ OF ____

PROJECT NAME: SINSW Medowie **PROJECT NUMBER:** 24-0124

FIELD PERSONNEL: MR **DATE:** 3/5/24

PROJECT MANAGER: KA

WELL ID: ~~Reg~~ GW01 **DIAMETER:** 50 mm **WELL DEPTH:** 9.768 m **SCREEN INTERVAL:** ____ to ____ m below TOC **STICK-UP:** ____ mm

FIELD EQUIPMENT

Equipment ID: ____

WQ Meter ID: ____

WQ Meter Type: ____

FIELD EQUIPMENT

Depth to Water - Before Pump Installation: 3.557 m below TOC Pump Intake Depth: ____

After Pump Installation: ____ m below TOC Equipment Volume: ____

ORP Ref Electrode: (circle) SHE / Calomel Saturated KCl / Ag/AgCl 1M KCl / Ag/AgCl 4M KCl / Ag/AgCl Saturated KCl

WELL HEADSPACE PID READING

PID READING

PPM: 0.3

TIME OF DAY	CYCLE/ PUMP RATE (ml/min)	VOLUME (L) note 1	DEPTH TO WATER (m) note 2	DISSOLVED OXYGEN ~~(mg/l)~~ %		ELECTRICAL CONDUCTIVITY (mS or µS/cm)		pH (pH units)		REDOX POTENTIAL (mV)		TEMPERATURE (°C)		CLARITY – tick one					COMMENTS
				READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE	Clear	Slightly Cloudy	Cloudy	Very Cloudy	Turbid	ODOUR, COLOUR, SEDIMENTS, PSH COLLECTED, etc
12:30	250	1.0	3.557	82.6		233.2		5.43		128.1		21.4		X					SPC: 249.9, mmHg: 768.3
12:36	250	2.0	4.147	68.2	14.4	261.4	28.2	5.65	0.22	128.7	0.6	21.5	0.1		X				279.8 767.7
12:42	250	3.0	4.286	58.5	9.7	260.3	1.1	5.68	0.03	133.5	4.8	21.5	0		X				278.9 767.5
12:47	250	4.0	4.443	60.0	1.5	252.3	8.0	5.61	0.07	136.9	3.4	21.8	0.3		X				268.9 767.5
12:53	250	5.0	4.587	55.9	4.1	241.0	11.3	5.51	0.10	138.7	1.8	22.1	0.3		X				255.3 767.3
STABILISATION CRITERIA (3 readings within following ranges)				± 10%		± 3%		± 0.1 unit		± 10mV		± 0.2°C							

DUPLICATE COLLECTED: Y ☐ N ☑ DUPLICATE ID: ____ **TRIPLICATE COLLECTED:** Y ☐ N ☑ TRIPLICATE ID: ____

WERE METALS FIELD FILTERED? Y ☑ N ☐ Unfiltered samples **must not** be put into a preserved container (i.e. 'metals' bottle) **HAS THIS FORM BEEN COMPLETED IN FULL?** Y ☐ N ☐

Notes: 1 Ensure minimum 3 'equipment' volumes including volume of pump bladder, flow cell and tubing
2 Drawdown during pumping to be limited to <100 mm where possible

ADE CONSULTING GROUP

Groundwater Sampling Form – Micro Purge

PAGE ____ OF ____

PROJECT NAME: SINSW Medowie **PROJECT NUMBER:** 24.0124

FIELD PERSONNEL: MR **DATE:** 3/5/24

PROJECT MANAGER: KA

WELL ID: GW02 **DIAMETER:** 50 mm **WELL DEPTH:** 9.716 m **SCREEN INTERVAL:** _____ to _____ m below TOC **STICK-UP:** _____ mm

FIELD EQUIPMENT

Equipment ID: _____

WQ Meter ID: _____

WQ Meter Type: _____

FIELD EQUIPMENT

Depth to Water - Before Pump Installation: 4.493 m below TOC Pump Intake Depth: _____

After Pump Installation: _____ m below TOC Equipment Volume: _____

ORP Ref Electrode: (circle) SHE / Calomel Saturated KCl / Ag/AgCl 1M KCl / Ag/AgCl 4M KCl / Ag/AgCl Saturated KCl

WELL HEADSPACE PID READING

PID READING

PPM: 1.3

TIME OF DAY	CYCLE/ PUMP RATE (ml/min)	VOLUME (L) note 1	DEPTH TO WATER (m) note 2	DISSOLVED OXYGEN (mg/l) %		ELECTRICAL CONDUCTIVITY (mS or µS/cm)		pH (pH units)		REDOX POTENTIAL (mV)		TEMPERATURE (°C)		CLARITY – tick one					COMMENTS
				READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE	Clear	Slightly Cloudy	Cloudy	Very Cloudy	Turbid	ODOUR, COLOUR, SEDIMENTS, PSH COLLECTED, etc
		1.0																	
9:50	250	~~1.0~~	4.493	70.8		~~216~~ 194		5.51		34.4		20.0			X				SPC: 214.6, 771.3 mm Hg
9:55	250	2.0	5.239	78.7	7.9	189.5	4.5	5.58	0.07	69.1	34.7	20.2	0.2		X				208.3, 770.5
10:00	250	3.0	5.827	68.4	10.3	191.5	2.0	5.62	0.04	88.1	19.0	20.7	0.5		X				208.8 769.7
10:05	250	4.0	6.054	62.3	6.1	196.6	5.1	5.66	0.04	99.0	10.9	21.1	0.4		X				212.6 769.6
10:10	250	5.0	6.288	68.6	6.3	203.9	2.7	5.70	0.04	109.2	10.2	20.3	0.8		X				223.8 769.3
			6.602																
STABILISATION CRITERIA (3 readings within following ranges)				± 10%		± 3%		± 0.1 unit		± 10mV		± 0.2°C							

DUPLICATE COLLECTED: Y ☑ N ☐ DUPLICATE ID: BR01 **TRIPLICATE COLLECTED:** Y ☐ N ☑ TRIPLICATE ID: –

WERE METALS FIELD FILTERED? Y ☑ N ☐ Unfiltered samples **must not** be put into a preserved container (i.e. 'metals' bottle) **HAS THIS FORM BEEN COMPLETED IN FULL?** Y ☐ N ☐

Notes:
1 Ensure minimum 3 'equipment' volumes including volume of pump bladder, flow cell and tubing
2 Drawdown during pumping to be limited to <100 mm where possible

ADE CONSULTING GROUP

Groundwater Sampling Form – ~~Micro Purge~~ Peristaltic Pump

PAGE ____ OF ____

PROJECT NAME: S1 NSW Medowie **PROJECT NUMBER:** 24.0124

FIELD PERSONNEL: MR **DATE:** 3/5/24

PROJECT MANAGER: KA

WELL ID: GW03 **DIAMETER:** 50 mm **WELL DEPTH:** 9.734 m **SCREEN INTERVAL:** _____ to _____ m below TOC **STICK-UP:** _____ mm

FIELD EQUIPMENT

Equipment ID: _____

WQ Meter ID: _____

WQ Meter Type: _____

FIELD EQUIPMENT

Depth to Water - Before Pump Installation: 3.352 m below TOC Pump Intake Depth: _____

After Pump Installation: _____ m below TOC Equipment Volume: _____

ORP Ref Electrode: (circle) SHE / Calomel Saturated KCl / Ag/AgCl 1M KCl / Ag/AgCl 4M KCl / Ag/AgCl Saturated KCl

WELL HEADSPACE PID READING

PID READING

PPM: 0.7

TIME OF DAY	CYCLE/ PUMP RATE (ml/min)	VOLUME (L) note 1	DEPTH TO WATER (m) note 2	DISSOLVED OXYGEN (mg/l) %		ELECTRICAL CONDUCTIVITY (mS or µS/cm)		pH (pH units)		REDOX POTENTIAL (mV)		TEMPERATURE (°C)		CLARITY – tick one					COMMENTS
				READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE	Clear	Slightly Cloudy	Cloudy	Very Cloudy	Turbid	ODOUR, COLOUR, SEDIMENTS, PSH COLLECTED, etc
14:19	250	1.0	3.352	91.3		181.1		5.62		140.2		20.6			X				SPC: 197.1 767.1 mm Hg
14:25	250	2.0	3.352	58.4	32.9	191.9	10.8	5.74	0.12	138.1	2.1	20.7	0.1		X				208.4 767.1
14:30	250	3.0	3.360	65.2	6.8	203.5	11.6	5.83	0.9	139.5	1.4	20.6	0.1		X				221.8 767.1
14:35	250	4.0	3.358	58.0	7.2	209.3	4.8	5.82	0.1	141.2	1.7	20.6	0		X				227.5 767.1
14:40	250	5.0	3.358	56.4	1.6	206.6	1.7	5.84	0.2	140.2	1.0	20.5	0.1		X				226.0 767.0
STABILISATION CRITERIA (3 readings within following ranges)				± 10%		± 3%		± 0.1 unit		± 10mV		± 0.2°C							

DUPLICATE COLLECTED: Y ☐ N ☑ DUPLICATE ID: _____ **TRIPLICATE COLLECTED:** Y ☐ N ☑ TRIPLICATE ID: _____

WERE METALS FIELD FILTERED? Y ☑ N ☐ Unfiltered samples **must not** be put into a preserved container (i.e. 'metals' bottle) **HAS THIS FORM BEEN COMPLETED IN FULL?** Y ☐ N ☐

Notes: 1 Ensure minimum 3 'equipment' volumes including volume of pump bladder, flow cell and tubing
2 Drawdown during pumping to be limited to <100 mm where possible

Appendix F: Survey Report

MGA NORTH

SCHEDULE OF BOREHOLE LOCATIONS & LEVELS

NAME	EASTING	NORTHING	RL (PVC) #	RL GROUND
BH01	392 712.53	6 376 950.10	16.22	15.40
BH02	392 669.39	6 376 860.86	16.76	15.94
BH03	392 751.99	6 376 891.8	15.81	15.00
BH04	392 701.8	6 376 881.9		
BH05 *	392 817.8	6 376 878.5		
BH06	392 813.7	6 376 849.8		
BH07	392 807.0	6 376 808.7		
BH08	392 800.4	6 376 770.9		

NO EVIDENCE OF HAND AUGER SITES WAS FOUND AT THE TIME OF SURVEY

COORDINATES ARE GRID COORDINATES. ALL COORDINATES IN METRES
*APPROXIMATE POSITION. BOREHOLE NOT FOUND, CENTRE SPOIL LOCATED
LEVEL TAKEN TO TEXTA MARK AT TOP OF PVC SLEEVE

BH ~ DENOTES BOREHOLE
GW ~ DENOTES GROUNDWATER WELL
(A) EASEMENT FOR TRANSMISSION LINE (J892295)

NOTES - GENERAL

1. This plan may be colour coded and black & white copies may not fully disclose the information hereon.
2. This plan has been prepared for the exclusive use of the client named hereon. No responsibility is taken for any loss incurred by any third party resulting from unauthorised use of the plan.
3. Boundaries and the position of aerial photographs are approximate and are shown for context purposes only. Do not scale from the boundaries or aerial photos. If the relationship of features to boundaries or other features is required, further survey will be required.
4. The Subject Land is affected by easments as shown on the Plan and the Certificate of Title
5. The Subject Land is affected by Restriction(s) on the Use of Land. The terms of the restriction(s) should be reviewed prior to any development on the site

ROBERTSON SURVEYING

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TITLE: BOREHOLE SURVEY

CLIENT: ADE GROUP
LOT: LOT 3 DP 788451
ADDRESS: 6 ABUNDANCE ROAD
LOCALITY: MEDOWIE
LGA: PORT STEPHENS

SURVEYED 07/05/24 GR
DRAFTED 08/05/24 HL
CHECKED 09/05/24 GR
DRAWING REF 1179 BH-V1

AZIMUTH MGA 2020
ORIGIN PM 27710
EASTING 392 870.419
NORTHING 6 376 967.037
SHEET 1 of 1

HEIGHT DATUM AHD
ORIGIN PM 27710
REDUCED LEVEL 13.178
ORIGINAL SIZE A3

MGA NORTH

SCHEDULE OF BOREHOLE LOCATIONS & LEVELS

NAME	EASTING	NORTHING	SURFACE RL
BH1	392 734.29	6 376 844.88	15.18
BH2	392 738.54	6 376 858.34	15.10
BH3	392 738.77	6 376 875.94	15.10
BH4	392 760.97	6 376 903.86	14.81
BH5	392 786	6 376 899	14.61
BH6	392 813	6 376 896	14.34
BH7	392 822.3	6 376 866.39	14.22
BH8	392 818.98	6 376 848.76	14.25
BH9*	392816.64	6 376 833.26	14.32

* POSITION OF BH09 WAS VARIED ON SITE PER INSTRUCTION FROM ADE CONSULTING GROUP DUE TO ITS PROXIMITY TO AN EXISTING FENCE.

COORDINATES ARE GRID COORDINATES. ALL COORDINATES IN METRES

PROPOSED BOREHOLE LOCATIONS PROVIDED BY ADE GROUP ON 19/11/24

⊗ DENOTES PEG PLACED AT BOREHOLE LOCATION

(A) EASEMENT FOR TRANSMISSION LINE (J892295)

NOTES - GENERAL

1. This plan may be colour coded and black & white copies may not fully disclose the information hereon.
2. This plan has been prepared for the exclusive use of the client named hereon. No responsibility is taken for any loss incurred by any third party resulting from unauthorised use of the plan.
3. Boundaries and the position of aerial photographs are approximate and are shown for context purposes only. Do not scale from the boundaries or aerial photos. If the relationship of features to boundaries or other features is required, further survey will be required.
4. The Subject Land is affected by easments as shown on the Plan and the Certificate of Title
5. The Subject Land is affected by Restriction(s) on the Use of Land. The terms of the restriction(s) should be reviewed prior to any development on the site

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TITLE: BOREHOLE SURVEY

CLIENT: ADE GROUP
LOT: LOT 3 DP 788451
ADDRESS: 6 ABUNDANCE ROAD
LOCALITY: MEDOWIE
LGA: PORT STEPHENS

SURVEYED 19/11/24 GR
DRAFTED 20/11/24 GR
CHECKED 20/11/24 GR
DRAWING REF 1179 BH-2-V1

AZIMUTH MGA 2020
ORIGIN PM 27710
EASTING 392 870.419
NORTHING 6 376 967.037
SHEET 1 of 1

HEIGHT DATUM AHD
ORIGIN PM 27710
REDUCED LEVEL 13.178
ORIGINAL SIZE A3

Appendix G: Laboratory Transcripts

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

ESA-F-02
Chain of Custody (Internal)

Page 1 of 2 #035

Date Printed: 26/04/2024

Document Revision Date: 22/08/2022

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

FULL PROJECT NUMER (e.g., : A201021.1725.05)	A101024.0722.00
PROJECT PHASE (e.g.,: C01)	000
PROJECT TASK (e.g.,: C11)	L05
SAMPLES DELIVERED BY:	Karin Azzam
	ADE
SAMPLERS:	Karin Azzam
TURNAROUND (**BUSINESS DAY - BD**):	SAME DAY: ☐ 1-BD: ☐ 2-BD: ☐ 3-BD: ☐ 5 BD (STD): ☑
SAMPLING DATE:	
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: ☐ FREEZER: ☑ > >4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: ☑
CONSULTANTS SIGNATURE:	CONSULTANTS EMAIL: karin.azzam@ade.group
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: karin.azzam@ade.group, please CC Mitchell.roy@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	A101024.0124.00 1033/L05
RECEIVED BY:	SIGNATURE:
SAMPLES: 22 CHILLED: ☑	PRESERVED: ☐ PRESERVATION METHOD: ☑ CUSTODY SEAL INTACT: ☐
MINIMAL HEADSPACE : ☐	WITHIN HOLDING TIME: ☑
DATE: 26/04/2024	TIME: 2:00 pm TEMPERATURE UPON RECEIPT: 2.1 °C T46
LIMS LOT NO. Soil: 2401846	LIMS/EXCEL SIGNATURE:
	COMMENTS: TB/TS - 2401847

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED																NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	SL01 - Standard suite	SL02 - ENM full suite							HOLD								POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER:_____
2024014																						LAB PLEASE *EMAIL COC RECEIPT: ☐
332	BH01_0.0-0.1	Soil	22/04/2024	G	1	X																Sample Comments
333	BH01_0.4-0.5	Soil	22/04/2024	G	1		X															
334	BH01_1.0-1.1	Soil	22/04/2024	G	1									X								
335	BH02_0.0-0.1	Soil	23/04/2024	G	1	X																
336	BH02_0.5-0.6	Soil	23/04/2024	G	1		X															
337	BH02_1.0-1.1	Soil	23/04/2024	G	1									X								
338	BH03_0.0-0.1	Soil	23/04/2024	G	1	X																
339	BH03_0.5-0.6	Soil	23/04/2024	G	1		X															
340	BH03_1.0-1.1	Soil	23/04/2024	G	1									X								
341	BH04_0.0-0.1	Soil	22/04/2024	G	1	X																
342	BH04_0.4-0.5	Soil	22/04/2024	G	1		X															
343	BH05_0.0-0.1	Soil	22/04/2024	G	1	X																
344	BH05_0.5-0.6	Soil	22/04/2024	G	1		X															
345	BH06_0.0-0.1	Soil	22/04/2024	G	1	X																
346	BH06_0.5-0.6	Soil	22/04/2024	G	1		X															
347	BH06_1.5-1.6	Soil	22/04/2024	G	1									X								
348	BH07_0.0-0.1	Soil	22/04/2024	G	1	X																
349	BH07_0.5-0.6 0.4-0.5	Soil	22/04/2024	G	1		X															
350	BH07_1.0-1.1	Soil	22/04/2024	G	1									X								
351	BH08_0.0-0.1	Soil	23/04/2024	G	1	X																
352	BH08_0.5-0.6	Soil	23/04/2024	G	1		X															
353	BH08_1.0-1.1	Soil	23/04/2024	G	1									X								

Comments: as advised by Karin Azzam on 29/4/24

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.

3/5/24

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#035

Document Revision Date: 22/08/2022

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

FULL PROJECT NUMER (e.g., : A201021.1725.05)	A101024.0124.00
PROJECT PHASE (e.g.,: C01)	003
PROJECT TASK (e.g.,: C11)	**L05**
SAMPLES DELIVERED BY:	Karin Azzam
SAMPLERS:	Karin Azzam
TURNAROUND **(BUSINESS DAY - BD)**:	SAME DAY: ☐ 1-BD: ☐ 2-BD: ☐ 3-BD: ☐ 5 BD (STD): ☑
SAMPLING DATE:	
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: ☐ FREEZER: ☑ > >4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: ☑
CONSULTANTS SIGNATURE:	CONSULTANTS EMAIL: karin.azzam@ade.group
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: karin.azzam@ade.group, please CC Mitchell.roy@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	A101024.0124.00/003/L05
RECEIVED BY: NC	SIGNATURE: N. Azzam
SAMPLES: 38 CHILLED: ☑	PRESERVED: ☐ PRESERVATION METHOD: ☐ CUSTODY SEAL INTACT: ☐
MINIMAL HEADSPACE : ☐	WITHIN HOLDING TIME: ☐
DATE: 26/4/24	TIME: 2:00pm TEMPERATURE UPON RECEIPT: 12.1 °C T46
LIMS LOT NO. Soil: 2401846	LIMS/EXCEL SIGNATURE: N. Azzam
	COMMENTS: TB/TS - 2401847

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED																	NOTES
LIMS Sample ID (Lab Use) 2024014	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	SL01 - Standard suite	SL02 - ENM full suite	BTEX							HOLD								POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER:_____ LAB PLEASE *EMAIL COC RECEIPT: ☐ Sample Comments
354	HA01_0.0-0.1	Soil	22/04/2024	G, B	1	X																	
355	HA01_0.4-0.5	Soil	22/04/2024	G, B	1		X																
356	HA02_0.0-0.1	Soil	23/04/2024	G, B	1	X																	
357	HA02_0.3-0.4	Soil	23/04/2024	G, B	1		X																
358	HA03_0.0-0.1	Soil	23/04/2024	G, B	1	X																	
359	HA03_0.3-0.4	Soil	23/04/2024	G, B	1		X																
360	HA04_0.0-0.1	Soil	23/04/2024	G, B	1	X																	
361	HA04_0.4-0.5	Soil	23/04/2024	G, B	1										X								
362	HA05_0.0-0.1	Soil	22/04/2024	G, B	1	X																	
363	HA05_0.4-0.5	Soil	22/04/2024	G, B	1										X								
364	HA06_0.0-0.1	Soil	22/04/2024	G, B	1	X																	
365	HA06_0.4-0.5	Soil	22/04/2024	G, B	1										X								
366	BR01	Soil	22/04/2024	G, B	1	X																	
367	BR02	Soil	22/04/2024	G, B	1		X																
368	TB	Water	22/04/2024	V	1			X															Trip Blank
369	TS	Water	22/04/2024	V	1			X															Trip Spike

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.

3/5/24

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Ph: (02) 9648-6669

CLIENT DETAILS

Client	ADE Consulting Group
Contact	Karin Azzam, Mitchell Roy
Samplers	Karin Azzam

SAMPLE RECEIPT DETAILS

Project Number	A101024.0124.00/003/L05		
SLS Reference	2401846		
Number of samples	38		
Date samples received	26.04.2024		
Time samples received	2:00 PM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	12.1	**Thermometer Ref NO.**	T46
Turn Around Time requested	5 Working Days		
Expected Report Date	**03.05.2024**		

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**	

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INFORMATION SUMMARY

SLS Reference	2401846
Project Number	A101024.0124.00/003/L05
Client	ADE Consulting Group
Contact	Karin Azzam, Mitchell Roy
Samplers	Karin Azzam

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED			
Laboratory Sample ID	Sampling Date	Client Sample ID	SL01	SL02	ON HOLD	WR07: BTEX
2024014332	22.04.2024	BH01_0.0-0.1	X			
2024014333	22.04.2024	BH01_0.4-0.5		X		
2024014334	22.04.2024	BH01_1.0-1.1			X	
2024014335	22.04.2024	BH02_0.0-0.1	X			
2024014336	22.04.2024	BH02_0.5-0.6		X		
2024014337	22.04.2024	BH02_1.0-1.1			X	
2024014338	22.04.2024	BH03_0.0-0.1	X			
2024014339	22.04.2024	BH03_0.5-0.6		X		
2024014340	22.04.2024	BH03_1.0-1.1			X	
2024014341	22.04.2024	BH04_0.0-0.1	X			
2024014342	22.04.2024	BH04_0.4-0.5		X		
2024014343	22.04.2024	BH05_0.0-0.1	X			
2024014344	22.04.2024	BH05_0.5-0.6		X		
2024014345	22.04.2024	BH06_0.0-0.1	X			
2024014346	22.04.2024	BH06_0.5-0.6		X		
2024014347	22.04.2024	BH06_1.5-1.6			X	
2024014348	22.04.2024	BH07_0.0-0.1	X			
2024014349	22.04.2024	BH07_0.4-0.5		X		
2024014350	22.04.2024	BH07_1.0-1.1			X	
2024014351	22.04.2024	BH08_0.0-0.1	X			
2024014352	22.04.2024	BH08_0.5-0.6		X		
2024014353	22.04.2024	BH08_1.0-1.1			X	
2024014354	22.04.2024	HA01_0.0-0.1	X			
2024014355	22.04.2024	HA01_0.4-0.5		X		
2024014356	22.04.2024	HA02_0.0-0.1	X			
2024014357	22.04.2024	HA02_0.3-0.4		X		
2024014358	22.04.2024	HA03_0.0-0.1	X			
2024014359	22.04.2024	HA03_0.3-0.4		X		
2024014360	22.04.2024	HA04_0.0-0.1	X			
2024014361	22.04.2024	HA04_0.4-0.5			X	
2024014362	22.04.2024	HA05_0.0-0.1	X			
2024014363	22.04.2024	HA05_0.4-0.5			X	
2024014364	22.04.2024	HA06_0.0-0.1	X			
2024014365	22.04.2024	HA06_0.4-0.5			X	
2024014366	22.04.2024	BR01	X			
2024014367	22.04.2024	BR02		X		
2024014368	22.04.2024	TB				X
2024014369	22.04.2024	TS				X

Batch Number : 2401846

Report Number : A101024.0124.00 (332-367)

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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

Kaiyu Li

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.

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Certificate of Analysis

Contact:	Karin Azzam	**Date Reported:**	3/05/2024
Customer:	ADE Consulting Group	**No. of Samples:**	27
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:** **Date of Analysis:**	29/04/2024 29/04/2024
Cust Ref:	A101024.0124.00 003 L05		

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

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Certificate of Analysis

	Sample ID:	2024014332	2024014333	2024014335	2024014336	2024014338	2024014339	2024014341	2024014342	2024014343	2024014344	2024014345
	Sample Name	BH01_0.0-0.1	BH01_0.4-0.5	BH02_0.0-0.1	BH02_0.5-0.6	BH03_0.0-0.1	BH03_0.5-0.6	BH04_0.0-0.1	BH04_0.4-0.5	BH05_0.0-0.1	BH05_0.5-0.6	BH06_0.0-0.1
Parameter	Units	PQL	Sampling date: 22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024
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.)	%		69	65	77	72	79	70	80	82	78	81	76
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-P-16													
EC	dS/m		-	0.01	-	0.01	-	0.02	-	0.01	-	0.02	-
ESA-MP-01,ICP-01													
Arsenic	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.3	<0.30	0.36	<0.30	<0.30	0.37	0.38	<0.30	<0.30	<0.30	<0.30	0.36
Chromium	mg/kg	1	20.7	43.3	16.1	34.4	21.0	47.0	21.0	39.5	17.5	26.0	15.4
Copper	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.1	<5.0	<5.0
Lead	mg/kg	5	6.9	5.7	6.5	<5.0	23.9	5.4	7.3	<5.0	7.2	<5.0	7.4
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	2.4	3.9	1.2	2.3	2.8	3.4	2.6	4.0	1.9	2.5	1.7
Zinc	mg/kg	5	16.6	<5.0	11.5	<5.0	51.3	<5.0	22.2	5.6	22.7	<5.0	17.8
ESA-P-12													
% Moisture Content	%		22.1	16.1	18.4	16.8	18.1	20.9	21.9	17.3	25.2	16.4	17.3
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
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

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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.)	%		69	78	75	72	69	80	81	83	79	79	76
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
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

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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.)	%		81	-	85	-	82	-	92	-	88	-	82
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
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.)	%		86	-	91	-	83	-	96	-	89	-	87
ESA-P-21													
pH(Ave. of 3 Reading)	-		-	5.9	-	5.6	-	5.8	-	5.9	-	5.8	-
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

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Certificate of Analysis

	Sample ID:	2024014346	2024014348	2024014349	2024014351	2024014352	2024014354	2024014355	2024014356	2024014357	2024014358	2024014359
	Sample Name	BH06_0.5-0.6	BH07_0.0-0.1	BH07_0.4-0.5	BH08_0.0-0.1	BH08_0.5-0.6	HA01_0.0-0.1	HA01_0.4-0.5	HA02_0.0-0.1	HA02_0.3-0.4	HA03_0.0-0.1	HA03_0.3-0.4
Parameter	Units	PQL	22/04/2024	22/04/2024	22/04/2024	23/04/2024	23/04/2024	22/04/2024	22/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
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.)	%		66	75	81	76	77	77	84	89	94	91	91
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-P-16													
EC	dS/m		0.04	-	0.02	-	0.02	-	0.01	-	0.02	-	0.01
ESA-MP-01,ICP-01													
Arsenic	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.3	<0.30	0.37	<0.30	<0.30	<0.30	<0.30	0.36	<0.30	<0.30	<0.30	<0.30
Chromium	mg/kg	1	31.8	22.4	26.8	16.6	28.8	12.2	29.1	18.4	24.3	16.8	28.6
Copper	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Lead	mg/kg	5	<5.0	7.1	<5.0	<5.0	<5.0	<5.0	<5.0	6.3	<5.0	7.2	<5.0
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	3.3	2.3	1.7	1.6	2.1	1.1	1.8	1.8	1.2	1.6	1.6
Zinc	mg/kg	5	<5.0	15.4	<5.0	11.2	<5.0	11.6	<5.0	26.8	<5.0	20.2	<5.0
ESA-P-12													
% Moisture Content	%		15.6	18.7	16.5	18.5	15.2	19.5	16.8	20.0	15.4	24.6	15.0
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
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

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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.)	%		78	74	85	81	80	81	83	76	79	79	80
aldrin	mg/kg	0.1	-	<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	-
b-BHC	mg/kg	0.1	-	<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	-
g-BHC (lindane)	mg/kg	0.1	-	<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	-
trans-chlordane	mg/kg	0.1	-	<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	-
4,4'-DDE	mg/kg	0.1	-	<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	-
dieldrin	mg/kg	0.1	-	<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	-
endosulfan II	mg/kg	0.2	-	<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	-
endrin	mg/kg	0.2	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-

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endrin aldehyde	mg/kg	0.1	-	<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	-
heptachlor	mg/kg	0.1	-	<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	-
hexachlorobenzene	mg/kg	0.1	-	<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	-
TCMX (Surr.)	%		-	79	-	90	-	89	-	84	-	88	-
chlorpyrifos	mg/kg	0.1	-	<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	-
diazinon	mg/kg	0.1	-	<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	-
methyl parathion	mg/kg	0.1	-	<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	-
tributylphosphorotrithioite	mg/kg	0.1	-	<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	-
Aroclor 1016	mg/kg	0.5	-	<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	-
Aroclor 1232	mg/kg	0.5	-	<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	-
Aroclor 1248	mg/kg	0.5	-	<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	-
Aroclor 1260	mg/kg	0.5	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-
2-fluorobiphenyl (Surr.)	%		-	85	-	95	-	90	-	88	-	93	-
ESA-P-21													
pH(Ave. of 3 Reading)	-		5.1	-	5.8	-	5.5	-	5.8	-	5.4	-	6.1
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

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Silverwater 2128
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Certificate of Analysis

	Sample ID:	2024014360	2024014362	2024014364	2024014366	2024014367
	Sample Name	HA04_0.0-0.1	HA05_0.0-0.1	HA06_0.0-0.1	BR01	BR02
Parameter	Units	PQL	23/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024
ESA-P-ORG7 & ORG8							
Benzene	mg/kg	0.5	<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
Ethylbenzene	mg/kg	1	<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
o Xylene	mg/kg	1	<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
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		90	95	89	79	86
C6-C10	mg/kg	35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25
ESA-P-16							
EC	dS/m		-	-	-	-	0.02
ESA-MP-01,ICP-01							
Arsenic	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.3	<0.30	<0.30	0.49	<0.30	<0.30
Chromium	mg/kg	1	17.5	12.3	41.0	16.4	30.9
Copper	mg/kg	5	6.7	<5.0	<5.0	<5.0	<5.0
Lead	mg/kg	5	12.3	10.0	6.6	<5.0	<5.0
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1	2.5	<1.0	<1.0	1.2	1.5
Zinc	mg/kg	5	151.1	82.9	8.4	9.4	<5.0
ESA-P-12							
% Moisture Content	%		20.4	20.9	17.8	19.4	15.6
ESA-P-ORG(12 - 15)							
Acenaphthene	mg/kg	0.3	<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
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30

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Benzo[a]anthracene	mg/kg	0.3	<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
Benzo[g,h,i]perylene	mg/kg	0.3	<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
Chrysene	mg/kg	0.3	<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
Fluoranthene	mg/kg	0.3	<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
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<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
Phenanthrene	mg/kg	0.3	<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
PAHs Total	mg/kg	0.3	<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
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	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
p-Terphenyl-d14 (Surr.)	%		84	78	80	77	80
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	-
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	-
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	-
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-

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endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
TCMX (Surr.)	%		94	87	91	87	-
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	-
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	-
2-fluorobiphenyl (Surr.)	%		101	94	96	92	-
ESA-P-21							
pH(Ave. of 3 Reading)	-		-	-	-	-	5.6
ESA-P-ORG(3,8)							
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100

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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

Kaiyu Li

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.

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Quality Control Report

Contact:	Karin Azzam	**Date Reported:**	3/05/2024
Customer:	ADE Consulting Group	**No. of Samples:**	40
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	29/04/2024
		Date of Analysis:	29/04/2024

Cust Ref: A101024.0124.00 003 L05

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

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Quality Control Report

	Sample ID:	D202401430201	D202401434504
	Sample Name	BH07_2.2-2.3	BH06_0.0-0.1

Parameter	Units	PQL		
ESA-MP-01,ICP-01				
Arsenic			Pass	Pass
Cadmium			Pass	Pass
Chromium			Pass	Pass
Copper			Pass	Pass
Lead			Pass	Pass
Mercury			Pass	Pass
Nickel			Pass	Pass
Zinc			Pass	Pass

	Sample ID:	D202401430202	D202401434501
	Sample Name	BH07_2.2-2.3	BH06_0.0-0.1

Parameter	Units	PQL		
ESA-P-ORG7 & ORG8				
Benzene			Pass	Pass
Toluene			Pass	Pass
Ethylbenzene			Pass	Pass
m.p Xylene			Pass	Pass
o Xylene			Pass	Pass
Fluorobenzene (Surr.)	%		93	75
C6-C10			Pass	Pass
C6-C9			Pass	Pass

	Sample ID:	D202401430203	D202401434502
	Sample Name	BH07_2.2-2.3	BH06_0.0-0.1

Parameter	Units	PQL		
ESA-P-ORG(12 - 15)				
Acenaphthene			Pass	Pass
Acenaphthylene			Pass	Pass
Anthracene			Pass	Pass

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Benzo[a]anthracene			Pass	Pass
Benzo[a]pyrene			Pass	Pass
Benzo[g,h,i]perylene			Pass	Pass
Benzo[b,k]fluoranthene			Pass	Pass
Chrysene			Pass	Pass
Dibenzo[a,h]anthracene			Pass	Pass
Fluoranthene			Pass	Pass
Fluorene			Pass	Pass
Indeno(1,2,3-cd)pyrene			Pass	Pass
Naphthalene			Pass	Pass
Phenanthrene			Pass	Pass
Pyrene			Pass	Pass
p-Terphenyl-d14 (Surr.)	%		82	86
aldrin			Pass	Pass
a-BHC			Pass	Pass
b-BHC			Pass	Pass
d-BHC			Pass	Pass
g-BHC (lindane)			Pass	Pass
cis-chlordane			Pass	Pass
trans-chlordane			Pass	Pass
4,4'-DDD			Pass	Pass
4,4'-DDE			Pass	Pass
4,4'-DDT			Pass	Pass
dieldrin			Pass	Pass
endosulfan I			Pass	Pass
endosulfan II			Pass	Pass
endosulfan sulfate			Pass	Pass
endrin			Pass	Pass
endrin aldehyde			Pass	Pass
endrin ketone			Pass	Pass
heptachlor			Pass	Pass
heptachlor epoxide			Pass	Pass

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hexachlorobenzene			Pass	Pass
methoxychlor			Pass	Pass
TCMX (Surr.)	%		90	95
chlorpyrifos			Pass	Pass
chlorpyrifos methyl			Pass	Pass
diazinon			Pass	Pass
fenchlorphos			Pass	Pass
methyl parathion			Pass	Pass
prophos			Pass	Pass
tributylphosphorotrithioite			Pass	Pass
Aroclor 1016			Pass	Pass
Aroclor 1221			Pass	Pass
Aroclor 1232			Pass	Pass
Aroclor 1242			Pass	Pass
Aroclor 1248			Pass	Pass
Aroclor 1254			Pass	Pass
Aroclor 1260			Pass	Pass
2-fluorobiphenyl (Surr.)	%		94	100

		Sample ID:	**D202401430204**	**D202401434503**
		Sample Name	**BH07_2.2-2.3**	**BH06_0.0-0.1**
Parameter	***Units***	***PQL***		
ESA-P-ORG(3,8)				
>C10-C16			Pass	Pass
>C16-C34			Pass	Pass
>C34-C40			Pass	Pass
>C10-C14			Pass	Pass
>C15-C28			Pass	Pass
>C29-C36			Pass	Pass

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	Sample ID:	D202401433301	D202401435501
	Sample Name	BH01_0.4-0.5	HA01_0.4-0.5

Parameter	Units	PQL		
ESA-P-ORG7 & ORG8				
Benzene			Pass	Pass
Toluene			Pass	Pass
Ethylbenzene			Pass	Pass
m.p Xylene			Pass	Pass
o Xylene			Pass	Pass
Fluorobenzene (Surr.)	%		65	79
C6-C10			Pass	Pass
C6-C9			Pass	Pass

	Sample ID:	D202401433302	D202401435502
	Sample Name	BH01_0.4-0.5	HA01_0.4-0.5

Parameter	Units	PQL		
ESA-P-ORG(12 - 15)				
Acenaphthene			Pass	Pass
Acenaphthylene			Pass	Pass
Anthracene			Pass	Pass
Benzo[a]anthracene			Pass	Pass
Benzo[a]pyrene			Pass	Pass
Benzo[g,h,i]perylene			Pass	Pass
Benzo[b,k]fluoranthene			Pass	Pass
Chrysene			Pass	Pass
Dibenzo[a,h]anthracene			Pass	Pass
Fluoranthene			Pass	Pass
Fluorene			Pass	Pass
Indeno(1,2,3-cd)pyrene			Pass	Pass
Naphthalene			Pass	Pass
Phenanthrene			Pass	Pass
Pyrene			Pass	Pass

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p-Terphenyl-d14 (Surr.)	%		76	81
aldrin			Pass	Pass
a-BHC			Pass	Pass
b-BHC			Pass	Pass
d-BHC			Pass	Pass
g-BHC (lindane)			Pass	Pass
cis-chlordane			Pass	Pass
trans-chlordane			Pass	Pass
4,4'-DDD			Pass	Pass
4,4'-DDE			Pass	Pass
4,4'-DDT			Pass	Pass
dieldrin			Pass	Pass
endosulfan I			Pass	Pass
endosulfan II			Pass	Pass
endosulfan sulfate			Pass	Pass
endrin			Pass	Pass
endrin aldehyde			Pass	Pass
endrin ketone			Pass	Pass
heptachlor			Pass	Pass
heptachlor epoxide			Pass	Pass
hexachlorobenzene			Pass	Pass
methoxychlor			Pass	Pass
TCMX (Surr.)	%		91	91
chlorpyrifos			Pass	Pass
chlorpyrifos methyl			Pass	Pass
diazinon			Pass	Pass
fenchlorphos			Pass	Pass
methyl parathion			Pass	Pass
prophos			Pass	Pass
tributylphosphorotrithioite			Pass	Pass
Aroclor 1016			Pass	Pass
Aroclor 1221			Pass	Pass

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Aroclor 1232			Pass	Pass
Aroclor 1242			Pass	Pass
Aroclor 1248			Pass	Pass
Aroclor 1254			Pass	Pass
Aroclor 1260			Pass	Pass
2-fluorobiphenyl (Surr.)	%		95	94

		Sample ID:	**D202401433303**	**D202401435503**
		Sample Name	**BH01_0.4-0.5**	**HA01_0.4-0.5**
Parameter	***Units***	***PQL***		
ESA-P-ORG(3,8)				
>C10-C16			Pass	Pass
>C16-C34			Pass	Pass
>C34-C40			Pass	Pass
>C10-C14			Pass	Pass
>C15-C28			Pass	Pass
>C29-C36			Pass	Pass

		Sample ID:	**D202401433304**	**D202401435504**
		Sample Name	**BH01_0.4-0.5**	**HA01_0.4-0.5**
Parameter	***Units***	***PQL***		
ESA-MP-01,ICP-01				
Arsenic			Pass	Pass
Cadmium			Pass	Pass
Chromium			Pass	Pass
Copper			Pass	Pass
Lead			Pass	Pass
Mercury			Pass	Pass
Nickel			Pass	Pass
Zinc			Pass	Pass

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		Sample ID:	**Q2024003312**	**Q2024003328**
		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	0.3	<0.30	<0.30
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:	**Q2024003313**	**Q2024003329**
		Sample Name		
Parameter	***Units***	***PQL***	Metals Blank Sp-Soil	Metals Blank Sp-Soil
ESA-MP-01,ICP-01				
Arsenic	%		80	92
Cadmium	%		87	104
Chromium	%		87	100
Copper	%		89	102
Lead	%		90	103
Mercury	%		94	97
Nickel	%		87	100
Zinc	%		88	100

		Sample ID:	**Q2024003316**	**Q2024003322**
		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

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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:	**Q2024003317**	**Q2024003323**
		Sample Name		
Parameter	***Units***	***PQL***	BTEX Blank Sp-Soil	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8				
Benzene	%		129	120
Toluene	%		99	98
Ethylbenzene	%		66	67
m.p Xylene	%		90	97
o Xylene	%		90	96
Fluorobenzene (Surr.)	%		92	91
		Sample ID:	**Q2024003318**	**Q2024003324**
		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

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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

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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:	**Q2024003319**	**Q2024003325**
		Sample Name		
Parameter	***Units***	***PQL***	PCB Blank Sp - Soil	PCB Blank Sp - Soil
ESA-P-ORG(12 - 15)				
Acenaphthene	%		102	101
Anthracene	%		107	107
Fluoranthene	%		108	106
Naphthalene	%		95	96
Phenanthrene	%		107	106
Pyrene	%		101	100
p-Terphenyl-d14 (Surr.)	%		78	74
aldrin	%		97	101
endrin	%		64	60
hexachlorobenzene	%		97	100
TCMX (Surr.)	%		87	89
chlorpyrifos	%		76	79
diazinon	%		89	91
2-fluorobiphenyl (Surr.)	%		97	97
Aroclor 1016	%		114	111
		Sample ID:	**Q2024003320**	**Q2024003326**
		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

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>C10-C14	mg/kg	50	<50	<50
>C15-C28	mg/kg	100	<100	<100
>C29-C36	mg/kg	100	<100	<100
		Sample ID:	**Q2024003321**	**Q2024003327**
		Sample Name		

Parameter	***Units***	***PQL***	TRH Blank Spike-Soil	TRH Blank Spike-Soil
ESA-P-ORG(3,8)				
>C10-C16	%		119	116
>C10-C14	%		117	114
		Sample ID:	**S202401429701**	**S202401433204**
		Sample Name	**BH07_0.0-0.1**	**BH01_0.0-0.1**

Parameter	***Units***	***PQL***		
ESA-MP-01,ICP-01				
Arsenic	%		81	79
Cadmium	%		89	92
Chromium	%		82	90
Copper	%		87	91
Lead	%		86	91
Mercury	%		91	102
Nickel	%		81	87
Zinc	%		80	87
		Sample ID:	**S202401429702**	**S202401433201**
		Sample Name	**BH07_0.0-0.1**	**BH01_0.0-0.1**

Parameter	***Units***	***PQL***		
ESA-P-ORG-07 & 08				
Benzene	%		119	103
Toluene	%		94	88
Ethylbenzene	%		65	62
m.p Xylene	%		87	101
o Xylene	%		90	89
Fluorobenzene (Surr.)	%		83	79

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	Sample ID:	S202401429703	S202401433202
	Sample Name	BH07_0.0-0.1	BH01_0.0-0.1

Parameter	Units	PQL		
ESA-P-ORG(12 - 15)				
Acenaphthene	%		98	98
Anthracene	%		101	101
Fluoranthene	%		102	101
Naphthalene	%		92	94
Phenanthrene	%		101	102
Pyrene	%		95	96
p-Terphenyl-d14 (Surr.)	%		80	71
aldrin	%		95	95
endrin	%		81	70
hexachlorobenzene	%		94	96
TCMX (Surr.)	%		86	83
chlorpyrifos	%		76	76
diazinon	%		89	87
Aroclor 1016	%		97	109
2-fluorobiphenyl (Surr.)	%		96	92

	Sample ID:	S202401429704	S202401433203
	Sample Name	BH07_0.0-0.1	BH01_0.0-0.1

Parameter	Units	PQL		
ESA-P-ORG(3,8)				
>C10-C16	%		107	105
>C10-C14	%		106	103

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* 05

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

Document Revision Date: 22/08/2022

FULL PROJECT NUMER (e.g., : A201021.1725.05)	A101023.0722
PROJECT PHASE (e.g.,: C01)	006
PROJECT TASK (e.g.,: C11)	L01
SAMPLES DELIVERED BY:	ADE Consulting Group
SAMPLERS:	6/7 Millennium Court, Silverwater NSW 2128
TURNAROUND (BUSINESS DAY - BD):	Karin Azzam, Mitchell Roy
SAMPLING DATE:	SAME DAY: ☐ 1-BD: XX 2-BD: ☐ 3-BD: ☐ 5 BD (STD): ☑
AFTER TEST STORAGE:	22.04.2024
REPORT FORMAT:	ROOM TEMP: ☐ FRIDGE: ☐ FREEZER: ☑ > >4 WEEKS: ☐ OTHER: ☐
CONSULTANTS SIGNATURE:	HARD COPY: ☐ E-MAIL: ☑
PROJECT MANAGERS SIGNATURE:	CONSULTANTS EMAIL: karin.azzam@ade.group
	PROJECT MANAGERS E-MAIL: karin.azzam@ade.group, please cc Mitchell.roy@ade.group, jouad.kanaan@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	A101023.0722/006/L01
RECEIVED BY: NL	SIGNATURE: N. Chamberlain
SAMPLES: 7 CHILLED: ☑	PRESERVED: ☐ PRESERVATION METHOD: ☐ CUSTODY SEAL INTACT: ☐
MINIMAL HEADSPACE : ☐	WITHIN HOLDING TIME: ☑
DATE: 23/04/24	TIME: 2:01 PM TEMPERATURE UPON RECEIPT: 7.3 °C T46
LIMS LOT NO. 2401779	LIMS/EXCEL SIGNATURE: N. Chamberlain COMMENTS:

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED	NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	CH19 -pH / pHFOX	
2024013							POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☑ NO KNOWN CONTAMINATION ☐ OTHER:_____
635	BH05_0.0-0.1	Soil	22.04.2024	B	1	X	LAB PLEASE *EMAIL COC RECEIPT: ☐
636	BH05_0.5-0.6	Soil	22.04.2024	B	1	X	Sample Comments
637	BH05_1.0-1.1	Soil	22.04.2024	B	1	X	
638	BH05_1.5-1.6	Soil	22.04.2024	B	1	X	
639	BH05_2.0-2.1	Soil	22.04.2024	B	1	X	
640	BH05_2.5-2.6	Soil	22.04.2024	B	1	X	
641	BH05_3.0-3.1	Soil	22.04.2024	B	1	X	

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.

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CLIENT DETAILS

Client	ADE Consulting Group
Contact	Karin Azzam, Mitchell Roy, Jouad Kanaan
Samplers	Karin Azzam

SAMPLE RECEIPT DETAILS

Project Number	A101023.0722/006/L01		
SLS Reference	2401779		
Number of samples	7		
Date samples received	23.04.2024		
Time samples received	2:01 PM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	7.3	**Thermometer Ref NO.**	T46
Turn Around Time requested	24 hours		
Expected Report Date	**24.04.2024**		

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.	N/A
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**	

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INFORMATION SUMMARY

SLS Reference	2401779
Project Number	A101023.0722/006/L01
Client	ADE Consulting Group
Contact	Karin Azzam, Mitchell Roy, Jouad Kanaan
Samplers	Karin Azzam

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED
Laboratory Sample ID	Sampling Date	Client Sample ID	CH19
2024013635	22.04.2024	BH05_0.0-0.1	X
2024013636	22.04.2024	BH05_0.5-0.6	X
2024013637	22.04.2024	BH05_1.0-1.1	X
2024013638	22.04.2024	BH05_1.5-1.6	X
2024013639	22.04.2024	BH05_2.0-2.1	X
2024013640	22.04.2024	BH05_2.5-2.6	X
2024013641	22.04.2024	BH05_3.0-3.1	X

Batch Number : 2401779

Report Number : A101023.0722 (635-641)

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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

Kaiyu Li

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:**	24/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	7
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	23/04/2024
		Date of Analysis:	23/04/2024
Cust Ref:	A101023.0722 006 L01		

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

Batch Number : 2401779

Report Number : A101023.0722 (635-641)

Certificate of Analysis

	Sample ID:	2024013635	2024013636	2024013637	2024013638	2024013639	2024013640	2024013641
	Sample Name	BH05_0.0-0.1	BH05_0.5-0.6	BH05_1.0-1.1	BH05_1.5-1.6	BH05_2.0-2.1	BH05_2.5-2.6	BH05_3.0-3.1
Parameter	***Units***	***PQL***	Sampling date: 22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024
***ESA-P-19**								
pH	-		6.9	6.0	5.8	5.6	5.5	5.3	5.8
pHox	-		4.2	4.9	5.0	4.6	4.5	4.6	4.6
Reaction Rate	-		2	1	1	1	1	1	1

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ESA-F-02
Chain of Custody (Internal)

Date Printed: 23/04/2024

* 05

Document Revision Date: 22/08/2022

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADECONSULTINGGROUP

FULL PROJECT NUMER (e.g., : A201021.1725.05)	~~A101023.0722~~ A101024.0124.00	LABORATORY REFERENCE NO. (Lab use ONLY):	~~A101023.0722/006/L01~~ A101024.0124.00/006/L01
PROJECT PHASE (e.g.,: C01)	006		
PROJECT TASK (e.g.,: C11)	L01		
SAMPLES DELIVERED BY:	ADE Consulting Group	RECEIVED BY:	SIGNATURE:
SAMPLERS:	6/7 Millennium Court, Silverwater NSW 2128	SAMPLES: 7 CHILLED: ☑	PRESERVED: ☐ PRESERVATION METHOD: ☐ CUSTODY SEAL INTACT: ☐
TURNAROUND (BUSINESS DAY - BD):	Karin Azzam, Mitchell Roy	MINIMAL HEADSPACE: ☐	WITHIN HOLDING TIME: ☑
SAMPLING DATE:	SAME DAY: ☐ 1-BD: XX 2-BD: ☐ 3-BD: ☐ 5 BD (STD): ☑	DATE: 23/04/24	TIME: 2:01 PM TEMPERATURE UPON RECEIPT: 7.3 °C T46
AFTER TEST STORAGE:	22.04.2024	LIMS LOT NO. 2401779	LIMS/EXCEL SIGNATURE: N. Chamba
REPORT FORMAT:	ROOM TEMP: ☐ FRIDGE: ☐ FREEZER: ☑ >>4 WEEKS: ☐ OTHER: ☐		COMMENTS: Project number Amended as advised by Karin Azzam on 9/5/24 at 4:23 PM
CONSULTANTS SIGNATURE:	HARD COPY: ☐ E-MAIL: ☑		
PROJECT MANAGERS SIGNATURE:	CONSULTANTS EMAIL: karin.azzam@ade.group		
	PROJECT MANAGERS E-MAIL: karin.azzam@ade.group, please cc Mitchell.roy@ade.group, jouad.kanaan@ade.group		

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED	NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	CH19 -pH / pHFOX	
2024013							POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☑ NO KNOWN CONTAMINATION ☐ OTHER:_____
635	BH05_0.0-0.1	Soil	22.04.2024	B	1	X	LAB PLEASE *EMAIL COC RECEIPT: ☐
636	BH05_0.5-0.6	Soil	22.04.2024	B	1	X	Sample Comments
637	BH05_1.0-1.1	Soil	22.04.2024	B	1	X	
638	BH05_1.5-1.6	Soil	22.04.2024	B	1	X	
639	BH05_2.0-2.1	Soil	22.04.2024	B	1	X	
640	BH05_2.5-2.6	Soil	22.04.2024	B	1	X	
641	BH05_3.0-3.1	Soil	22.04.2024	B	1	X	

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.

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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

Krista Johnston

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.

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Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

Contact:	Karin Azzam	**Date Reported:**	24/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	7
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	23/04/2024
		Date of Analysis:	23/04/2024

Cust Ref: A101024.0124.00 006 L01
Amendment: Project number updated following client request.

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

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Certificate of Analysis

	Sample ID:	2024013635	2024013636	2024013637	2024013638	2024013639	2024013640	2024013641
	Sample Name	BH05_0.0-0.1	BH05_0.5-0.6	BH05_1.0-1.1	BH05_1.5-1.6	BH05_2.0-2.1	BH05_2.5-2.6	BH05_3.0-3.1
Parameter	Units	PQL	Sampling date: 22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024	22/04/2024
*ESA-P-19									
pH	-		6.9	6.0	5.8	5.6	5.5	5.3	5.8
pHox	-		4.2	4.9	5.0	4.6	4.5	4.6	4.6
Reaction Rate	-		2	1	1	1	1	1	1

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Silverwater 2128
Ph: (02) 9648-6669

CLIENT DETAILS

Client	ADE Consulting Group
Contact	Karin Azzam, Mitchell Roy, Jouad Kanaan
Samplers	Karin Azzam

SAMPLE RECEIPT DETAILS

Project Number	A101024.0124/006/L01		
SLS Reference	2401779		
Number of samples	7		
Date samples received	23.04.2024		
Time samples received	2:01 PM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	7.3	**Thermometer Ref NO.**	T46
Turn Around Time requested	24 hours		
Expected Report Date	**24.04.2024**		

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.	N/A
Custody Seal intact (if used)	N/A

COMMENTS

This Report Contains:

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

Amended project number as advised by Karin Azzam on 09.05.2024 at 4:23 PM

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	2401779
Project Number	A101024.0124/006/L01
Client	ADE Consulting Group
Contact	Karin Azzam, Mitchell Roy, Jouad Kanaan
Samplers	Karin Azzam

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED
			CH19
Laboratory Sample ID	Sampling Date	Client Sample ID	
2024013635	22.04.2024	BH05_0.0-0.1	X
2024013636	22.04.2024	BH05_0.5-0.6	X
2024013637	22.04.2024	BH05_1.0-1.1	X
2024013638	22.04.2024	BH05_1.5-1.6	X
2024013639	22.04.2024	BH05_2.0-2.1	X
2024013640	22.04.2024	BH05_2.5-2.6	X
2024013641	22.04.2024	BH05_3.0-3.1	X

CHAIN OF CUSTODY FORM - Client

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National phone number 1300 424 344 National phone number 1300 424 344

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12 Ashley St, Chatswood, NSW 2067
✆ 02 9910 6200 | ✉ sydney@envirolab.com.au

Perth Lab - MPL Laboratories
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✆ 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

Client: ADE group	Client Project Name/Number/Site etc (ie report title): A101024.0124.00
Contact Person: Karin Azzam	
Project Mgr: Karin Azzam	PO No.: A101024.0124.00
Sampler: Karin Azzam	Envirolab Quote No.:
Address: U6/7 Millennium Court, Silverwater NSW 2128	Date results required: Or choose: standard / same day / 1 day / 2 day / 3 day *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: Mob: 0490 072 877	Additional report format: esdat /
Email: karin.azzam@ade.group,mitchell.roy@ade.group, Ankita.saxena@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	Fe	TOC	CEC												Provide as much information about the sample as you can
1	SR01		23/04/2024	Soil	x															
2	SR02		23/04/2024	Soil	x															
3	BH03_0.5-0.6		23/04/2024	Soil		X	X	X												

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): ADE	Received by (Company): ELS SYD	Lab Use Only	
Print Name: Karin Azzam	Print Name: Katherine Chevez	Job number: 350006	Cooling: Ice / Ice pack / None
Date & Time: 30/04/2024 12.30pm	Date & Time: 30/4/24 1530	Temperature: 12	Security seal: Intact / Broken / None
Signature:	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

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www.envirolab.com.au

CERTIFICATE OF ANALYSIS 350006

Client Details

Client	ADE CONSULTING GROUP PTY LTD
Attention	Karin Azzam
Address	Unit 6, 7 Millenium Court, Silverwater, NSW, 2128

Sample Details

Your Reference	**A101024.0124.00**
Number of Samples	3 Soil
Date samples received	30/04/2024
Date completed instructions received	30/04/2024

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	03/05/2024
Date of Issue	03/05/2024

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Results Approved By
Diego Bigolin, Inorganics Supervisor
Hannah Nguyen, Metals Supervisor
Jack Wallis, Chemist (FAS)
Loren Bardwell, Development Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		350006-1	350006-2
Your Reference	UNITS	SR01	SR02
Date Sampled		23/04/2024	23/04/2024
Type of sample		Soil	Soil
Date extracted	-	01/05/2024	01/05/2024
Date analysed	-	03/05/2024	03/05/2024
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	%	88	102

svTRH (C10-C40) in Soil			
Our Reference		350006-1	350006-2
Your Reference	UNITS	SR01	SR02
Date Sampled		23/04/2024	23/04/2024
Type of sample		Soil	Soil
Date extracted	-	01/05/2024	01/05/2024
Date analysed	-	02/05/2024	02/05/2024
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	%	80	76

PAHs in Soil			
Our Reference	UNITS	350006-1	350006-2
Your Reference		SR01	SR02
Date Sampled		23/04/2024	23/04/2024
Type of sample		Soil	Soil
Date extracted	-	01/05/2024	01/05/2024
Date analysed	-	01/05/2024	01/05/2024
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	%	106	105

Organochlorine Pesticides in soil			
Our Reference		350006-1	350006-2
Your Reference	UNITS	SR01	SR02
Date Sampled		23/04/2024	23/04/2024
Type of sample		Soil	Soil
Date extracted	-	01/05/2024	01/05/2024
Date analysed	-	01/05/2024	01/05/2024
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
Surrogate 4-Chloro-3-NBTF	%	113	94

Organophosphorus Pesticides in Soil			
Our Reference		350006-1	350006-2
Your Reference	UNITS	SR01	SR02
Date Sampled		23/04/2024	23/04/2024
Type of sample		Soil	Soil
Date extracted	-	01/05/2024	01/05/2024
Date analysed	-	01/05/2024	01/05/2024
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	%	113	94

PCBs in Soil			
Our Reference		350006-1	350006-2
Your Reference	UNITS	SR01	SR02
Date Sampled		23/04/2024	23/04/2024
Type of sample		Soil	Soil
Date extracted	-	01/05/2024	01/05/2024
Date analysed	-	01/05/2024	01/05/2024
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	%	89	87

Acid Extractable metals in soil				
Our Reference	UNITS	350006-1	350006-2	350006-3
Your Reference		SR01	SR02	BH03_0.5-0.6
Date Sampled		23/04/2024	23/04/2024	23/04/2024
Type of sample		Soil	Soil	Soil
Date prepared	-	01/05/2024	01/05/2024	01/05/2024
Date analysed	-	02/05/2024	02/05/2024	02/05/2024
Arsenic	mg/kg	<4	<4	[NA]
Cadmium	mg/kg	<0.4	<0.4	[NA]
Chromium	mg/kg	22	36	[NA]
Copper	mg/kg	2	<1	[NA]
Lead	mg/kg	8	6	[NA]
Mercury	mg/kg	<0.1	<0.1	[NA]
Nickel	mg/kg	3	5	[NA]
Zinc	mg/kg	14	2	[NA]
Iron	mg/kg	[NA]	[NA]	35,000

Misc Inorg - Soil		
Our Reference		350006-3
Your Reference	UNITS	BH03_0.5-0.6
Date Sampled		23/04/2024
Type of sample		Soil
Date prepared	-	02/05/2024
Date analysed	-	02/05/2024
Total Organic Carbon in soil/solids	mg/kg	6,700

CEC		
Our Reference		350006-3
Your Reference	UNITS	BH03_0.5-0.6
Date Sampled		23/04/2024
Type of sample		Soil
Date prepared	-	03/05/2024
Date analysed	-	03/05/2024
Exchangeable Ca	meq/100g	3.3
Exchangeable K	meq/100g	0.1
Exchangeable Mg	meq/100g	1.2
Exchangeable Na	meq/100g	<0.1
Cation Exchange Capacity	meq/100g	4.7

Moisture				
Our Reference		350006-1	350006-2	350006-3
Your Reference	UNITS	SR01	SR02	BH03_0.5-0.6
Date Sampled		23/04/2024	23/04/2024	23/04/2024
Type of sample		Soil	Soil	Soil
Date prepared	-	01/05/2024	01/05/2024	01/05/2024
Date analysed	-	02/05/2024	02/05/2024	02/05/2024
Moisture	%	22	16	18

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
INORG-137	Total Carbon Nitrogen Sulfur by high temperature catalytic combustion with IR detection.
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	[NT]
Date extracted	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Date analysed	-			03/05/2024	[NT]	[NT]	[NT]	[NT]	03/05/2024	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	99	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	112	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	111	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	82	[NT]	[NT]	[NT]	[NT]	111	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Date analysed	-			02/05/2024	[NT]	[NT]	[NT]	[NT]	02/05/2024	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	77	[NT]	[NT]	[NT]	[NT]	82	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Date analysed	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	76	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	76	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	82	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	64	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	84	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	103	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Date analysed	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	62	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	84	[NT]	[NT]	[NT]	[NT]	78	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Date analysed	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Malathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Fenthion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Phosalone	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	84	[NT]	[NT]	[NT]	[NT]	78	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Date analysed	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	88	[NT]	[NT]	[NT]	[NT]	82	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			01/05/2024	[NT]	[NT]	[NT]	[NT]	01/05/2024	[NT]
Date analysed	-			02/05/2024	[NT]	[NT]	[NT]	[NT]	02/05/2024	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	110	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	110	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Iron	mg/kg	10	Metals-020	<10	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			02/05/2024	[NT]	[NT]	[NT]	[NT]	02/05/2024	[NT]
Date analysed	-			02/05/2024	[NT]	[NT]	[NT]	[NT]	02/05/2024	[NT]
Total Organic Carbon in soil/solids	mg/kg	100	INORG-137	<100	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			03/05/2024	[NT]	[NT]	[NT]	[NT]	03/05/2024	[NT]
Date analysed	-			03/05/2024	[NT]	[NT]	[NT]	[NT]	03/05/2024	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	100	[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.

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	Karin Azzam

Sample Login Details

Your reference	A101024.0124.00
Envirolab Reference	350006
Date Sample Received	30/04/2024
Date Instructions Received	30/04/2024
Date Results Expected to be Reported	03/05/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	3 Soil
Turnaround Time Requested	3 days
Temperature on Receipt (°C)	12
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

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

Analysis Underway, details on the following page:

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

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Misc Inorg - Soil	CEC
SR01	✓	✓	✓	✓	✓	✓	✓		
SR02	✓	✓	✓	✓	✓	✓	✓		
BH03_0.5-0.6							✓	✓	✓

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.

#87

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

Document Revision Date: 22/08/2022

FULL PROJECT NUMER (e.g., : A201021.1725.05)	A101024.0124.00
PROJECT PHASE (e.g.,: C01)	9
PROJECT TASK (e.g.,: C11)	LO3
SAMPLES DELIVERED BY:	Reuben Pinto ADE
SAMPLERS:	Cooper Harris
TURNAROUND (BUSINESS DAY - BD):	SAME DAY: ☐ 1-BD: ☐ 2-BD: ☐ 3-BD: ☑ 5 BD (STD): ☐
SAMPLING DATE:	19/11/24, 20/11/24, 21/11/24, 25/11/24
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: ☐ FREEZER: ☑ > >4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: ☑
CONSULTANTS SIGNATURE:	CONSULTANTS EMAIL: cooper.harris@ade.group
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: karin.azzam@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	A101024.0124.00/9/L03
RECEIVED BY:	SIGNATURE: N. Chambers
SAMPLES: 8 CHILLED: ☑	PRESERVED: ☐ PRESERVATION METHOD: ☐ CUSTODY SEAL INTACT: ☐
MINIMAL HEADSPACE : ☑	WITHIN HOLDING TIME: ☑
DATE: 29/11/24	TIME: 2:30 pm TEMPERATURE UPON RECEIPT: 16.1 °C T46
LIMS LOT NO. 2405499	LIMS/EXCEL SIGNATURE: N. Chambers COMMENTS:

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED	NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	SL01 - Standard suite	
2024043							
250	BH206_0.0-0.5	SOIL	20/11/2024	G	1	X	
251	BH206_0.9-1.0	SOIL	20/11/2024	G	1	X	
252	BH208_0.4-0.5	SOIL	21/11/2024	G	1	X	
253	BH205_0.0-0.4	SOIL	25/11/2024	G	1	X	
254	BH205_0.8-1.0	SOIL	25/11/2024	G	1	X	
255	BH202_0.0-0.2	SOIL	19/11/2024	G	1	X	
256	BH203_0.0-0.1	SOIL	20/11/2024	G	1	X	
257	BR	SOIL	20/11/2024	G	1	X	

POTENTIAL HAZARDOUS CONTAMINANTS:
☐ ASBESTOS ☐ HYDROCARBONS
☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION
☐ OTHER:_____

LAB PLEASE *EMAIL COC RECEIPT: ☐

Sample Comments

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.

4/12/24

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Uncontrolled if printed

Batch Number : 2405499

Report Number : A101024.0124.00 (250-257)

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:**	4/12/2024
Customer:	ADE Consulting Group	**No. of Samples:**	8
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	29/11/2024
		Date of Analysis:	2/12/2024

Cust Ref: A101024.0124.00.9 L03

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:	2024043250	2024043251	2024043252	2024043253	2024043254	2024043255	2024043256	2024043257
	Sample Name	BH206_0.0-0.5	BH206_0.9-1.0	BH208_0.4-0.5	BH205_0.0-0.4	BH205_0.8-1.0	BH202_0.0-0.2	BH203_0.0-0.1	BR
Parameter	Units	PQL	Sampling Date: 20/11/2024	20/11/2024	21/11/2024	25/11/2024	25/11/2024	19/11/2024	20/11/2024	20/11/2024
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
Toluene	mg/kg	0.5	<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
m.p Xylene	mg/kg	2	<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
Sum of BTEX	mg/kg	2	<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
Fluorobenzene (Surr.)	%		101	72	90	89	99	96	99	92
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01										
Arsenic	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.1	<5.0
Cadmium	mg/kg	0.1	0.12	0.37	0.24	0.11	0.25	0.12	0.12	0.12
Chromium	mg/kg	1	21.7	39.3	37.8	25.4	31.6	12.5	15.3	13.8
Copper	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Lead	mg/kg	5	<5.0	7.1	6.9	<5.0	8.8	6.3	8.7	6.7
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1	1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	1.0
Zinc	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ESA-P-12										
% Moisture Content	%	1	13.9	18.0	18.3	5.6	19.2	15.4	19.6	16.2
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
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

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Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

	Sample ID:	2024043250	2024043251	2024043252	2024043253	2024043254	2024043255	2024043256	2024043257
	Sample Name	BH206_0.0-0.5	BH206_0.9-1.0	BH208_0.4-0.5	BH205_0.0-0.4	BH205_0.8-1.0	BH202_0.0-0.2	BH203_0.0-0.1	BR
Parameter	Units	PQL	Sampling Date: 20/11/2024	20/11/2024	21/11/2024	25/11/2024	25/11/2024	19/11/2024	20/11/2024	20/11/2024
Anthracene	mg/kg	0.3	<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
Benzo[a]pyrene	mg/kg	0.3	<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
Benzo[b,k]fluoranthene	mg/kg	0.3	<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
Dibenzo[a,h]anthracene	mg/kg	0.3	<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
Fluorene	mg/kg	0.3	<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
Naphthalene	mg/kg	0.3	<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
Pyrene	mg/kg	0.3	<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
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
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
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
p-Terphenyl-d14 (Surr.)	%		123	123	129	127	119	84	133	128
aldrin	mg/kg	0.1	<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
b-BHC	mg/kg	0.1	<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
g-BHC (lindane)	mg/kg	0.1	<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
trans-chlordane	mg/kg	0.1	<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

Certificate of Analysis

	Sample ID:	2024043250	2024043251	2024043252	2024043253	2024043254	2024043255	2024043256	2024043257
	Sample Name	BH206_0.0-0.5	BH206_0.9-1.0	BH208_0.4-0.5	BH205_0.0-0.4	BH205_0.8-1.0	BH202_0.0-0.2	BH203_0.0-0.1	BR
Parameter	Units	PQL	Sampling Date: 20/11/2024	20/11/2024	21/11/2024	25/11/2024	25/11/2024	19/11/2024	20/11/2024	20/11/2024
4,4'-DDE	mg/kg	0.1	<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
dieldrin	mg/kg	0.1	<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
endosulfan II	mg/kg	0.2	<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
endrin	mg/kg	0.2	<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
endrin ketone	mg/kg	0.1	<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
heptachlor epoxide	mg/kg	0.1	<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
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		92	92	95	94	89	82	97	97
chlorpyrifos	mg/kg	0.1	<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
diazinon	mg/kg	0.1	<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
methyl parathion	mg/kg	0.1	<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
tributylphosphorotrithioite	mg/kg	0.1	<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
Aroclor 1016	mg/kg	0.5	<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
Aroclor 1232	mg/kg	0.5	<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

Certificate of Analysis

	Sample ID:	2024043250	2024043251	2024043252	2024043253	2024043254	2024043255	2024043256	2024043257
	Sample Name	BH206_0.0-0.5	BH206_0.9-1.0	BH208_0.4-0.5	BH205_0.0-0.4	BH205_0.8-1.0	BH202_0.0-0.2	BH203_0.0-0.1	BR
Parameter	Units	PQL	Sampling Date: 20/11/2024	20/11/2024	21/11/2024	25/11/2024	25/11/2024	19/11/2024	20/11/2024	20/11/2024
Aroclor 1248	mg/kg	0.5	<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
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		109	107	113	108	108	120	117	114
ESA-P-ORG(3,8)										
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	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
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	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

Batch Number : 2405499

Report Number : A101024.0124.00 (250-257)

Sydney Laboratory Services

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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:**	4/12/2024
Customer:	ADE Consulting Group	**No. of Samples:**	20
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	29/11/2024
		Date of Analysis:	2/12/2024

Cust Ref: A101024.0124.00.9 L03

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:	D202404324001	D202404324901
	Sample Name	WAC201_TP2	WAC201_BR
Parameter	Units	PQL		
ESA-MP-01,ICP-01				
Arsenic			Pass	Pass
Cadmium			Pass	Pass
Chromium			Pass	Pass
Copper			Pass	Pass
Lead			Pass	Pass
Mercury			Pass	Pass
Nickel			Pass	Pass
Zinc			Pass	Pass

	Sample ID:	D202404324002	D202404324902
	Sample Name	WAC201_TP2	WAC201_BR
Parameter	Units	PQL		
ESA-P-ORG7 & ORG8				
Benzene			Pass	Pass
Toluene			Pass	Pass
Ethylbenzene			Pass	Pass
m.p Xylene			Pass	Pass
o Xylene			Pass	Pass
Fluorobenzene (Surr.)	%		91	88
C6-C10			Pass	Pass
C6-C9			Pass	Pass

	Sample ID:	D202404324003	D202404324903
	Sample Name	WAC201_TP2	WAC201_BR
Parameter	Units	PQL		

ESA-P-ORG(12 - 15)				
Acenaphthene			Pass	Pass
Acenaphthylene			Pass	Pass
Anthracene			Pass	Pass
Benzo[a]anthracene			Pass	Pass
Benzo[a]pyrene			Pass	Pass
Benzo[g,h,i]perylene			Pass	Pass
Benzo[b,k]fluoranthene			Pass	Pass
Chrysene			Pass	Pass
Dibenzo[a,h]anthracene			Pass	Pass
Fluoranthene			Pass	Pass
Fluorene			Pass	Pass
Indeno(1,2,3-cd)pyrene			Pass	Pass
Naphthalene			Pass	Pass
Phenanthrene			Pass	Pass
Pyrene			Pass	Pass
p-Terphenyl-d14 (Surr.)	%		123	125
aldrin			Pass	Pass
a-BHC			Pass	Pass
b-BHC			Pass	Pass
d-BHC			Pass	Pass
g-BHC (lindane)			Pass	Pass
cis-chlordane			Pass	Pass
trans-chlordane			Pass	Pass
4,4'-DDD			Pass	Pass
4,4'-DDE			Pass	Pass
4,4'-DDT			Pass	Pass
dieldrin			Pass	Pass
endosulfan I			Pass	Pass
endosulfan II			Pass	Pass
endosulfan sulfate			Pass	Pass

endrin			Pass	Pass
endrin aldehyde			Pass	Pass
endrin ketone			Pass	Pass
heptachlor			Pass	Pass
heptachlor epoxide			Pass	Pass
hexachlorobenzene			Pass	Pass
methoxychlor			Pass	Pass
TCMX (Surr.)	%		94	92
chlorpyrifos			Pass	Pass
chlorpyrifos methyl			Pass	Pass
diazinon			Pass	Pass
fenchlorphos			Pass	Pass
methyl parathion			Pass	Pass
prophos			Pass	Pass
tributylphosphorotrithioite			Pass	Pass
Aroclor 1016			Pass	Pass
Aroclor 1221			Pass	Pass
Aroclor 1232			Pass	Pass
Aroclor 1242			Pass	Pass
Aroclor 1248			Pass	Pass
Aroclor 1254			Pass	Pass
Aroclor 1260			Pass	Pass
2-fluorobiphenyl (Surr.)	%		114	112

		Sample ID:	**D202404324004**	**D202404324904**
		Sample Name	**WAC201_TP2**	**WAC201_BR**
Parameter	***Units***	***PQL***		
ESA-P-ORG(3,8)				
>C10-C16			Pass	Pass
>C16-C34			Pass	Pass
>C34-C40			Pass	Pass
>C10-C14			Pass	Pass
>C15-C28			Pass	Pass
>C29-C36			Pass	Pass

		Sample ID:	**Q2024010375**
		Sample Name	
Parameter	***Units***	***PQL***	Metals Blank - Soil
ESA-MP-01,ICP-01			
Arsenic	mg/kg	5	<5.0
Cadmium	mg/kg	0.1	<0.10
Chromium	mg/kg	1	<1.0
Copper	mg/kg	5	<5.0
Lead	mg/kg	5	<5.0
Mercury	mg/kg	0.1	<0.10
Nickel	mg/kg	1	<1.0
Zinc	mg/kg	5	<5.0

Sample ID:	**Q2024010376**
Sample Name	

Parameter	*Units*	*PQL*	Metals Blank Sp-Soil
ESA-MP-01,ICP-01			
Arsenic	%		94
Cadmium	%		83
Chromium	%		87
Copper	%		82
Lead	%		86
Mercury	%		108
Nickel	%		89
Zinc	%		79

Sample ID:	**Q2024010377**
Sample Name	

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

Sample ID:	**Q2024010378**
Sample Name	

Parameter	*Units*	*PQL*	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8			
Benzene	%		105
Toluene	%		102
Ethylbenzene	%		89
m.p Xylene	%		88
o Xylene	%		83
Fluorobenzene (Surr.)	%		96

Sample ID:	**Q2024010379**
Sample Name	

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

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

Aroclor 1248	mg/kg	0.5	<0.50
Aroclor 1254	mg/kg	0.5	<0.50
Aroclor 1260	mg/kg	0.5	<0.50

		Sample ID:	**Q2024010380**
		Sample Name	
Parameter	***Units***	***PQL***	PCB Blank Sp - Soil
ESA-P-ORG(12 - 15)			
Acenaphthene	%		101
Anthracene	%		100
Fluoranthene	%		98
Naphthalene	%		98
Phenanthrene	%		99
Pyrene	%		98
p-Terphenyl-d14 (Surr.)	%		131
aldrin	%		92
endrin	%		107
hexachlorobenzene	%		89
TCMX (Surr.)	%		100
chlorpyrifos	%		90
diazinon	%		106
2-fluorobiphenyl (Surr.)	%		118
Aroclor 1016	%		101

Sample ID:	**Q2024010381**
Sample Name	

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

Sample ID:	**Q2024010382**
Sample Name	

Parameter	*Units*	*PQL*	TRH Blank Spike-Soil
ESA-P-ORG(3,8)			
>C10-C16	%		104
>C10-C14	%		100

Sample ID:	**S202404323901**
Sample Name	**WAC201_TP1**

Parameter	*Units*	*PQL*	
ESA-MP-01,ICP-01			
Arsenic	%		110
Cadmium	%		84
Chromium	%		88
Copper	%		83
Lead	%		88
Mercury	%		102
Nickel	%		87
Zinc	%		90

Sample ID:	S202404323902
Sample Name	WAC201_TP1

Parameter	*Units*	*PQL*	
ESA-P-ORG-07 & 08			
Benzene	%		108
Toluene	%		122
Ethylbenzene	%		92
m.p Xylene	%		91
o Xylene	%		87
Fluorobenzene (Surr.)	%		98

Sample ID:	S202404323903
Sample Name	WAC201_TP1

Parameter	*Units*	*PQL*	
ESA-P-ORG(12 - 15)			
Acenaphthene	%		96
Anthracene	%		96
Fluoranthene	%		101
Naphthalene	%		93
Phenanthrene	%		99
Pyrene	%		101
p-Terphenyl-d14 (Surr.)	%		119
aldrin	%		84
endrin	%		104
hexachlorobenzene	%		86
TCMX (Surr.)	%		89
chlorpyrifos	%		91
diazinon	%		100
Aroclor 1016	%		94
2-fluorobiphenyl (Surr.)	%		108

Sample ID:	**S202404323904**
Sample Name	**WAC201_TP1**

Parameter	*Units*	*PQL*	
ESA-P-ORG(3,8)			
>C10-C16	%		95
>C10-C14	%		92

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
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
Samplers	Cooper Harris

SAMPLE RECEIPT DETAILS

Project Number	A101024.0124.00/9/L03		
SLS Reference	2405499		
Number of samples	8		
Date samples received	29.11.2024		
Time samples received	2:30 PM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	16.1	**Thermometer Ref NO.**	T46
Turn Around Time requested	72 hours		
Expected Report Date	**04.12.2024**		

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

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INFORMATION SUMMARY

SLS Reference	2405499
Project Number	A101024.0124.00/9/L03
Client	ADE Consulting Group
Contact	Karin Azzam
Samplers	Cooper Harris

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED
Laboratory Sample ID	Sampling Date	Client Sample ID	SL01
2024043250	20.11.2024	BH206_0.0-0.5	X
2024043251	20.11.2024	BH206_0.9-1.0	X
2024043252	21.11.2024	BH208_0.4-0.5	X
2024043253	25.11.2024	BH205_0.0-0.4	X
2024043254	25.11.2024	BH205_0.8-1.0	X
2024043255	19.11.2024	BH202_0.0-0.2	X
2024043256	20.11.2024	BH203_0.0-0.1	X
2024043257	20.11.2024	BR	X

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Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

A.B.N. 52 093 452 950

Analysis report: A101024.0124.00
Laboratory LOT NO: 2405560

Date Received: 04.12.2024
Date Analysed: 05.12.2024
Report Date: 06.12.2024
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

This report supersedes all previous reports with the same reference. This report shall not be reproduced except in full

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.

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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
BH206_0.0-0.2	2024043763	Granulated Dark Soil	109.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
BH208_0.4-0.5	2024043764	Granulated Dark Soil	152.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
BH205_0.0-0.1	2024043765	Granulated Dark Soil	78.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
BH203_0.0-0.1	2024043766	Granulated Dark Soil	85.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

ESA-F-02
Chain of Custody (Internal)

Date Printed: 4/12/2024

#015

Document Revision Date: 22/08/2022

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADE CONSULTING GROUP

FULL PROJECT NUMER (e.g., : A201021.1725.05)	A101024.0124.00
PROJECT PHASE (e.g.,: C01)	009
PROJECT TASK (e.g.,: C11)	L01
SAMPLES DELIVERED BY:	ADF Newcastle
SAMPLERS:	MR
TURNAROUND (BUSINESS DAY - BD):	SAME DAY: ☐ 1-BD: ☑ 2-BD: ☐ 3-BD: ☐ 5 BD (STD):
SAMPLING DATE:	
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: XXX FREEZER: ☐ >>4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: XXX
CONS…	CONSULTANTS EMAIL: mitchell.roy@ade.group
PROJ… Digitally signed by Karin Azzam DN: cn=Karin Azzam, c=AU, o=ADE group, ou=Environmental, email=karin.azzam@ade.group Date: 2024.12.04 14:58:58 +11'00'	PROJECT MANAGERS E-MAIL: Karin.Azzam@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	A101024.0124.00/009/L01
RECEIVED BY: NC	SIGNATURE: N. Chambers
SAMPLES: 24 CHILLED: ☑ PRESERVED: ☐ PRESERVATION METHOD: ☐ CUSTODY SEAL INTACT: ☐	
MINIMAL HEADSPACE : ☐ WITHIN HOLDING TIME: ☑	
DATE: 5/12/24 TIME: 5:30 PM TEMPERATURE UPON RECEIPT: 14.8°C TH6.	
LIMS LOT NO. 2405575 LIMS/EXCEL SIGNATURE: N. Chambers	COMMENTS: On hold 12 mty #

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED																NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	SL01 (Std suite)	OH03 (asb fines presence/absence)			HOLD												POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER:_____ LAB PLEASE *EMAIL COC RECEIPT: ☐ Sample Comments
2024043 871	HA201_0.1-0.2	Soil	3-Dec	1xG + 1xB	2	X	X															
	HA201_0.4-0.5	Soil	3-Dec	1xG	1					X												
	HA202_0.1-0.2	Soil	3-Dec	1xG + 1xB	2					X												
872	HA202_0.4-0.5	Soil	3-Dec	1xG	1	X																
873	HA203_0.1-0.2	Soil	3-Dec	1xG + 1xB	2	X	X															
	HA203_0.4-0.5	Soil	3-Dec	1xG	1					X												
	HA204_0.1-0.2	Soil	3-Dec	1xG + 1xB	2					X												
874	HA204_0.4-0.5	Soil	3-Dec	1xG	1	X																
875	HA205_0.1-0.2	Soil	3-Dec	1xG + 1xB	2	X	X															
	HA205_0.4-0.5	Soil	3-Dec	1xG	1					X												
	HA206_0.1-0.2	Soil	3-Dec	1xG + 1xB	2					X												
876	HA206_0.4-0.5	Soil	3-Dec	1xG	1	X																
877	HA207_0.1-0.2	Soil	3-Dec	1xG + 1xB	2	X	X															
	HA207_0.4-0.5	Soil	3-Dec	1xG	1					X												
	HA208_0.1-0.2	Soil	3-Dec	1xG + 1xB	2					X												
878	HA208_0.4-0.5	Soil	3-Dec	1xG	1	X																
879	HA209_0.1-0.2	Soil	3-Dec	1xG + 1xB	2	X	X															
	HA209_0.4-0.5	Soil	3-Dec	1xG	1					X												
	HA210_0.1-0.2	Soil	3-Dec	1xG + 1xB	2					X												
880	HA210_0.4-0.5	Soil	3-Dec	1xG	1	X																
881	HA211_0.1-0.2	Soil	3-Dec	1xG + 1xB	2	X	X															
882	HA211_0.4-0.5	Soil	3-Dec	1xG	1	X																
	HA212_0.1-0.2	Soil	3-Dec	1xG + 1xB	2					X												
883	HA212_0.4-0.5	Soil	3-Dec	1xG	1	X																
884	HA213_0.1-0.2	Soil	3-Dec	1xG + 1xB	2	X	X															
	HA213_0.4-0.5	Soil	3-Dec	1xG	1					X												
	HA214_0.1-0.2	Soil	3-Dec	1xG + 1xB	2					X												
885	HA214_0.4-0.5	Soil	3-Dec	1xG	1	X																
886	BR01	Soil	3-Dec	1xG	1	X																

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.

9/12/24

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Batch Number : 2405575

Report Number : A101024.0124.00 (871-886)

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
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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:**	9/12/2024
Customer:	ADE Consulting Group	**No. of Samples:**	16
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	5/12/2024
		Date of Analysis:	6/12/2024

Cust Ref: A101024.0124.00.009 L01

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:	2024043871	2024043872	2024043873	2024043874	2024043875	2024043876	2024043877	2024043878	2024043879	2024043880	2024043881
	Sample Name	HA201_0.1-0.2	HA202_0.4-0.5	HA203_0.1-0.2	HA204_0.4-0.5	HA205_0.1-0.2	HA206_0.4-0.5	HA207_0.1-0.2	HA208_0.4-0.5	HA209_0.1-0.2	HA210_0.4-0.5	HA211_0.1-0.2
Parameter	*Units*	*PQL*	Sampling date: 03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
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.)	%		68	71	69	64	65	66	70	71	71	61	61
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	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	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
Chromium	mg/kg	1	12.2	24.0	13.2	16.6	17.3	13.9	13.0	20.6	10.3	27.1	18.4
Copper	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Lead	mg/kg	5	10.0	8.9	<5.0	5.1	14.6	<5.0	7.5	7.2	6.4	5.8	5.7
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	<1.0	<1.0	1.1	1.1	1.4	<1.0	<1.0	<1.0	<1.0	1.3	<1.0
Zinc	mg/kg	5	22.9	8.4	11.1	<5.0	18.0	<5.0	15.0	<5.0	17.1	<5.0	19.7
ESA-P-12												
% Moisture Content	%	1	9.6	9.7	19.2	12.5	9.6	12.0	6.8	11.6	18.7	16.6	8.5
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 : 2405575

Report Number : A101024.0124.00 (871-886)

Certificate of Analysis

	Sample ID:	2024043871	2024043872	2024043873	2024043874	2024043875	2024043876	2024043877	2024043878	2024043879	2024043880	2024043881
	Sample Name	HA201_0.1-0.2	HA202_0.4-0.5	HA203_0.1-0.2	HA204_0.4-0.5	HA205_0.1-0.2	HA206_0.4-0.5	HA207_0.1-0.2	HA208_0.4-0.5	HA209_0.1-0.2	HA210_0.4-0.5	HA211_0.1-0.2
Parameter	Units	PQL	Sampling date: 03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
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.)	%		89	76	85	83	75	86	84	79	83	85	87
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

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Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Batch Number : 2405575

Report Number : A101024.0124.00 (871-886)

Certificate of Analysis

	Sample ID:	2024043871	2024043872	2024043873	2024043874	2024043875	2024043876	2024043877	2024043878	2024043879	2024043880	2024043881
	Sample Name	HA201_0.1-0.2	HA202_0.4-0.5	HA203_0.1-0.2	HA204_0.4-0.5	HA205_0.1-0.2	HA206_0.4-0.5	HA207_0.1-0.2	HA208_0.4-0.5	HA209_0.1-0.2	HA210_0.4-0.5	HA211_0.1-0.2
Parameter	Units	PQL	Sampling date: 03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
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.)	%		78	67	74	72	67	77	74	69	71	75	76
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

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Certificate of Analysis

	Sample ID:	2024043871	2024043872	2024043873	2024043874	2024043875	2024043876	2024043877	2024043878	2024043879	2024043880	2024043881
	Sample Name	HA201_0.1-0.2	HA202_0.4-0.5	HA203_0.1-0.2	HA204_0.4-0.5	HA205_0.1-0.2	HA206_0.4-0.5	HA207_0.1-0.2	HA208_0.4-0.5	HA209_0.1-0.2	HA210_0.4-0.5	HA211_0.1-0.2
Parameter	Units	PQL	Sampling date: 03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
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.)	%		116	100	112	108	98	113	108	104	109	111	112
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

Batch Number : 2405575

Report Number : A101024.0124.00 (871-886)

Certificate of Analysis

	Sample ID:	2024043882	2024043883	2024043884	2024043885	2024043886
	Sample Name	HA211_0.4-0.5	HA212_0.4-0.5	HA213_0.1-0.2	HA214_0.4-0.5	BR01
Parameter	Units	PQL	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
ESA-P-ORG7 & ORG8							
Benzene	mg/kg	0.5	<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
Ethylbenzene	mg/kg	1	<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
o Xylene	mg/kg	1	<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
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		69	68	72	60	62
C6-C10	mg/kg	35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01							
Arsenic	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium	mg/kg	1	21.8	19.1	8.8	15.7	21.1
Copper	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0
Lead	mg/kg	5	5.4	5.3	7.0	<5.0	<5.0
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0
Zinc	mg/kg	5	<5.0	325.5	17.5	<5.0	<5.0
ESA-P-12							
% Moisture Content	%	1	11.5	11.0	13.9	11.9	13.2
ESA-P-ORG(12 - 15)							
Acenaphthene	mg/kg	0.3	<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

Certificate of Analysis

	Sample ID:	2024043882	2024043883	2024043884	2024043885	2024043886
	Sample Name	HA211_0.4-0.5	HA212_0.4-0.5	HA213_0.1-0.2	HA214_0.4-0.5	BR01
Parameter	Units	PQL	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
Anthracene	mg/kg	0.3	<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
Benzo[a]pyrene	mg/kg	0.3	<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
Benzo[b,k]fluoranthene	mg/kg	0.3	<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
Dibenzo[a,h]anthracene	mg/kg	0.3	<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
Fluorene	mg/kg	0.3	<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
Naphthalene	mg/kg	0.3	<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
Pyrene	mg/kg	0.3	<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
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<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
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		88	83	67	62	79
aldrin	mg/kg	0.1	<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
b-BHC	mg/kg	0.1	<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
g-BHC (lindane)	mg/kg	0.1	<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
trans-chlordane	mg/kg	0.1	<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

Certificate of Analysis

	Sample ID:	2024043882	2024043883	2024043884	2024043885	2024043886
	Sample Name	HA211_0.4-0.5	HA212_0.4-0.5	HA213_0.1-0.2	HA214_0.4-0.5	BR01
Parameter	Units	PQL	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
4,4'-DDE	mg/kg	0.1	<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
dieldrin	mg/kg	0.1	<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
endosulfan II	mg/kg	0.2	<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
endrin	mg/kg	0.2	<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
endrin ketone	mg/kg	0.1	<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
heptachlor epoxide	mg/kg	0.1	<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
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		78	76	60	80	73
chlorpyrifos	mg/kg	0.1	<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
diazinon	mg/kg	0.1	<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
methyl parathion	mg/kg	0.1	<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
tributylphosphorotrithioite	mg/kg	0.1	<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
Aroclor 1016	mg/kg	0.5	<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
Aroclor 1232	mg/kg	0.5	<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

Certificate of Analysis

	Sample ID:	2024043882	2024043883	2024043884	2024043885	2024043886
	Sample Name	HA211_0.4-0.5	HA212_0.4-0.5	HA213_0.1-0.2	HA214_0.4-0.5	BR01
Parameter	Units	PQL	03/12/2024	03/12/2024	03/12/2024	03/12/2024	03/12/2024
Aroclor 1248	mg/kg	0.5	<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
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		116	111	89	102	104
ESA-P-ORG(3,8)							
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100

Sydney Laboratory Services

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Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

CLIENT DETAILS

Client	ADE Consulting Group
Contact	Karin Azzam
Samplers	Mitchell Roy

SAMPLE RECEIPT DETAILS

Project Number	A101024.0124.00/009/L01		
SLS Reference	2405575		
Number of samples	29		
Date samples received	05.12.2024		
Time samples received	3:30 PM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	24.8	**Thermometer Ref NO.**	T46
Turn Around Time requested	24 hours		
Expected Report Date	**09.12.2024**		

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	2405575
Project Number	A101024.0124.00/009/L01
Client	ADE Consulting Group
Contact	Karin Azzam
Samplers	Mitchell Roy

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED		
Laboratory Sample ID	Sampling Date	Client Sample ID	SL01	OH03	ON HOLD
2024043871	03.12.2024	HA201_0.1-0.2	X	X	
	03.12.2024	HA201_0.4-0.5			X
	03.12.2024	HA202_0.1-0.2			X
2024043872	03.12.2024	HA202_0.4-0.5	X		
2024043873	03.12.2024	HA203_0.1-0.2	X	X	
	03.12.2024	HA203_0.4-0.5			X
	03.12.2024	HA204_0.1-0.2			X
2024043874	03.12.2024	HA204_0.4-0.5	X		
2024043875	03.12.2024	HA205_0.1-0.2	X	X	
	03.12.2024	HA205_0.4-0.5			X
	03.12.2024	HA206_0.1-0.2			X
2024043876	03.12.2024	HA206_0.4-0.5	X		
2024043877	03.12.2024	HA207_0.1-0.2	X	X	
	03.12.2024	HA207_0.4-0.5			X
	03.12.2024	HA208_0.1-0.2			X
2024043878	03.12.2024	HA208_0.4-0.5	X		
2024043879	03.12.2024	HA209_0.1-0.2	X	X	
	03.12.2024	HA209_0.4-0.5			X
	03.12.2024	HA210_0.1-0.2			X
2024043880	03.12.2024	HA210_0.4-0.5	X		
2024043881	03.12.2024	HA211_0.1-0.2	X	X	
2024043882	03.12.2024	HA211_0.4-0.5	X		
	03.12.2024	HA212_0.1-0.2			X
2024043883	03.12.2024	HA212_0.4-0.5	X		
2024043884	03.12.2024	HA213_0.1-0.2	X	X	
	03.12.2024	HA213_0.4-0.5			X
	03.12.2024	HA214_0.1-0.2			X
2024043885	03.12.2024	HA214_0.4-0.5	X		
2024043886	03.12.2024	BR01	X		

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: A101024.0124.00
Laboratory LOT NO: 2405575

Date Received: 05.12.2024
Date Analysed: 09.12.2024
Report Date: 09.12.2024
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

This report supersedes all previous reports with the same reference. This report shall not be reproduced except in full

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
HA201 0.1-0.2	2024043871	Granulated Dark Soil	87.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
HA203 0.1-0.2	2024043873	Granulated Dark Soil	55.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
HA205 0.1-0.2	2024043875	Granulated Dark Soil	78.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
HA207 0.1-0.2	2024043877	Granulated Dark Soil	82.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
HA209 0.1-0.2	2024043879	Granulated Dark Soil	69.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		

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
HA211 0.1-0.2	2024043881	Granulated Dark Soil	79.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		
HA213 0.1-0.2	2024043884	Granulated Dark Soil	66.00	ND	No asbestos detected at the reporting limit of 0.1g/kg	N/A	Nil
					Organic fibres detected		

CERTIFICATE OF ANALYSIS

Work Order	: **ES2414782**	Page	: 1 of 12
Client	: **ADE Consulting Group Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: Tama Armani	Contact	: Customer Services ES
Address	: 9/103 GLENWOOD DRIVE THORNTON NSW 2322	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: A101024.0124	Date Samples Received	: 03-May-2024 16:55
Order number	: ----	Date Analysis Commenced	: 10-May-2024
C-O-C number	: ----	Issue Date	: 16-May-2024 16:19
Sampler	: Mitchell Roy		
Site	: ----		
Quote number	: EN/111		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

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

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		18	18	34	18	----
Total Alkalinity as CaCO3	----	1	mg/L		18	18	34	18	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		8	11	8	9	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		49	40	34	38	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		6	12	9	12	----
Magnesium	7439-95-4	1	mg/L		4	4	3	4	----
Sodium	7440-23-5	1	mg/L		32	29	24	28	----
Potassium	7440-09-7	1	mg/L		1	1	<1	1	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
Nickel	7440-02-0	0.001	mg/L		0.001	0.001	<0.001	<0.001	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
Zinc	7440-66-6	0.005	mg/L		0.042	0.018	0.018	0.016	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		1.91	1.72	1.80	1.62	----
ø Total Cations	----	0.01	meq/L		2.05	2.22	1.74	2.17	----
EP068A: Organochlorine Pesticides (OC)									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Diazinon	333-41-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Malathion	121-75-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Fenthion	55-38-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Parathion	56-38-2	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Ethion	563-12-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	5	µg/L		<5	<5	<5	<5	----
Isopropylbenzene	98-82-8	5	µg/L		<5	<5	<5	<5	----
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	<5	<5	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	<5	<5	<5	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	<5	<5	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	<5	<5	<5	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	<5	<5	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	<5	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	<5	<5	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	<50	<50	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<50	<50	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	<50	<50	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	<50	<50	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	<5	<5	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	<5	<5	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	<5	<5	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	<5	<5	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	<5	<5	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	<5	<5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	<50	<50	----
Chloromethane	74-87-3	50	µg/L		<50	<50	<50	<50	----
Vinyl chloride	75-01-4	50	µg/L		<50	<50	<50	<50	----
Bromomethane	74-83-9	50	µg/L		<50	<50	<50	<50	----
Chloroethane	75-00-3	50	µg/L		<50	<50	<50	<50	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	<50	<50	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	<5	<5	----
Iodomethane	74-88-4	5	µg/L		<5	<5	<5	<5	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	<5	<5	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	<5	<5	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	<5	<5	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	<5	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	<5	<5	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	<5	<5	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	<5	<5	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	<5	<5	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	<5	<5	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	<5	<5	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	<5	<5	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	<5	<5	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	<5	<5	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	<5	<5	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	<5	<5	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	<5	<5	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	<5	<5	----
Pentachloroethane	76-01-7	5	µg/L		<5	<5	<5	<5	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	<5	<5	----
Hexachlorobutadiene	87-68-3	5	µg/L		<5	<5	<5	<5	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	<5	<5	----
Bromobenzene	108-86-1	5	µg/L		<5	<5	<5	<5	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	<5	<5	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	<5	<5	----
1.3-Dichlorobenzene	541-73-1	5	µg/L		<5	<5	<5	<5	----
1.4-Dichlorobenzene	106-46-7	5	µg/L		<5	<5	<5	<5	----
1.2-Dichlorobenzene	95-50-1	5	µg/L		<5	<5	<5	<5	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L		<5	<5	<5	<5	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	<5	<5	----
EP074G: Trihalomethanes									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP074G: Trihalomethanes - Continued									
Chloroform	67-66-3	5	µg/L		<5	<5	<5	<5	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	<5	<5	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	<5	<5	----
Bromoform	75-25-2	5	µg/L		<5	<5	<5	<5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	<100	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	<0.01	<0.01	<0.01	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.01**	<0.01	<0.01	**0.01**	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**0.08**	<0.05	**0.11**	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	<0.01	<0.01	**0.01**	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.03**	**0.08**	<0.01	**0.12**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**124**	**109**	**110**	**106**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**130**	**103**	**84.0**	**116**	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**110**	**117**	**116**	**108**	----
Toluene-D8	2037-26-5	5	%		**103**	**109**	**109**	**102**	----
4-Bromofluorobenzene	460-00-4	5	%		**107**	**110**	**112**	**103**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**30.8**	**32.5**	**30.0**	**32.4**	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**62.8**	**66.1**	**60.1**	**66.4**	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**61.6**	**68.5**	**65.2**	**72.8**	----
EP075(SIM)T: PAH Surrogates									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW01	GW02	GW03	BR01	----
				Sampling date / time	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	03-May-2024 00:00	----
Compound	CAS Number	LOR	Unit		ES2414782-001	ES2414782-002	ES2414782-003	ES2414782-004	--------
					Result	Result	Result	Result	----
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	1.0	%		71.9	81.4	71.7	80.7	----
Anthracene-d10	1719-06-8	1.0	%		83.0	87.0	81.7	89.6	----
4-Terphenyl-d14	1718-51-0	1.0	%		81.4	80.2	80.2	85.2	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		103	108	107	100	----
Toluene-D8	2037-26-5	2	%		99.1	105	104	98.4	----
4-Bromofluorobenzene	460-00-4	2	%		107	110	111	105	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		100	97.3	102	100	----
13C8-PFOA	----	0.02	%		110	107	105	104	----

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	50	150
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	50	150
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	143
Toluene-D8	2037-26-5	75	131
4-Bromofluorobenzene	460-00-4	73	137
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2414782**	Page	: 1 of 16
Client	: **ADE Consulting Group Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: Tama Armani	Contact	: Customer Services ES
Address	: 9/103 GLENWOOD DRIVE THORNTON NSW 2322	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: A101024.0124	Date Samples Received	: 03-May-2024
Order number	: ----	Date Analysis Commenced	: 10-May-2024
C-O-C number	: ----	Issue Date	: 16-May-2024
Sampler	: Mitchell Roy		
Site	: ----		
Quote number	: EN/111		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED037P: Alkalinity by PC Titrator (QC Lot: 5788985)									
ES2414969-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	45	48	6.3	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	45	48	6.3	0% - 20%
ES2414906-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	96	97	1.8	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	96	97	1.8	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 5790368)									
ES2414764-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	731	743	1.7	0% - 20%
ES2414946-002	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	1790	1750	2.3	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 5790369)									
ES2414764-001	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	5390	5440	0.9	0% - 20%
ES2414946-002	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	241	240	0.0	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 5785218)									
ES2414546-003	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	26	26	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	32	32	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	903	920	1.8	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	7	7	0.0	No Limit
ES2414546-011	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	1180	1180	0.4	0% - 20%

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
ED093F: Dissolved Major Cations (QC Lot: 5785218) - continued									
ES2414546-011	Anonymous	ED093F: Magnesium	7439-95-4	1	mg/L	715	768	7.1	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	4110	4340	5.5	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	19	19	0.0	0% - 50%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5785216)									
ES2414546-003	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.003	<0.001	93.7	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.008	0.012	29.7	No Limit
ES2414546-011	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	0.0003	0.0003	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.018	0.016	14.5	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.022	0.014	44.6	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 5785217)									
ES2414546-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES2414546-010	Anonymous	EG035F: Mercury	7439-97-6	0.0001 (0.0005)*	mg/L	0.0054	0.0054	0.0	0% - 50%
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5782844)									
ES2414782-001	GW01	EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5782844) - continued									
ES2414782-001	GW01	EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5782844)									
ES2414782-001	GW01	EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP068: Parathion	56-38-2	2	µg/L	<2.0	<2.0	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 5780461)									
ES2414719-001	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074B: Oxygenated Compounds (QC Lot: 5780461)									
ES2414719-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 5780461)									
ES2414719-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 5780461)									
ES2414719-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 5780461)									
ES2414719-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 5780461) - continued									
ES2414719-001	Anonymous	EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 5780461)									
ES2414719-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 5780461)									
ES2414719-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5782843)									
ES2414782-001	GW01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5780460)									
ES2414719-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	30	30	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5782845)									
ES2414782-001	GW01	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5780460)									
ES2414719-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5782845)									
ES2414782-001	GW01	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080: BTEXN (QC Lot: 5780460)									
ES2414719-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5790638)									
ES2414912-006	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.75	0.74	2.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.97	0.96	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.17	0.17	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5790638)									
ES2414912-006	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.34	0.36	5.1	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.17	0.17	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.58	0.58	0.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.18	0.18	5.6	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5790638)									
ES2414912-006	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5790638) - continued									
ES2414912-006	Anonymous	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED037P: Alkalinity by PC Titrator (QCLot: 5788985)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	102	81.0	115
				----	50 mg/L	105	80.0	120
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5790368)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	96.5	82.0	122
				<1	500 mg/L	95.6	82.0	122
ED045G: Chloride by Discrete Analyser (QCLot: 5790369)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	50 mg/L	110	80.9	127
				<1	1000 mg/L	98.0	80.9	127
ED093F: Dissolved Major Cations (QCLot: 5785218)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	106	80.0	114
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	99.2	90.0	116
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	107	82.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	108	85.0	113
EG020F: Dissolved Metals by ICP-MS (QCLot: 5785216)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	107	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.7	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	102	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	96.5	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.2	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.2	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	107	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 5785217)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	93.0	83.0	105
EP068A: Organochlorine Pesticides (OC) (QCLot: 5782844)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	78.2	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	82.9	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	86.8	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	82.7	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	93.0	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	88.0	65.2	108

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5782844) - continued								
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	82.2	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	87.1	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	90.1	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	90.0	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	87.6	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	92.6	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	89.1	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	77.5	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	80.2	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	84.8	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	91.3	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	78.7	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	79.7	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	81.0	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	76.7	61.1	114
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5782844)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	76.1	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	79.9	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	26.0	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	82.6	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	87.5	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	91.0	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	89.9	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	90.1	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	85.2	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	86.1	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	83.1	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	84.3	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	85.4	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	87.1	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	88.5	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	88.4	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	80.7	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	81.2	66.2	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5782844) - continued								
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	92.6	51.6	128
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 5780461)								
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	94.6	73.0	119
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	91.9	76.0	118
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	87.8	69.0	119
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	90.7	74.0	116
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	90.7	73.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	96.7	74.0	116
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	90.5	72.0	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	92.1	71.0	119
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	89.3	65.0	123
EP074B: Oxygenated Compounds (QCLot: 5780461)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	97.6	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	74.7	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	96.8	66.0	132
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	75.8	65.0	137
EP074C: Sulfonated Compounds (QCLot: 5780461)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	79.4	72.8	127
EP074D: Fumigants (QCLot: 5780461)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	85.5	68.0	122
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	95.4	76.0	118
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	10 µg/L	93.9	62.0	120
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	10 µg/L	97.5	60.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	99.3	69.0	117
EP074E: Halogenated Aliphatic Compounds (QCLot: 5780461)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	64.5	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	71.5	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	70.1	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	78.5	56.0	140
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	77.8	61.0	139
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	81.9	69.0	131
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	84.3	70.0	124
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	75.4	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	85.8	74.0	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP074E: Halogenated Aliphatic Compounds (QCLot: 5780461) - continued								
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	86.4	74.0	120
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	90.6	77.0	119
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	82.5	67.0	119
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	84.2	73.0	119
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	80.8	62.0	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	95.4	73.0	123
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	87.3	76.0	118
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	94.8	73.0	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	103	72.0	126
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	100	71.0	129
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	89.9	72.0	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	95.4	66.0	114
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	106	60.0	120
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	109	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	112	70.0	124
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	107	74.0	126
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	95.4	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	108	66.4	136
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	10 µg/L	86.5	58.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 5780461)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	94.8	79.0	117
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	94.4	76.0	116
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	91.2	73.0	119
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	93.9	73.0	119
EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	10 µg/L	93.6	75.0	117
EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	10 µg/L	97.2	74.0	118
EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	10 µg/L	97.0	75.0	117
EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	10 µg/L	93.1	61.0	125
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	101	67.0	123
EP074G: Trihalomethanes (QCLot: 5780461)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	90.7	72.0	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	93.1	64.0	118
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	96.6	65.0	115
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	96.6	73.5	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5782843)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	69.2	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	80.3	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	75.9	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	78.1	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	81.4	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	79.6	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	87.5	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	88.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	85.2	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	82.8	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	76.2	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	92.7	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	86.5	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	77.5	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	85.2	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	85.5	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5780460)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	92.0	75.0	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5782845)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	68.9	53.7	97.0
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	79.1	63.3	107
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	83.5	58.3	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5780460)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	81.4	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5782845)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	55.4	53.9	95.5
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	76.8	57.8	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	75.6	50.5	115
EP080: BTEXN (QCLot: 5780460)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	99.1	68.3	119
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	98.2	73.5	120
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	103	73.8	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	111	73.0	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5780460) - continued								
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	105	76.4	123
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	116	75.5	124
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5790638)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	89.0	72.0	130
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	101	68.0	131
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	96.5	65.0	140
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5790638)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.3	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	106	71.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5790638)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	92.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	84.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	91.6	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	106	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5790368)							
ES2414764-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	10 mg/L	# Not Determined	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 5790369)							
ES2414764-001	Anonymous	ED045G: Chloride	16887-00-6	250 mg/L	# Not Determined	70.0	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 5785216)							
ES2414546-002	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	114	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	98.5	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	104	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	106	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5785216) - continued							
ES2414546-002	Anonymous	EG020A-F: Lead	7439-92-1	1 mg/L	103	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	95.5	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	104	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 5785217)							
ES2414546-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	88.5	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 5782844)							
ES2414782-002	GW02	EP068: gamma-BHC	58-89-9	5 µg/L	79.1	70.0	130
		EP068: Heptachlor	76-44-8	5 µg/L	98.6	70.0	130
		EP068: Aldrin	309-00-2	5 µg/L	88.0	70.0	130
		EP068: Dieldrin	60-57-1	5 µg/L	107	70.0	130
		EP068: Endrin	72-20-8	20 µg/L	82.5	70.0	130
		EP068: 4.4`-DDT	50-29-3	20 µg/L	89.1	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5782844)							
ES2414782-002	GW02	EP068: Diazinon	333-41-5	5 µg/L	88.3	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	5 µg/L	91.1	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	5 µg/L	86.1	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	5 µg/L	91.3	70.0	130
		EP068: Prothiofos	34643-46-4	5 µg/L	75.7	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 5780461)							
ES2414719-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	123	70.0	130
		EP074: Trichloroethene	79-01-6	25 µg/L	122	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 5780461)							
ES2414719-001	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	127	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5782843)							
ES2414782-002	GW02	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	76.8	70.0	130
		EP075(SIM): Pyrene	129-00-0	20 µg/L	75.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5780460)							
ES2414719-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	105	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5782845)							
ES2414782-002	GW02	EP071: C10 - C14 Fraction	----	200 µg/L	130	70.0	130
		EP071: C15 - C28 Fraction	----	250 µg/L	123	71.0	130
		EP071: C29 - C36 Fraction	----	200 µg/L	127	67.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5780460)							
ES2414719-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5782845)							
ES2414782-002	GW02						

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5782845) - continued							
ES2414782-002	GW02	EP071: >C10 - C16 Fraction	----	250 µg/L	100	70.0	130
		EP071: >C16 - C34 Fraction	----	350 µg/L	113	75.0	130
		EP071: >C34 - C40 Fraction	----	150 µg/L	124	67.0	130
EP080: BTEXN (QCLot: 5780460)							
ES2414719-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	113	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	107	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	113	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	118	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	112	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	98.0	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2414782**	Page	: 1 of 9
Client	: **ADE Consulting Group Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: Tama Armani	Telephone	: +61-2-8784 8555
Project	: A101024.0124	Date Samples Received	: 03-May-2024
Site	: ----	Issue Date	: 16-May-2024
Sampler	: Mitchell Roy	No. of samples received	: 4
Order number	: ----	No. of samples analysed	: 4

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	ES2414764--001	Anonymous	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED045G: Chloride by Discrete Analyser	ES2414764--001	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	19	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / *Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
GW01, GW02, GW03, BR01	**03-May-2024**	**----**	----	**----**	**14-May-2024**	17-May-2024	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
GW01, GW02, GW03, BR01	**03-May-2024**	**----**	----	**----**	**15-May-2024**	31-May-2024	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
GW01, GW02, GW03, BR01	**03-May-2024**	**----**	----	**----**	**15-May-2024**	31-May-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)							
GW01, GW02, GW03, BR01	**03-May-2024**	**----**	----	**----**	**13-May-2024**	31-May-2024	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
GW01, GW02, GW03, BR01	**03-May-2024**	**----**	----	**----**	**13-May-2024**	30-Oct-2024	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
GW01, GW02, GW03, BR01	**03-May-2024**	**----**	----	**----**	**15-May-2024**	31-May-2024	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	10-May-2024	✓	**13-May-2024**	19-Jun-2024	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	10-May-2024	✓	**13-May-2024**	19-Jun-2024	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP074)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	10-May-2024	✓	**13-May-2024**	19-Jun-2024	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	10-May-2024	✓	**14-May-2024**	19-Jun-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	10-May-2024	✓	**14-May-2024**	19-Jun-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
GW01, GW02, GW03, BR01	**03-May-2024**	**10-May-2024**	17-May-2024	✓	**10-May-2024**	17-May-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
GW01, GW02, GW03, BR01	**03-May-2024**	**15-May-2024**	30-Oct-2024	✓	**16-May-2024**	30-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
GW01, GW02, GW03, BR01	**03-May-2024**	**15-May-2024**	30-Oct-2024	✓	**16-May-2024**	30-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
GW01, GW02, GW03, BR01	**03-May-2024**	**15-May-2024**	30-Oct-2024	✓	**16-May-2024**	30-Oct-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
GW01, GW02, GW03, BR01	**03-May-2024**	**15-May-2024**	30-Oct-2024	✓	**16-May-2024**	30-Oct-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	19	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2414782**

Client	: **ADE Consulting Group Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: Tama Armani	Contact	: Customer Services ES
Address	: 9/103 GLENWOOD DRIVE THORNTON NSW 2322	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: Tama.Armani@ade.group	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: A101024.0124	Page	: 1 of 2
Order number	: ----	Quote number	: EP2023ADENVT0001 (EN/111)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Mitchell Roy		

Dates

Date Samples Received	: 03-May-2024 16:55	Issue Date	: 13-May-2024
Client Requested Due Date	: 16-May-2024	Scheduled Reporting Date	: **16-May-2024**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 4 / 4

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231 PFAS - Short Suite (12 analytes)	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - W-02 8 Metals	WATER - W-10 TRH/BTEX/VOC/PAH	WATER - W-12 OC/OP Pesticides
ES2414782-001	03-May-2024 00:00	GW01	✓	✓	✓	✓	✓
ES2414782-002	03-May-2024 00:00	GW02	✓	✓	✓	✓	✓
ES2414782-003	03-May-2024 00:00	GW03	✓	✓	✓	✓	✓
ES2414782-004	03-May-2024 00:00	BR01	✓	✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS ADE		
- A4 - AU Tax Invoice (INV)	Email	accounts@ade.group
info		
- *AU Certificate of Analysis - NATA (COA)	Email	info@ade.group
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	info@ade.group
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	info@ade.group
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	info@ade.group
- Chain of Custody (CoC) (COC)	Email	info@ade.group
- EDI Format - ENMRG (ENMRG)	Email	info@ade.group
INFO ADENVIRO		
- *AU Certificate of Analysis - NATA (COA)	Email	info@adenviro.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	info@adenviro.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	info@adenviro.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	info@adenviro.com.au
- Chain of Custody (CoC) (COC)	Email	info@adenviro.com.au
- EDI Format - ENMRG (ENMRG)	Email	info@adenviro.com.au
Karin Azzam		
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	karin.azzam@ade.group
Mitchell Roy		
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mitchell.roy@ade.group
Tama Armani		
- *AU Certificate of Analysis - NATA (COA)	Email	Tama.Armani@ade.group
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Tama.Armani@ade.group
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Tama.Armani@ade.group
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Tama.Armani@ade.group
- Chain of Custody (CoC) (COC)	Email	Tama.Armani@ade.group
- EDI Format - ENMRG (ENMRG)	Email	Tama.Armani@ade.group
- EDI Format - ESDAT (ESDAT)	Email	Tama.Armani@ade.group
- EDI Format - XTab (XTAB)	Email	Tama.Armani@ade.group

ADE Consulting Group Pty Ltd	PM-F-07b1a Chain of Custody and Order (External)	Page: 1 of 1 Date: 21/12/2020

Job Number: A101024.0124

From: ADE Consulting Group Pty Ltd
Unit 9 / 103 Glenwood Drive,
Thornton NSW 2322
Phone: 0405 883 418
Email: info@ade.group

To: ALS Global
ALS Newcastle

Attention:

QUOTE NUMBER: ADE

ALS ACCOUNT ID: ADE Consulting

Sampler: Mitchell Roy (*print name*) (*Signature*) Date: 03/05/2024

Delivery: Mitchell Roy (*print name*) (*Signature*) Date: 03/05/2024

Received for Laboratory: JN (*print name*) (*signature*) Date: 3-5-24 1655 hr

DETAILS OF SAMPLE					ANALYSIS REQUIRED				
Laboratory Sample ID	Sample Date	ADE Sample ID	Sample Type	Container & Preservation	8 Metals (W-2)	TRH, BTEXN, PAH, VOC (W-10)	Cations and Anions (NT-1 & NT-2)	PFAS (12 analytes) (EP231)	OC/OP (W-12)
1	3/5/24	GW01	Water	6xG + 6xP	X	X	X	X	X
2	3/5/24	GW02	Water	6xG + 6xP	X	X	X	X	X
3	3/5/24	GW03	Water	6xG + 6xP	X	X	X	X	X
4	3/5/24	BR01	Water	6xG + 6xP	X	X	X	X	X

Further instructions:

1. Invoices are required to be sent to **accounts@ade.group** instead of sending them to your contact person. ADE Consulting Group Pty Ltd will not be processing any invoices going forward unless they are emailed to this address.
2. Please analyse all samples on STD TAT and report results to **-Tama.Armani@ade.group**

rel: 8/5/24 BL
KB

LAB OF ORIGIN:
NEWCASTLE

E-MAILED

Environmental Division
Sydney
Work Order Reference
ES2414782

Telephone : +61-2-8784 8555

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ADE Consulting Group Pty Ltd	PM-F-07b1a Chain of Custody and Order (External)	Page: 1 of 1 Date: 21/12/2020

Job Number: A101024.0124

From: ADE Consulting Group Pty Ltd
Unit 9 / 103 Glenwood Drive,
Thornton NSW 2322
Phone: 0405 883 418
Email: info@ade.group

To: ALS Global
ALS Newcastle

Attention:

ADE CONSULTING GROUP

QUOTE NUMBER: ADE

ALS ACCOUNT ID: ADE Consulting

Sampler: Mitchell Roy (*print name*) (*Signature*) Date: 03/05/2024

Delivery: Mitchell Roy (*print name*) (*Signature*) Date: 03/05/2024

Received for Laboratory: JN (*print name*) (*signature*) Date: 3-5-24 16:55

DETAILS OF SAMPLE					ANALYSIS REQUIRED				
Laboratory Sample ID	Sample Date	ADE Sample ID	Sample Type	Container & Preservation	8 Metals (W-2)	TRH, BTEXN, PAH, VOC (W-10)	Cations and Anions (NT-1 & NT-2)	PFAS (12 analytes) (EP231)	OC/OP (W-12)
1	3/5/24	GW01	Water	6xG + 6xP	X	X	X	X	X
2	3/5/24	GW02	Water	6xG + 6xP	X	X	X	X	X
3	3/5/24	GW03	Water	6xG + 6xP	X	X	X	X	X
4	3/5/24	BR01	Water	6xG + 6xP	X	X	X	X	X

Further instructions:

1. Invoices are required to be sent to accounts@ade.group instead of sending them to your contact person. ADE Consulting Group Pty Ltd will not be processing any invoices going forward unless they are emailed to this address.
2. Please analyse all samples on STD TAT and report results to -Tama.Armani@ade.group

Rel: 8/5/24 BR KS

Rec: 09/05/24 1935

LAB OF ORIGIN: NEWCASTLE

E-MAILED

Environmental Division
Sydney
Work Order Reference
ES2414782

Telephone : +61-2-8784 8555

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Appendix H – Data Quality Evaluation

Background

To evaluate a dataset generated by an environmental investigation or assessment, the data quality indicators need to be defined to ensure that the data are of sufficient quantity and quality for the purpose of making a decision. ASC NEPM (2013) identifies five measures to be considered when reviewing the quality assurance and quality control from an investigation or assessment as below:

- Precision: A quantitative measure of the variability or reproducibility of data.
- Accuracy (bias): A quantitative measure of the closeness of reported data to the true value.
- Representativeness: The confidence (expressed qualitatively) that data is representative of each medium present at the site.
- Comparability: The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.
- Completeness: A measure of the amount of useable data (expressed as %) from a data collection activity.

The above five measures are known collectively by the acronym 'PARCC' and are comprised of both field and laboratory QA and QC processes to ensure that a resultant data set is suitable for making a decision.

The quantitative requirements have been outlined in the following sub-section, while the detailed review of the field and laboratory QA and QC is provided in the subsequent sub-sections.

Data Quality Indicators

The DGIs to demonstrate the PARC acceptance criteria were summarised in **Table I1** below.

Table I1: Data Quality Indicators

Data Quality Indicator	Frequency	Data Quality Criteria
Blind replicate (intra-laboratory)	1:20 or 5%	< 50% RPD
Split replicate (inter-laboratory)	1:20 or 5%	< 50% RPD
Trip Blank	1 per laboratory batch	< LOR
Trip Spike	1 per laboratory batch	70 – 130% recovery
Laboratory surrogate spikes	10% or laboratory discretion	50 – 150% recovery
Laboratory matrix spikes	10% or laboratory discretion	70 – 130% recovery
Laboratory control spikes	10% or laboratory discretion	70 – 130% recovery
Laboratory duplicates (internal)	10% or laboratory discretion	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%
Method blanks	Results between 10-20 times the PQL: RPD must lie between 0-50%	<LOR

Field Data Evaluation

Field Staff

ADE provided the following suitably experienced and qualified environmental consultants / geotechnical engineers to oversee the investigations completed at the site.

- Karin Azzam – Environmental Scientist
- Mitchell Roy – Environmental Scientist
- Cooper Harris – Geotechnical Engineer

Investigation and Sampling Methods

This DGA is required for due diligence purposes to make an assessment of site suitability prior to the proposed construction of a new high school to accommodate.

A review of available historical information and previous environmental investigations have inferred that the site 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 on site (demolished buildings), potential historic pesticide and herbicide use, potential migration of contaminants from offsite service station.

An environmental investigation was therefore undertaken to assess soil and groundwater conditions within the site. The following data collected was then used to evaluate and characterise the soil condition across the site to inform the need for remediation and further management (if required).

Soil 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 a chilled esky for transportation to the laboratory.

The investigations and sampling methods adopted for the DGA were considered suitable for the identified CoPC. 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.

Blind and Split Replicate Samples

Australian Standard 4428.1 and ASC NEPM (2013) specifies the typical Relative Percentage Data (RPD) values for replicate samples to be below 30%. If both samples' values are less than the practical quantification limit (PQL), the RPD is not calculated. RPDs are only calculated when the concentration is greater than 1x the EQL. The acceptable RPDs were specified in the Measurement Data Quality Indicators (MDQIs) from the DQOs (ADE, 2023) and for each EQL multiplier range are:

- Reported result is between 1 - 10 x EQL - 81% (1 - 10 x EQL);
- Reported result is between 10 - 30 x EQL - 50% (10 - 30 x EQL);
- Reported result is > 30 x EQL - 30% (> 30 x EQL).

The RPD is calculated with the following formula:

$$RPD = \frac{|x - y|}{\frac{(x + y)}{2}} \times 100$$

None of the RPD values between the intra- and inter-laboratory replicates and their respective parent samples were noted to be invalid within the adopted criteria (refer to RPD calculations in **Appendix I**).

Trip/ Field Blank and Trip Spike Samples

Trip blank and trip spike samples are laboratory prepared control samples that are taken into the field and stored with samples collected during the course of any investigation to evaluate the sample handling and

storage during collection and transport. The trip blank sample is a degassed/ purged sample that does not contain any BTEX group compounds, hence when analysed should be below the laboratory limit of reporting (LOR). Conversely, the trip spike is spiked with a known concentration of BTEX group compounds and then re-analysed upon return to the laboratory to determine the potential for volatile loss and potential cross contamination.

The trip spike results are compared to the known concentration, or a control analysis conducted prior to the sample being issued by the laboratory. Where the concentrations are below the DQI, there is potential for volatile contaminants to have been lost, and therefore a Type I error (i.e., false negative) may occur or other samples may be cross contaminated and a Type 2 error (i.e., false positive) may occur.

One trip blank and trip spike were evaluated during the site assessment. The trip blank returned concentrations of BTEX below the laboratory limit of reporting (LOR), and all trip spike recovery percentages were within the adopted laboratory acceptance criteria.

The soil laboratory results were consistent with field observations including no odours or PID readings greater than 1.0 ppm.

Equipment Calibration and Decontamination

Equipment used to assess for potential contamination or measure parameters in the field requires calibration in accordance with the manufacturer's requirements to ensure that the results are accurate. All equipment must be calibrated prior to entering the field and should be bump tested as required but at a minimum at the start of each day where sampling is undertaken.

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 D** for the calibration certificates used for each event).

Soil samples for chemical and asbestos analysis were collected using dedicated sampling equipment (i.e., disposable nitrile gloves).

Laboratory Data Evaluation

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.

Accreditation and Documentation

The analytical laboratories utilised during the course of this investigation were suitable accredited by National Association of Testing Authorities (NATA) for the required analysis and adopted approved methodologies. The following laboratories were used in the course of the investigation:

- Primary laboratories:
    - Sydney Laboratory Services Pty Ltd (SLS) - accreditation number 14664
    - Australian Laboratory Services Pty Ltd (ALS) - accreditation number 825
- Secondary laboratory:
    - Envirolab Services Pty Ltd (Envirolab) - accreditation number 2901

The laboratory methodologies and the respective accreditations of SLS, ALS and Envirolab were deemed suitable for the required analyses. Refer to **Appendix G – Laboratory Transcripts** for the details of the adopted laboratory analytical methods, their respective accreditations and full laboratory transcripts including:

- Sample Receipt Notification (SRN);
- Certificates of Analysis (CoA);
- Quality Assurance and Quality Control Reports (if any); and

- Chain of Custody documentation.

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.

Preservation, Storage and Holding Times
Sample preservation, storage and recommended holding time requirements aim to prevent the potential for contamination to degrade during the time between sample collection and analysis. In general, samples are required to be stored at <4°C prior to extraction at the analytical laboratory. The preservation and holding time requirements vary depending on the analyte with volatile compounds generally requiring extraction in a short period of time (approximately 7-14 days), while more stable compounds have holding times up to several months. Note that there is no storage or holding time requirements for samples of asbestos or PFAS.

Preservatives are generally not added to soil samples but are required for samples of groundwater that may be collected during an investigation.

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 G**).

Samples were properly and adequately preserved and refrigerated, and 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, ALS 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.

Minimum Detection Limits
To ensure that Type 1 errors (i.e., false negative) do not occur during the analysis of chemical contaminants and that suitable resolution and accuracy to evaluate the risk to receptors are captured, a minimum detection limit (MDL or LOR) should be set as 50% of the relevant criteria threshold as per ASC NEPM (2013).

The LORs were sufficient to accurately quantify detectable contaminants.

Duplicate Samples
Internal laboratory duplicates are completed to assess for the reproducibility between known primary and the duplicate samples via RPD comparison.

All laboratory duplicates were reported to have RPDs within acceptable limits.

Matrix Spikes
Matrix spikes require samples submitted to the analytical laboratory to be spiked with a known concentration of a generally synthetic compound that is similar to those likely to be present within the sample to evaluate the matrix interference on the analyte recoveries. The laboratory limit of 70-130% for inorganics / metals, and 60-140% for organics was used to validate matrix spikes.

All matrix spike results were within acceptable criteria.

Laboratory Control Spikes and Surrogates
Laboratory control spikes are similar to matrix spikes, however, utilise a matrix that is free from interference (e.g., other contaminants) to demonstrate that the analytical system is in control.

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

The recoveries for the laboratory control spikes and the surrogates were within acceptable criteria.

Method Blanks
Method blanks assess for false positives by analysing a blank sample and ensuring that the returned result is below the MDL. No contaminants were found in the blanks analysed by the laboratory.

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 I – RPD Calculations

A101024.0124.00

RPD Calculations (soil) - November 2024

			Lab Report Number	A101024.0124.00 (250-257)	A101024.0124.00 (250-257)	
			Field ID	BH202_0.0-0.2	BR	
			Date	19 Nov 2024	20 Nov 2024	
			Sample Type	Normal	Field_D	RPD
	Unit	EQL				
Physical						
Moisture Content	%	1		**15.4**	**16.2**	5
Metals						
Arsenic	mg/kg	5		*<5.0*	*<5.0*	0
Cadmium	mg/kg	0.1		**0.12**	**0.12**	0
Chromium (III+VI)	mg/kg	1		**12.5**	**13.8**	10
Copper	mg/kg	5		*<5.0*	*<5.0*	0
Lead	mg/kg	5		**6.3**	**6.7**	6
Mercury	mg/kg	0.1		*<0.10*	*<0.10*	0
Nickel	mg/kg	1		*<1.0*	**1.0**	0
Zinc	mg/kg	5		*<5.0*	*<5.0*	0
PAH						
Acenaphthene	mg/kg	0.3		*<0.30*	*<0.30*	0
Acenaphthylene	mg/kg	0.3		*<0.30*	*<0.30*	0
Anthracene	mg/kg	0.3		*<0.30*	*<0.30*	0
Benzo(b+j+k)fluoranthene	mg/kg	0.3		*<0.30*	*<0.30*	0
Benz(a)anthracene	mg/kg	0.3		*<0.30*	*<0.30*	0
Benzo(a) pyrene	mg/kg	0.3		*<0.30*	*<0.30*	0
Benzo(g,h,i)perylene	mg/kg	0.3		*<0.30*	*<0.30*	0
Chrysene	mg/kg	0.3		*<0.30*	*<0.30*	0
Dibenz(a,h)anthracene	mg/kg	0.3		*<0.30*	*<0.30*	0
Fluoranthene	mg/kg	0.3		*<0.30*	*<0.30*	0
Fluorene	mg/kg	0.3		*<0.30*	*<0.30*	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.3		*<0.30*	*<0.30*	0
Naphthalene	mg/kg	0.3		*<0.30*	*<0.30*	0
Phenanthrene	mg/kg	0.3		*<0.30*	*<0.30*	0
Pyrene	mg/kg	0.3		*<0.30*	*<0.30*	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.3		**0.35**	**0.35**	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.3		**0.70**	**0.70**	0
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.3		*<0.30*	*<0.30*	0
PAHs (Sum of total)	mg/kg	0.3		*<0.30*	*<0.30*	0
BTEX						
Benzene	mg/kg	0.5		*<0.50*	*<0.50*	0
Toluene	mg/kg	0.5		*<0.50*	*<0.50*	0
Ethylbenzene	mg/kg	1		*<1.0*	*<1.0*	0
Xylene (m & p)	mg/kg	2		*<2.0*	*<2.0*	0
Xylene (o)	mg/kg	1		*<1.0*	*<1.0*	0
Xylene Total	mg/kg	2		*<2.0*	*<2.0*	0
Total BTEX	mg/kg	2		*<2.00*	*<2.00*	0
TRH						
C6-C10 Fraction (F1)	mg/kg	35		*<35*	*<35*	0
C6-C10 (F1 minus BTEX)	mg/kg	35		*<35*	*<35*	0
>C10-C16 Fraction (F2)	mg/kg	50		*<50*	*<50*	0
>C16-C34 Fraction (F3)	mg/kg	100		*<100*	*<100*	0
>C34-C40 Fraction (F4)	mg/kg	100		*<100*	*<100*	0
>C10-C40 Fraction (Sum)	mg/kg	100		*<100*	*<100*	0
TPH						
C6-C9 Fraction	mg/kg	25		*<25*	*<25*	0
C10-C14 Fraction	mg/kg	50		*<50*	*<50*	0
C15-C28 Fraction	mg/kg	100		*<100*	*<100*	0
C29-C36 Fraction	mg/kg	100		*<100*	*<100*	0
C10-C36 Fraction (Sum)	mg/kg	100		*<100*	*<100*	0
PCBs						
Arochlor 1016	mg/kg	0.5		*<0.50*	*<0.50*	0
Arochlor 1221	mg/kg	0.5		*<0.50*	*<0.50*	0
Arochlor 1232	mg/kg	0.5		*<0.50*	*<0.50*	0
Arochlor 1242	mg/kg	0.5		*<0.50*	*<0.50*	0
Arochlor 1248	mg/kg	0.5		*<0.50*	*<0.50*	0
Arochlor 1254	mg/kg	0.5		*<0.50*	*<0.50*	0
Arochlor 1260	mg/kg	0.5		*<0.50*	*<0.50*	0
PCBs (Sum of total)	mg/kg	0.5		*<0.50*	*<0.50*	0
Halogenated Benzenes						
Hexachlorobenzene	mg/kg	0.1		*<0.10*	*<0.10*	0
Organochlorine Pesticides						
4,4-DDE	mg/kg	0.1		*<0.10*	*<0.10*	0
a-BHC	mg/kg	0.1		*<0.10*	*<0.10*	0
Aldrin	mg/kg	0.1		*<0.10*	*<0.10*	0
b-BHC	mg/kg	0.1		*<0.10*	*<0.10*	0
Chlordane (cis)	mg/kg	0.1		*<0.10*	*<0.10*	0
Chlordane (trans)	mg/kg	0.1		*<0.10*	*<0.10*	0
d-BHC	mg/kg	0.1		*<0.10*	*<0.10*	0
DDD	mg/kg	0.1		*<0.10*	*<0.10*	0
DDT	mg/kg	0.1		*<0.10*	*<0.10*	0
Endosulfan I	mg/kg	0.2		*<0.20*	*<0.20*	0
Dieldrin	mg/kg	0.1		*<0.10*	*<0.10*	0
Endosulfan II	mg/kg	0.2		*<0.20*	*<0.20*	0
Endosulfan sulphate	mg/kg	0.1		*<0.10*	*<0.10*	0
Endrin	mg/kg	0.2		*<0.20*	*<0.20*	0
Endrin aldehyde	mg/kg	0.1		*<0.10*	*<0.10*	0
Endrin ketone	mg/kg	0.1		*<0.10*	*<0.10*	0
g-BHC (Lindane)	mg/kg	0.1		*<0.10*	*<0.10*	0
Heptachlor	mg/kg	0.1		*<0.10*	*<0.10*	0
Heptachlor epoxide	mg/kg	0.1		*<0.10*	*<0.10*	0
Methoxychlor	mg/kg	0.1		*<0.10*	*<0.10*	0
Organophosphorous Pesticides						
Chlorpyrifos	mg/kg	0.1		*<0.10*	*<0.10*	0
Chlorpyrifos-methyl	mg/kg	0.1		*<0.10*	*<0.10*	0
Tribuphos	mg/kg	0.1		*<0.10*	*<0.10*	0
Diazinon	mg/kg	0.1		*<0.10*	*<0.10*	0
Ethoprop	mg/kg	0.1		*<0.10*	*<0.10*	0
Methyl parathion	mg/kg	0.1		*<0.10*	*<0.10*	0
Ronnel	mg/kg	0.1		*<0.10*	*<0.10*	0

***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: 75 (5 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 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**

RPD calculations (soil) - December 2024

			Lab Report Number	A101024.0124.00 (871-886)	A101024.0124.00 (871-886)	
			Field ID	HA211_0.4-0.5	BR01	
			Date	03 Dec 2024	03 Dec 2024	
			Sample Type	Normal	Field_D	RPD
	Unit	EQL				
Physical						
Moisture Content	%	0.1		**11.5**	**13.2**	14
Metals						
Arsenic	mg/kg	4		*<5.0*	*<5.0*	0
Cadmium	mg/kg	0.1		*<0.10*	*<0.10*	0
Chromium (III+VI)	mg/kg	1		**21.8**	**21.1**	3
Copper	mg/kg	1		*<5.0*	*<5.0*	0
Lead	mg/kg	1		**5.4**	*<5.0*	8
Mercury	mg/kg	0.1		*<0.10*	*<0.10*	0
Nickel	mg/kg	1		*<1.0*	*<1.0*	0
Zinc	mg/kg	1		*<5.0*	*<5.0*	0
PAH						
Acenaphthene	mg/kg	0.1		*<0.30*	*<0.30*	0
Acenaphthylene	mg/kg	0.1		*<0.30*	*<0.30*	0
Anthracene	mg/kg	0.1		*<0.30*	*<0.30*	0
Benzo(b+j+k)fluoranthene	mg/kg	0.2		*<0.30*	*<0.30*	0
Benz(a)anthracene	mg/kg	0.1		*<0.30*	*<0.30*	0
Benzo(a) pyrene	mg/kg	0.05		*<0.30*	*<0.30*	0
Benzo(g,h,i)perylene	mg/kg	0.1		*<0.30*	*<0.30*	0
Chrysene	mg/kg	0.1		*<0.30*	*<0.30*	0
Dibenz(a,h)anthracene	mg/kg	0.1		*<0.30*	*<0.30*	0
Fluoranthene	mg/kg	0.1		*<0.30*	*<0.30*	0
Fluorene	mg/kg	0.1		*<0.30*	*<0.30*	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1		*<0.30*	*<0.30*	0
Naphthalene	mg/kg	0.1		*<0.30*	*<0.30*	0
Phenanthrene	mg/kg	0.1		*<0.30*	*<0.30*	0
Pyrene	mg/kg	0.1		*<0.30*	*<0.30*	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.3		**0.35**	**0.35**	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.3		**0.70**	**0.70**	0
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.3		*<0.30*	*<0.30*	0
PAHs (Sum of total)	mg/kg	0.3		*<0.30*	*<0.30*	0
PAHs (Sum of positives)	mg/kg	0.05		-	-	-
BTEX						
Benzene	mg/kg	0.2		*<0.50*	*<0.50*	0
Toluene	mg/kg	0.5		*<0.50*	*<0.50*	0
Ethylbenzene	mg/kg	1		*<1.0*	*<1.0*	0
Xylene (m & p)	mg/kg	2		*<2.0*	*<2.0*	0
Xylene (o)	mg/kg	1		*<1.0*	*<1.0*	0
Xylene Total	mg/kg	1		*<2.0*	*<2.0*	0
Naphthalene (VOC)	mg/kg	1		-	-	-
Total BTEX	mg/kg	2		*<2.00*	*<2.00*	0
TRH						
C6-C10 Fraction (F1)	mg/kg	25		*<35*	*<35*	0
C6-C10 (F1 minus BTEX)	mg/kg	25		*<35*	*<35*	0
>C10-C16 Fraction (F2)	mg/kg	50		*<50*	*<50*	0
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50		-	-	-
>C16-C34 Fraction (F3)	mg/kg	100		*<100*	*<100*	0
>C34-C40 Fraction (F4)	mg/kg	100		*<100*	*<100*	0
>C10-C40 Fraction (Sum)	mg/kg	50		*<100*	*<100*	0
TPH						
C6-C9 Fraction	mg/kg	25		*<25*	*<25*	0
C10-C14 Fraction	mg/kg	50		*<50*	*<50*	0
C15-C28 Fraction	mg/kg	100		*<100*	*<100*	0
C29-C36 Fraction	mg/kg	100		*<100*	*<100*	0
C10-C36 Fraction (Sum)	mg/kg	50		*<100*	*<100*	0
PCBs						
Arochlor 1016	mg/kg	0.1		*<0.50*	*<0.50*	0
Arochlor 1221	mg/kg	0.1		*<0.50*	*<0.50*	0
Arochlor 1232	mg/kg	0.1		*<0.50*	*<0.50*	0
Arochlor 1242	mg/kg	0.1		*<0.50*	*<0.50*	0
Arochlor 1248	mg/kg	0.1		*<0.50*	*<0.50*	0
Arochlor 1254	mg/kg	0.1		*<0.50*	*<0.50*	0
Arochlor 1260	mg/kg	0.1		*<0.50*	*<0.50*	0
PCBs (Sum of total)	mg/kg	0.1		*<0.50*	*<0.50*	0
Halogenated Benzenes						
Hexachlorobenzene	mg/kg	0.1		*<0.10*	*<0.10*	0
Organochlorine Pesticides						
4,4-DDE	mg/kg	0.1		*<0.10*	*<0.10*	0
a-BHC	mg/kg	0.1		*<0.10*	*<0.10*	0
Aldrin	mg/kg	0.1		*<0.10*	*<0.10*	0
Aldrin + Dieldrin	mg/kg	0.1		-	-	-
b-BHC	mg/kg	0.1		*<0.10*	*<0.10*	0
Chlordane (cis)	mg/kg	0.1		*<0.10*	*<0.10*	0
Chlordane (trans)	mg/kg	0.1		*<0.10*	*<0.10*	0
d-BHC	mg/kg	0.1		*<0.10*	*<0.10*	0
DDD	mg/kg	0.1		*<0.10*	*<0.10*	0
DDT	mg/kg	0.1		*<0.10*	*<0.10*	0
DDT+DDE+DDD	mg/kg	0.1		-	-	-
Endosulfan I	mg/kg	0.1		*<0.20*	*<0.20*	0
Dieldrin	mg/kg	0.1		*<0.10*	*<0.10*	0
Endosulfan II	mg/kg	0.1		*<0.20*	*<0.20*	0
Endosulfan sulphate	mg/kg	0.1		*<0.10*	*<0.10*	0
Endrin	mg/kg	0.1		*<0.20*	*<0.20*	0
Endrin aldehyde	mg/kg	0.1		*<0.10*	*<0.10*	0
Endrin ketone	mg/kg	0.1		*<0.10*	*<0.10*	0
Fenamiphos	mg/kg	0.1		-	-	-
g-BHC (Lindane)	mg/kg	0.1		*<0.10*	*<0.10*	0
Heptachlor	mg/kg	0.1		*<0.10*	*<0.10*	0
Heptachlor epoxide	mg/kg	0.1		*<0.10*	*<0.10*	0
Methoxychlor	mg/kg	0.1		*<0.10*	*<0.10*	0
Mirex	mg/kg	0.1		-	-	-
Organophosphorous Pesticides						
Azinophos methyl	mg/kg	0.1		-	-	-
Bromophos-ethyl	mg/kg	0.1		-	-	-
Chlorpyrifos	mg/kg	0.1		*<0.10*	*<0.10*	0
Chlorpyrifos-methyl	mg/kg	0.1		*<0.10*	*<0.10*	0
Coumaphos	mg/kg	0.1		-	-	-
Tribuphos	mg/kg	0.1		*<0.10*	*<0.10*	0
Diazinon	mg/kg	0.1		*<0.10*	*<0.10*	0
Dichlorvos	mg/kg	0.1		-	-	-
Dimethoate	mg/kg	0.1		-	-	-
Disulfoton	mg/kg	0.1		-	-	-
Ethion	mg/kg	0.1		-	-	-
Ethoprop	mg/kg	0.1		*<0.10*	*<0.10*	0
Fenitrothion	mg/kg	0.1		-	-	-
Fenthion	mg/kg	0.1		-	-	-
Malathion	mg/kg	0.1		-	-	-
Methidathion	mg/kg	0.1		-	-	-
Methyl parathion	mg/kg	0.1		*<0.10*	*<0.10*	0
Mevinphos (Phosdrin)	mg/kg	0.1		-	-	-
Parathion	mg/kg	0.1		-	-	-
Phorate	mg/kg	0.1		-	-	-
Ronnel	mg/kg	0.1		*<0.10*	*<0.10*	0
Other						
Phosalone	mg/kg	0.1		-	-	-

***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: 75 (5 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 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**

RPD calculations (soil) - December 2024

			Lab Report Number	A101024.0124.00 (871-886)	368342	
			Field ID	HA211_0.4-0.5	SR01	
			Date	03 Dec 2024	03 Dec 2024	
			Sample Type	Normal	Interlab_D	RPD
	Unit	EQL				
Physical						
Moisture Content	%	0.1		**11.5**	**11**	4
Metals						
Arsenic	mg/kg	4		*<5.0*	*<4*	0
Cadmium	mg/kg	0.1		*<0.10*	*<0.4*	0
Chromium (III+VI)	mg/kg	1		**21.8**	**35**	46
Copper	mg/kg	1		*<5.0*	*<1*	0
Lead	mg/kg	1		**5.4**	**6**	11
Mercury	mg/kg	0.1		*<0.10*	**0.2**	67
Nickel	mg/kg	1		*<1.0*	**4**	120
Zinc	mg/kg	1		*<5.0*	**4**	0
PAH						
Acenaphthene	mg/kg	0.1		*<0.30*	*<0.1*	0
Acenaphthylene	mg/kg	0.1		*<0.30*	*<0.1*	0
Anthracene	mg/kg	0.1		*<0.30*	*<0.1*	0
Benzo(b+j+k)fluoranthene	mg/kg	0.2		*<0.30*	*<0.2*	0
Benz(a)anthracene	mg/kg	0.1		*<0.30*	*<0.1*	0
Benzo(a) pyrene	mg/kg	0.05		*<0.30*	*<0.05*	0
Benzo(g,h,i)perylene	mg/kg	0.1		*<0.30*	*<0.1*	0
Chrysene	mg/kg	0.1		*<0.30*	*<0.1*	0
Dibenz(a,h)anthracene	mg/kg	0.1		*<0.30*	*<0.1*	0
Fluoranthene	mg/kg	0.1		*<0.30*	*<0.1*	0
Fluorene	mg/kg	0.1		*<0.30*	*<0.1*	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1		*<0.30*	*<0.1*	0
Naphthalene	mg/kg	0.1		*<0.30*	*<0.1*	0
Phenanthrene	mg/kg	0.1		*<0.30*	*<0.1*	0
Pyrene	mg/kg	0.1		*<0.30*	*<0.1*	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.3		**0.35**	*<0.5*	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.3		**0.70**	*<0.5*	33
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.3		*<0.30*	*<0.5*	0
PAHs (Sum of total)	mg/kg	0.3		*<0.30*	-	-
PAHs (Sum of positives)	mg/kg	0.05		-	*<0.05*	-
BTEX						
Benzene	mg/kg	0.2		*<0.50*	*<0.2*	0
Toluene	mg/kg	0.5		*<0.50*	*<0.5*	0
Ethylbenzene	mg/kg	1		*<1.0*	*<1*	0
Xylene (m & p)	mg/kg	2		*<2.0*	*<2*	0
Xylene (o)	mg/kg	1		*<1.0*	*<1*	0
Xylene Total	mg/kg	1		*<2.0*	*<1*	0
Naphthalene (VOC)	mg/kg	1		-	*<1*	-
Total BTEX	mg/kg	2		*<2.00*	-	-
TRH						
C6-C10 Fraction (F1)	mg/kg	25		*<35*	*<25*	0
C6-C10 (F1 minus BTEX)	mg/kg	25		*<35*	*<25*	0
>C10-C16 Fraction (F2)	mg/kg	50		*<50*	*<50*	0
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50		-	*<50*	-
>C16-C34 Fraction (F3)	mg/kg	100		*<100*	*<100*	0
>C34-C40 Fraction (F4)	mg/kg	100		*<100*	*<100*	0
>C10-C40 Fraction (Sum)	mg/kg	50		*<100*	*<50*	0
TPH						
C6-C9 Fraction	mg/kg	25		*<25*	*<25*	0
C10-C14 Fraction	mg/kg	50		*<50*	*<50*	0
C15-C28 Fraction	mg/kg	100		*<100*	*<100*	0
C29-C36 Fraction	mg/kg	100		*<100*	*<100*	0
C10-C36 Fraction (Sum)	mg/kg	50		*<100*	*<50*	0
PCBs						
Arochlor 1016	mg/kg	0.1		*<0.50*	*<0.1*	0
Arochlor 1221	mg/kg	0.1		*<0.50*	*<0.1*	0
Arochlor 1232	mg/kg	0.1		*<0.50*	*<0.1*	0
Arochlor 1242	mg/kg	0.1		*<0.50*	*<0.1*	0
Arochlor 1248	mg/kg	0.1		*<0.50*	*<0.1*	0
Arochlor 1254	mg/kg	0.1		*<0.50*	*<0.1*	0
Arochlor 1260	mg/kg	0.1		*<0.50*	*<0.1*	0
PCBs (Sum of total)	mg/kg	0.1		*<0.50*	*<0.1*	0
Halogenated Benzenes						
Hexachlorobenzene	mg/kg	0.1		*<0.10*	*<0.1*	0
Organochlorine Pesticides						
4,4-DDE	mg/kg	0.1		*<0.10*	*<0.1*	0
a-BHC	mg/kg	0.1		*<0.10*	*<0.1*	0
Aldrin	mg/kg	0.1		*<0.10*	*<0.1*	0
Aldrin + Dieldrin	mg/kg	0.1		-	*<0.1*	-
b-BHC	mg/kg	0.1		*<0.10*	*<0.1*	0
Chlordane (cis)	mg/kg	0.1		*<0.10*	*<0.1*	0
Chlordane (trans)	mg/kg	0.1		*<0.10*	*<0.1*	0
d-BHC	mg/kg	0.1		*<0.10*	*<0.1*	0
DDD	mg/kg	0.1		*<0.10*	*<0.1*	0
DDT	mg/kg	0.1		*<0.10*	*<0.1*	0
DDT+DDE+DDD	mg/kg	0.1		-	*<0.1*	-
Endosulfan I	mg/kg	0.1		*<0.20*	*<0.1*	0
Dieldrin	mg/kg	0.1		*<0.10*	*<0.1*	0
Endosulfan II	mg/kg	0.1		*<0.20*	*<0.1*	0
Endosulfan sulphate	mg/kg	0.1		*<0.10*	*<0.1*	0
Endrin	mg/kg	0.1		*<0.20*	*<0.1*	0
Endrin aldehyde	mg/kg	0.1		*<0.10*	*<0.1*	0
Endrin ketone	mg/kg	0.1		*<0.10*	-	-
Fenamiphos	mg/kg	0.1		-	*<0.1*	-
g-BHC (Lindane)	mg/kg	0.1		*<0.10*	*<0.1*	0
Heptachlor	mg/kg	0.1		*<0.10*	*<0.1*	0
Heptachlor epoxide	mg/kg	0.1		*<0.10*	*<0.1*	0
Methoxychlor	mg/kg	0.1		*<0.10*	*<0.1*	0
Mirex	mg/kg	0.1		-	*<0.1*	-
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*	*<0.1*	0
Chlorpyrifos-methyl	mg/kg	0.1		*<0.10*	*<0.1*	0
Coumaphos	mg/kg	0.1		-	*<0.1*	-
Tribuphos	mg/kg	0.1		*<0.10*	-	-
Diazinon	mg/kg	0.1		*<0.10*	*<0.1*	0
Dichlorvos	mg/kg	0.1		-	*<0.1*	-
Dimethoate	mg/kg	0.1		-	*<0.1*	-
Disulfoton	mg/kg	0.1		-	*<0.1*	-
Ethion	mg/kg	0.1		-	*<0.1*	-
Ethoprop	mg/kg	0.1		*<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*	*<0.1*	0
Mevinphos (Phosdrin)	mg/kg	0.1		-	*<0.1*	-
Parathion	mg/kg	0.1		-	*<0.1*	-
Phorate	mg/kg	0.1		-	*<0.1*	-
Ronnel	mg/kg	0.1		*<0.10*	*<0.1*	0
Other						
Phosalone	mg/kg	0.1		-	*<0.1*	-

***RPDs have only been considered where a concentration is greater than 1 ti**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RI**
*****Interlab Duplicates are matched on a per compound basis as methods va laboratory**

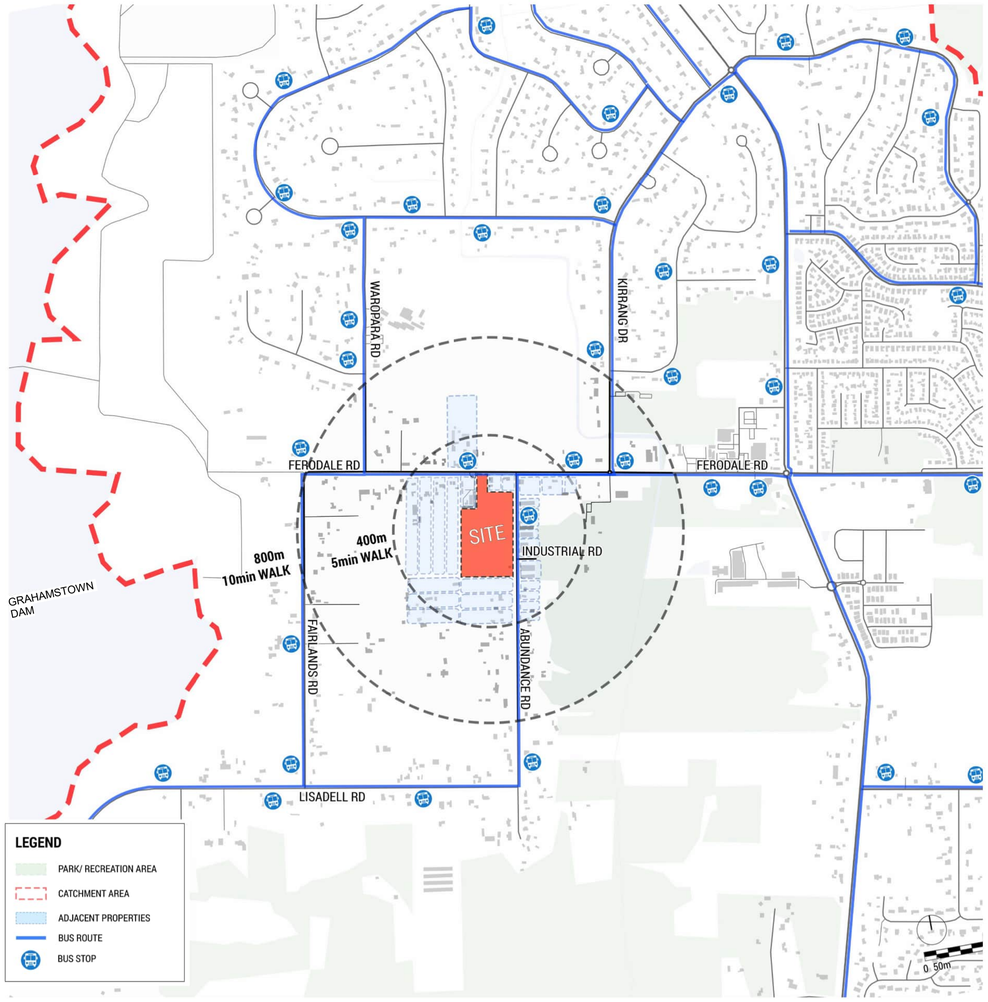
Analytical Results Table_ QA/QC Trip Blank

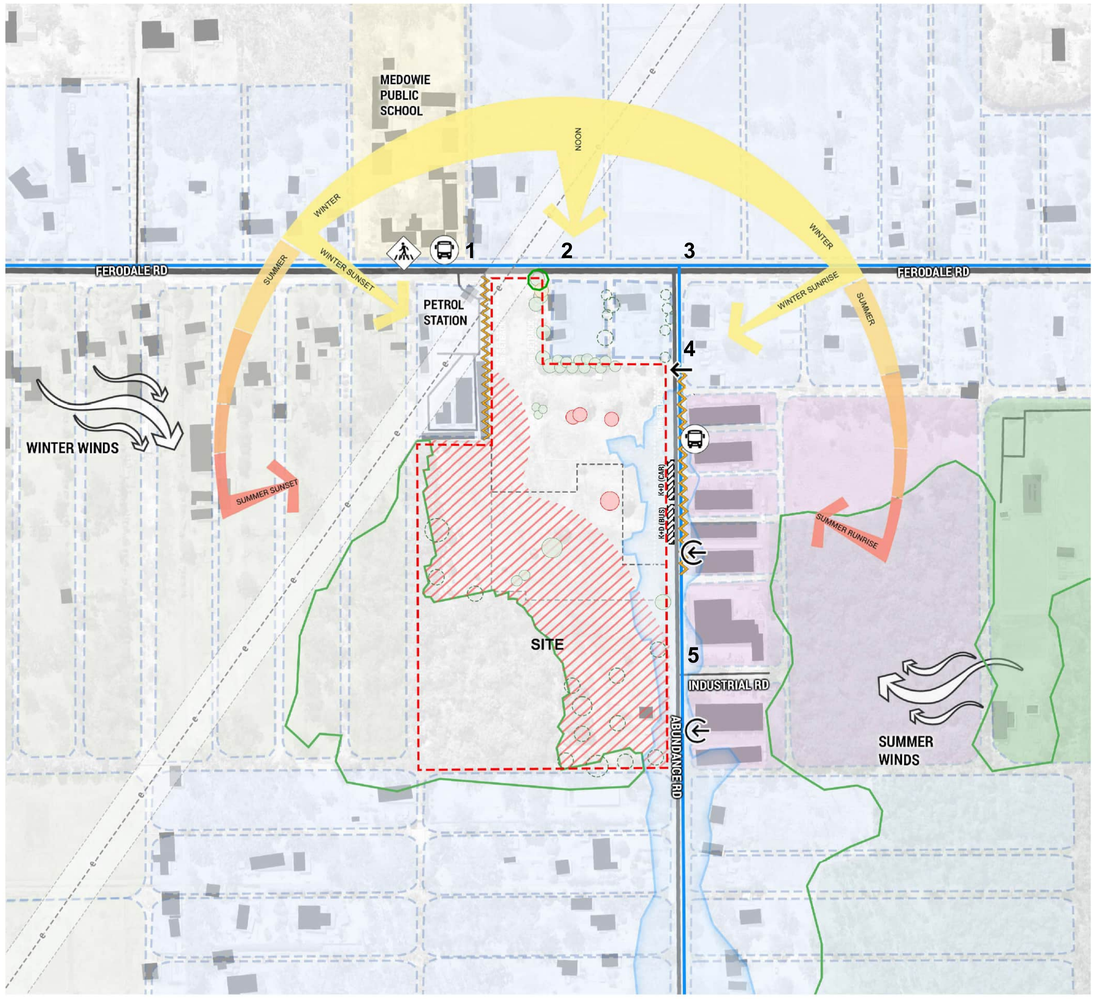
			BTEX				
			Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)
			mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.001	0.001	0.002	0.001
Lab Report Number	**Date**	**Matrix Type**					
A101024.0124.00 (368-369	**22 Apr 2024**	**Water**	<0.001	<0.001	<0.001	<0.002	<0.001

Analytical Results Table_ QA/QC Trip Spike

			BTEX				
			Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)
			mg/L	mg/L	mg/L	mg/L	mg/L
			%	%	%	%	%
Lab Report Number	Date	Matrix Type					
A101024.0124.00 (368-369)	22 Apr 2024	Water	120	97	67	97	98

Appendix J – Report Plans





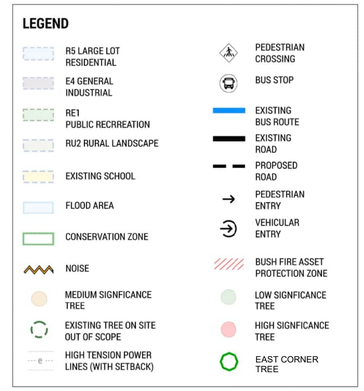
1 Location of power poles, height of overhead hv power lines passing over site, proximity to petrol station for air quality and noise impacts.

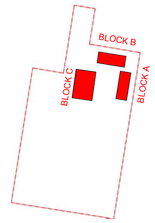
2. Narrow frontage, no existing driveway / vehicular crossing, high value tree on boundary, residential neighbour

3. Prominent corner property adjacent to proposed school site. Medowie Primary School across the road from site.

4. Abundance Rd. proposed kiss and drop, and bus stop to consider existing levels adjacent site in swale, and location of power poles, industrial use across road, truck movements on Abundance Rd.

5. Abundance Rd. looking north, proposed kiss and drop and bus stop to consider existing levels adjacent site in swale, and location of power poles, industrial use across road, truck movements on Abundance Rd.





KEY PLAN

REF

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Changes to this Revision

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Project
24135 - MEDOWIE HIGH SCHOOL

at
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NSW GOVERNMENT Education

Drawing Title
SITE ANALYSIS SHEET 01

Date 15/01/2025 4:06:59 PM
Scale @ A1
NBRS Project # 24135
Drawing Reference
MHS-NBRS-ZZ-ZZ-DR-A-000051
Revision 2

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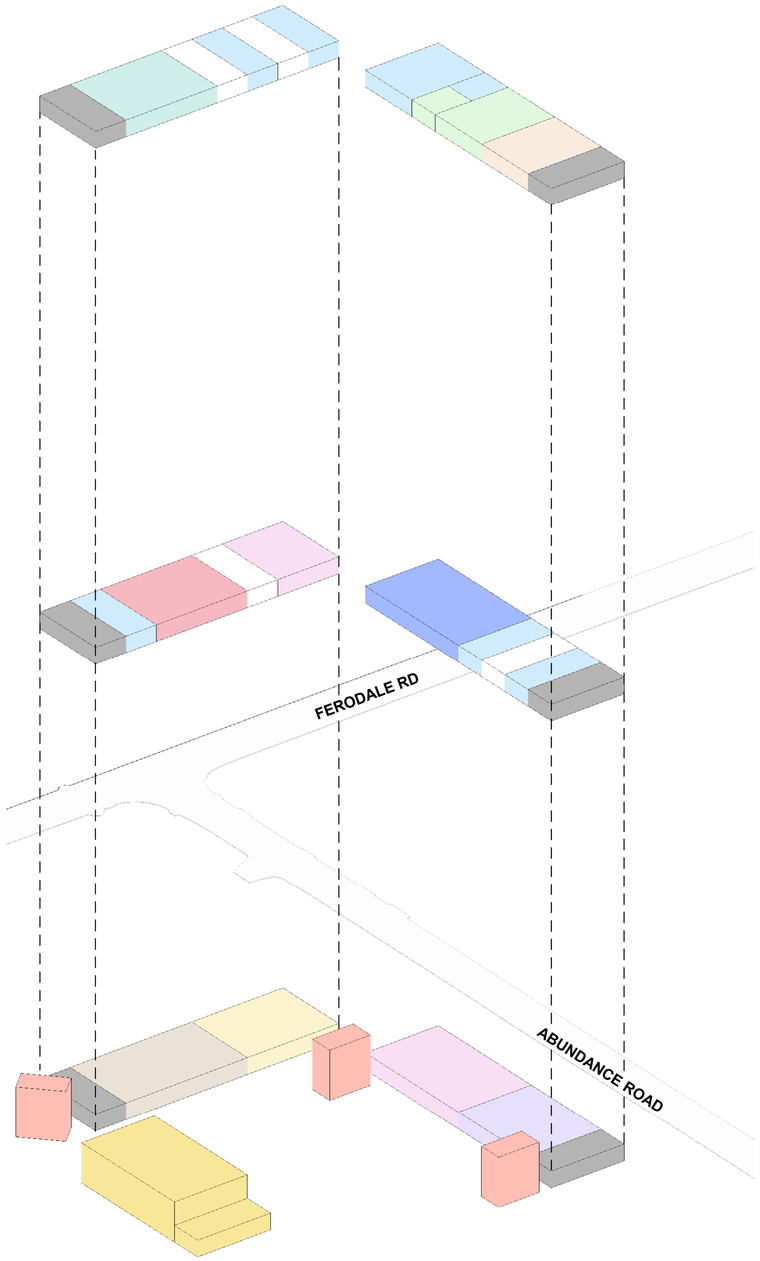


LEVEL 2

SCIENCE, GLS, PT FITNESS, GLS, PERFORMING ARTS WORKSHOPS

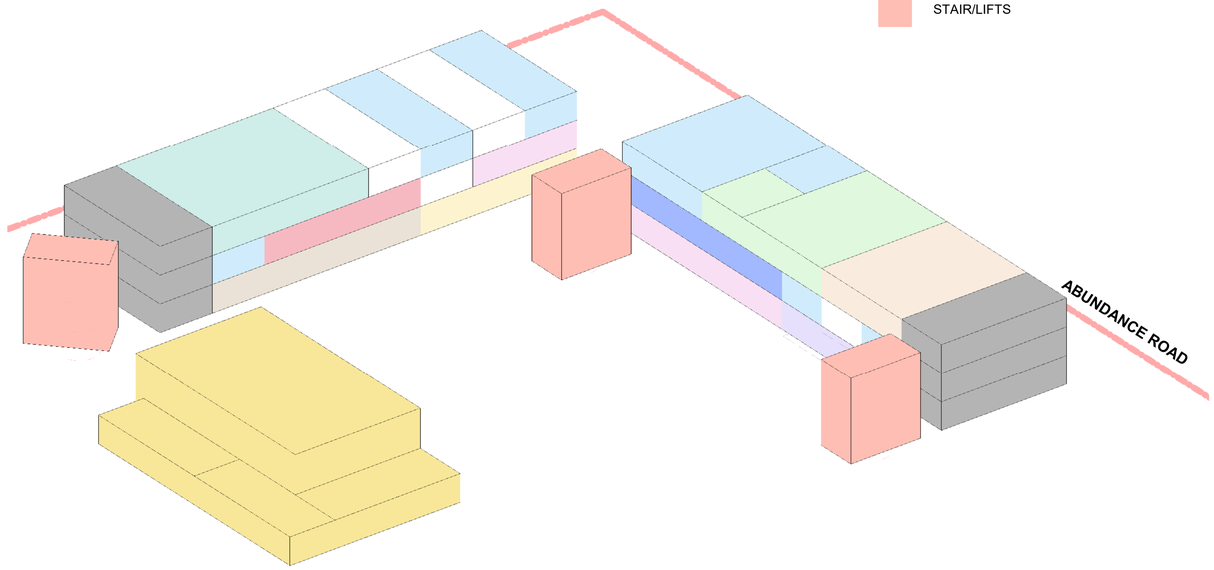
LEVEL 1

LIBRARY, GLS, LEARNING COMMONS, VISUAL ARTS, STAFF GLS

GROUND FLOOR

WOOD & METAL, FOOD & TEXTILE, ADMIN AND SELU, CANTEEN, HALL, SERVICES, AMENITIES

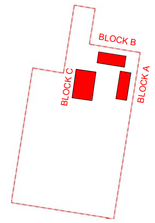
4 STACKING AXO DIAGRAM



1 STACKING DIAGRAM - 3D

LEGEND

- SITE BOUNDARY
- INDICATIVE SCHOOL/ FENCING BOUNDARY
- 10m SETBACK LINE
- PP EXISTING POWER POLE
- GLS HUB
- SUPPORT LEARNING UNIT (SLU)
- OUTDOOR LEARNING COMMON
- LEARNING COMMON
- SCIENCE LEARNING AREA
- FOOD+TEXTILES LEARNING HUB
- VISUAL ARTS LEARNING HUB
- PERFORMING ARTS LEARNING HUB
- WOOD + METAL TECH LEARNING HUB
- HEALTH & PE LEARNING HUB
- GYM & CANTEEN
- LIBRARY
- ADMIN / STAFF HUB
- ADDITIONAL LEARNING HUB
- SERVICES
- AMENITIES
- CIRCULATION
- STAIR/LIFTS



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Drawing Title
3D AXONOMETRIC DIAGRAM

Date 15/01/2025 4:07:39 PM
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NBRS Project # 24135
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Revision 2

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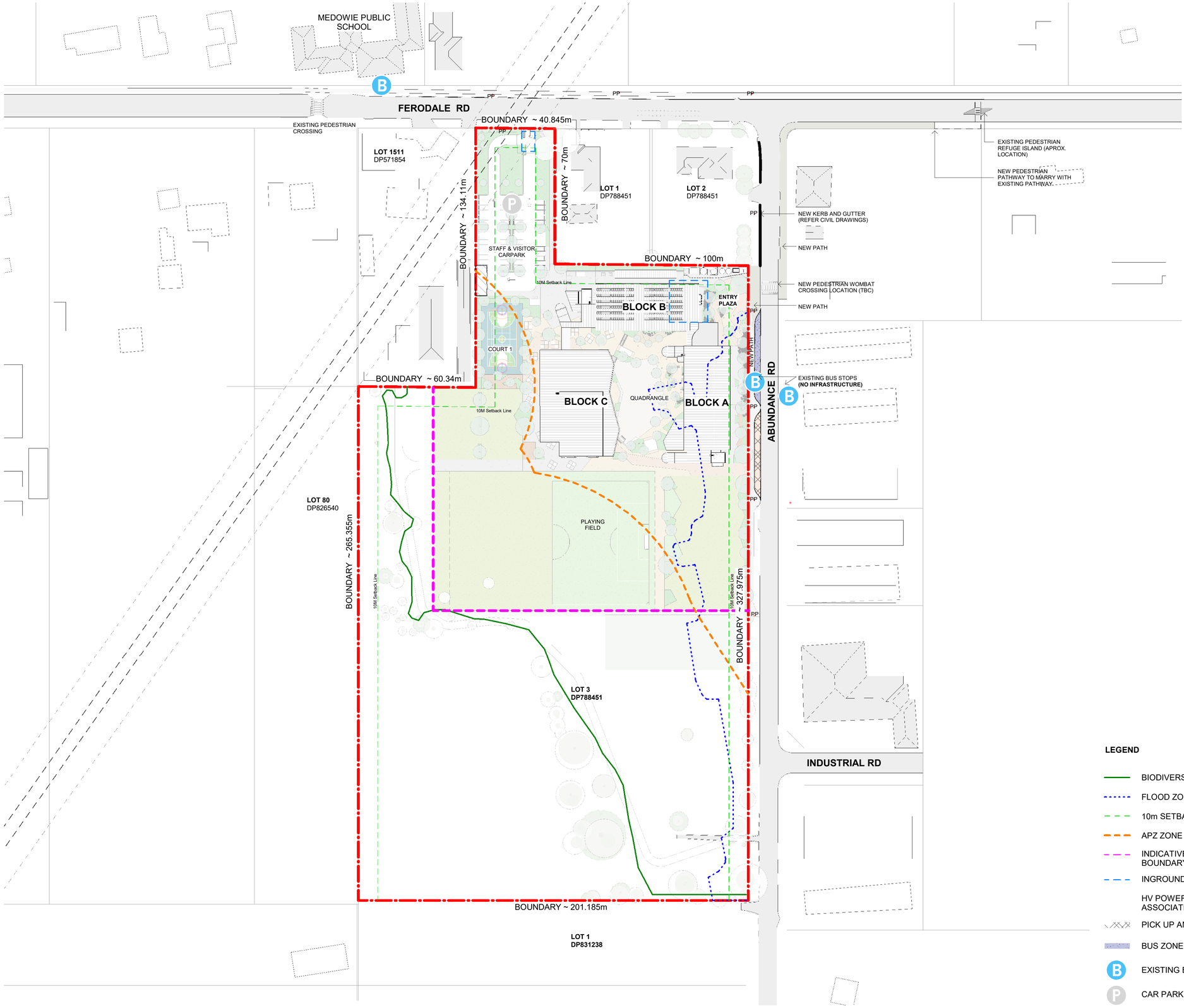

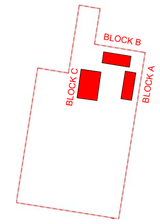

KEY PLAN

LEGEND

- BIODIVERSITY VALUE MAP
- FLOOD ZONE BOUNDARY
- 10m SETBACK LINE
- APZ ZONE EXTENT
- INDICATIVE SCHOOL/ FENCING BOUNDARY
- INGROUND OSD TANK
- HV POWER LINES & ASSOCIATED EASEMENT
- PICK UP AND DROP OFF
- BUS ZONE
- EXISTING BUS BAY
- CAR PARK
- EXISTING POWER POLE

REF

Issue

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Drawing Title
LOCATION PLAN

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NBRS Project # 24135
Drawing Reference MHS-NBRS-ZZ-ZZ-DR-A-000200
Revision 2

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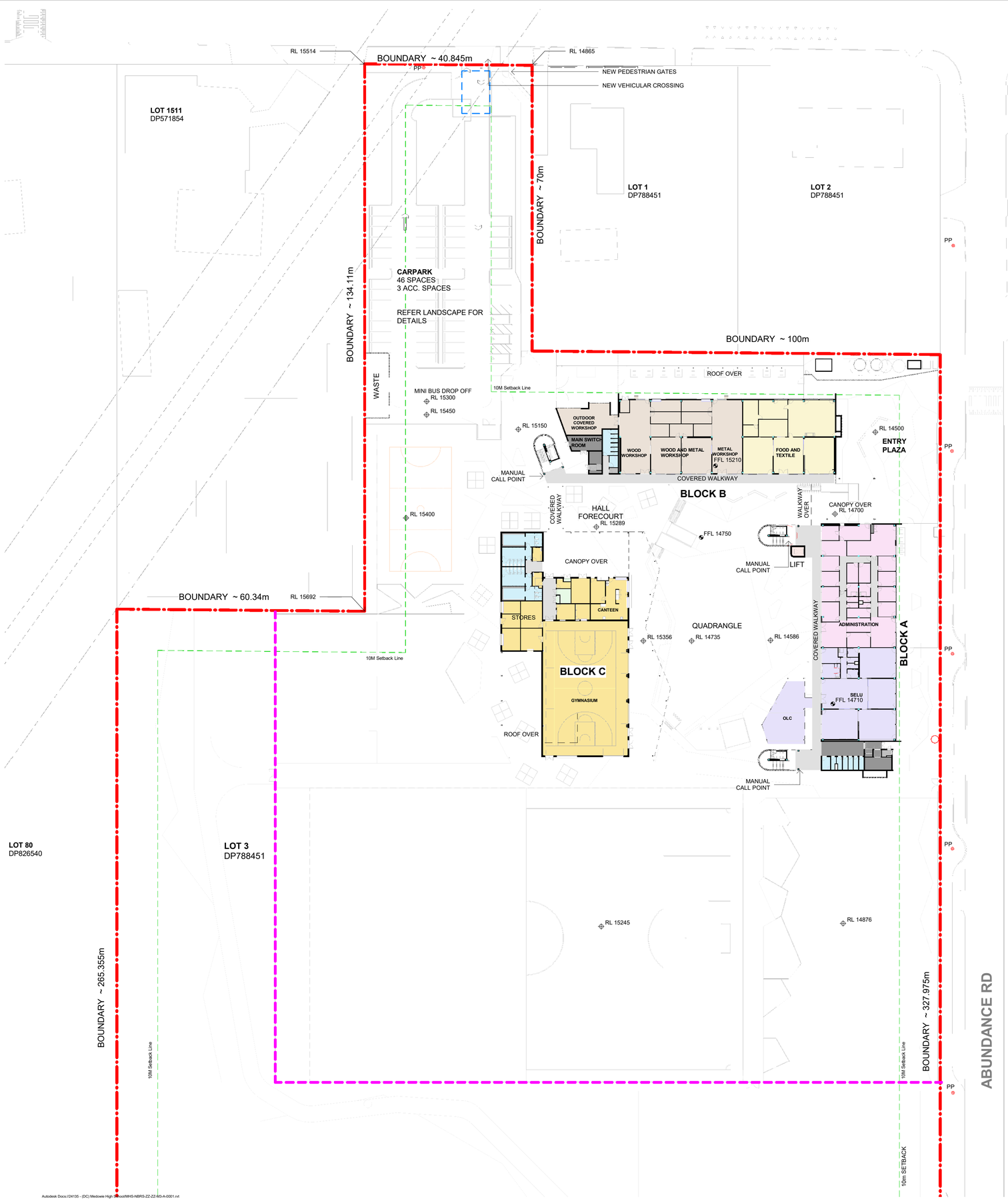
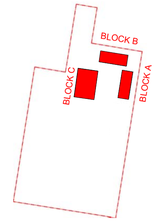


LEGEND

- SITE BOUNDARY
- INDICATIVE SCHOOL/ FENCING BOUNDARY
- 10m SETBACK LINE
- PP EXISTING POWER POLE
- GLS HUB
- SUPPORT LEARNING UNIT (SLU)
- OUTDOOR LEARNING COMMON
- LEARNING COMMON
- SCIENCE LEARNING AREA
- FOOD+TEXTILES LEARNING HUB
- VISUAL ARTS LEARNING HUB
- PERFORMING ARTS LEARNING HUB
- WOOD + METAL TECH LEARNING HUB
- HEALTH & PE LEARNING HUB
- GYM & CANTEEN
- LIBRARY
- ADMIN / STAFF HUB
- ADDITIONAL LEARNING HUB
- SERVICES
- AMENITIES
- CIRCULATION
- STAIR/LIFTS



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Drawing Title
OVERALL GROUND PLAN

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NBRS Project # 24135
Drawing Reference MHS-NBRS-ZZ-ZZ-DR-A-001000
Revision 2

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1 SITE ELEVATION - ABUNDANCE RD (EAST)

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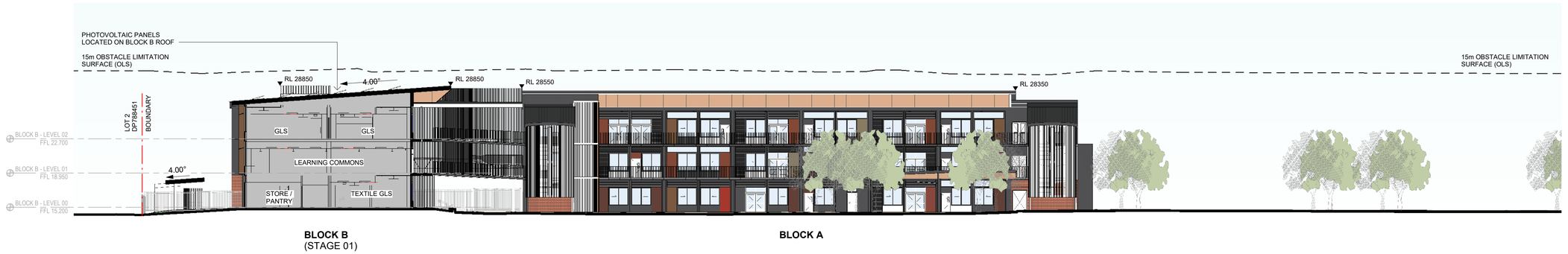


2 SITE ELEVATION - BLOCK B AND BLOCK A

1 : 250

3 SITE ELEVATION - SOUTH

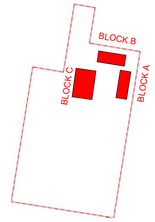
1 : 250

4 SITE SECTION - BLOCK B

1 : 250

Autodesk Docs://24135 - (DC) Medowie High School/MHS-NBRS-ZZ-ZZ-M3-A-0001.rvt

NBRS



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24135 - MEDOWIE HIGH SCHOOL

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NSW GOVERNMENT Education

Drawing Title

SITE ELEVATIONS - SHEET 1

Date 15/01/2025 4:15:51 PM

Scale 1 : 250 @ A1

NBRS Project # 24135

Drawing Reference MHS-NBRS-ZZ-ZZ-DR-A-003001

Revision 2

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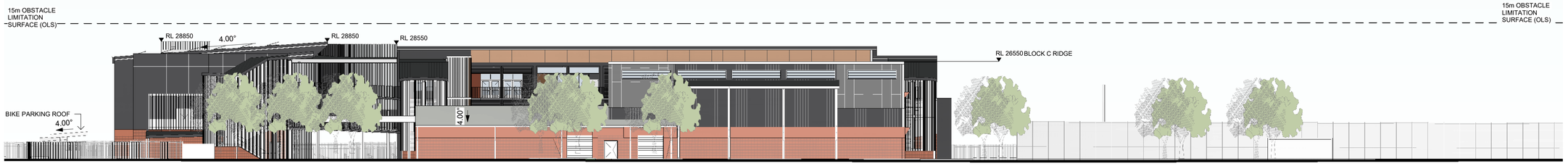

1 SITE ELEVATION - WEST
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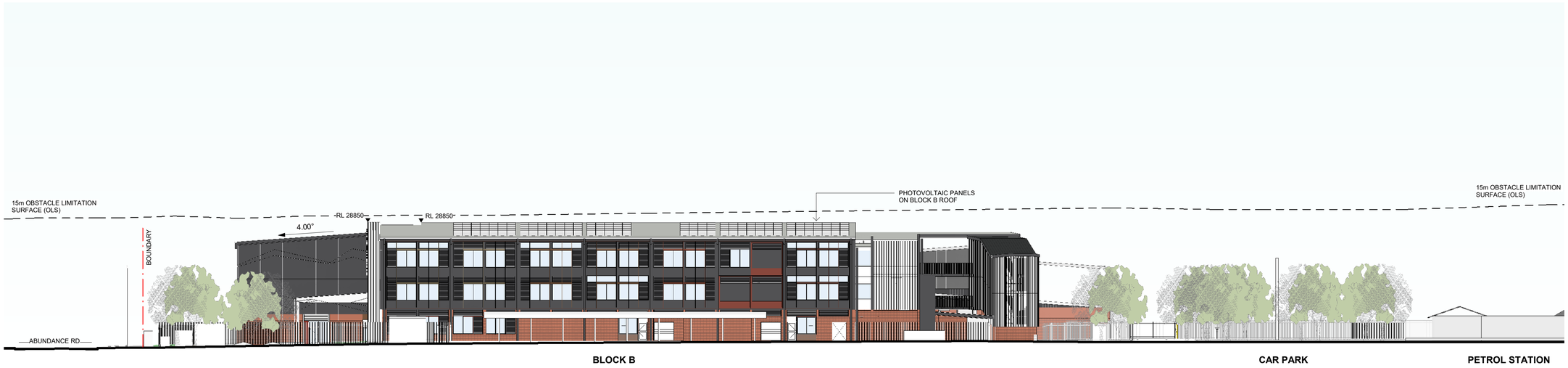
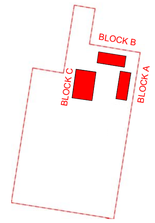


2 SITE ELEVATION - FERODALE RD (NORTH)
1 : 250



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Drawing Title
SITE ELEVATIONS - SHEET 2

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Revision 2

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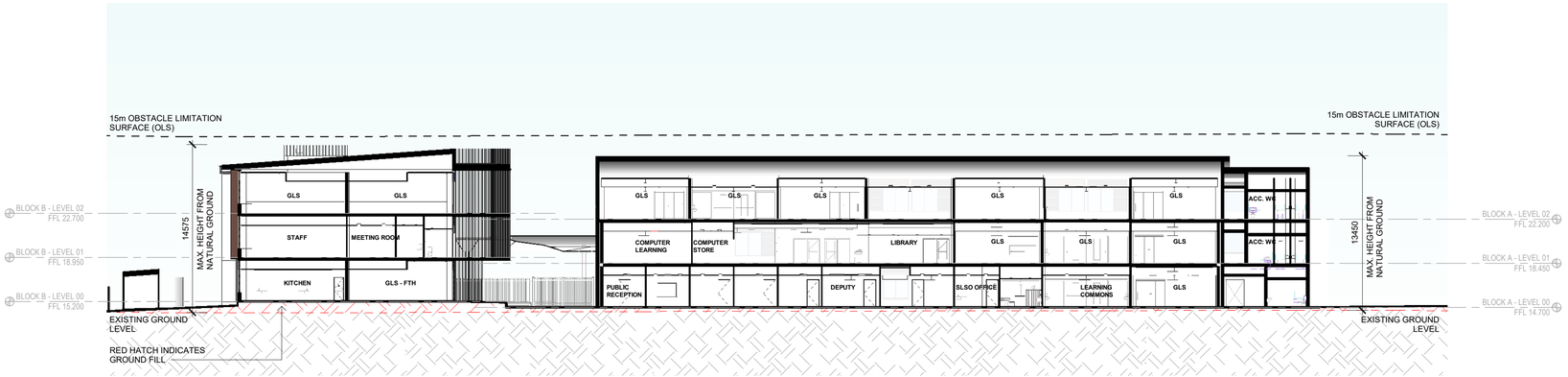

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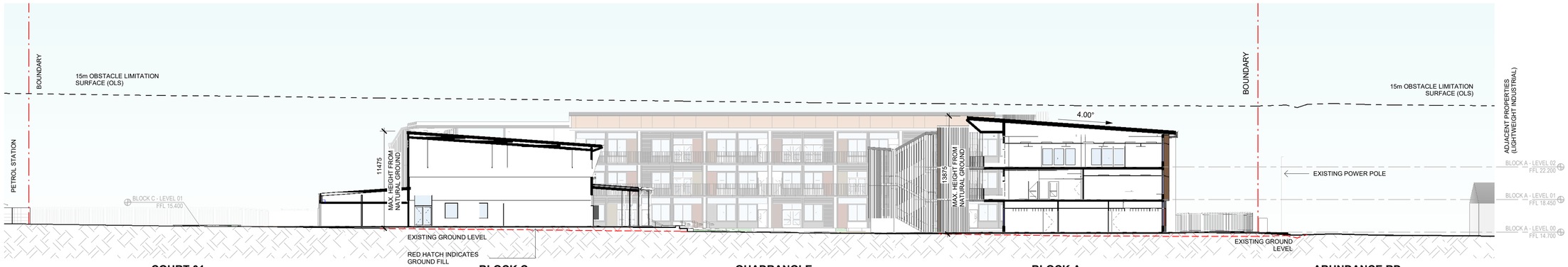

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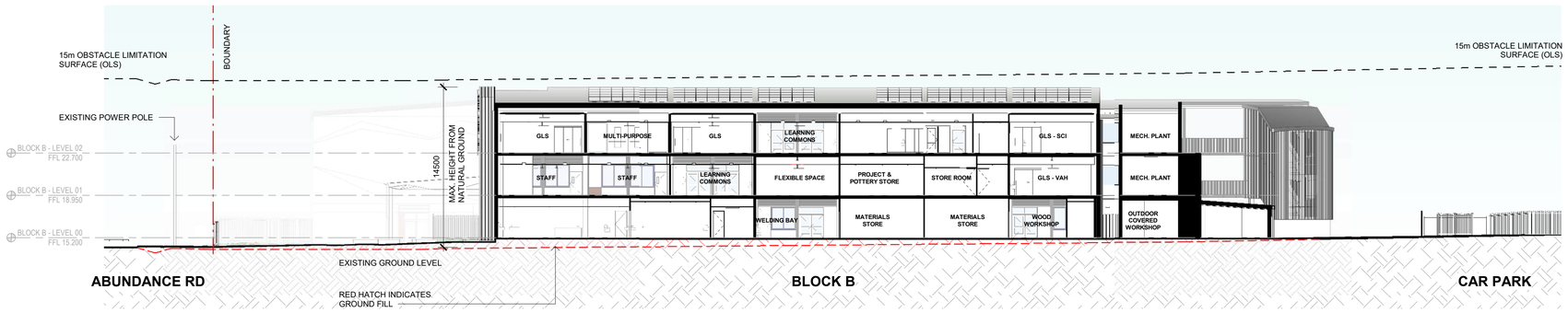

3 SITE SECTION 02 - E.W - BLOCK B

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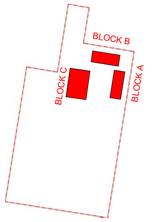

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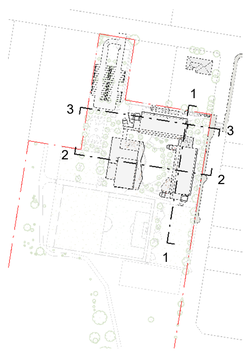

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NSW GOVERNMENT Education

Drawing Title
SITE SECTIONS - SHEET 1

Date 15/01/2025 4:17:34 PM
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Drawing Reference MHS-NBRS-ZZ-ZZ-DR-A-004001
Revision 2

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