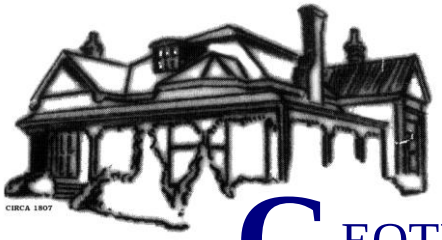

GEOTECHNIQUE® PTY LTD

ABN 64 002 841 063

DETAILED SITE INVESTIGATION & REMEDIAL ACTION PLAN

PROPOSED SPORTING FIELDS

LOT 224 DP752020
PONY CLUB SITE - GILBERT ROAD, CASTLE HILL

REPORT NO 14985/3-AA 28 MARCH 2024

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ABN 64 002 841 063

Job No: 14985/3
Our Ref: 14985/3-AA
28 March 2024

The Hills Shire Council
P O Box 7064
NORWEST NSW 2153
Email: mmedrano@thehills.nsw.gov.au

Attention: Melanie Medrano

Dear Melanie

re: **Proposed Sporting Fields Development**
Lot 224 DP752020 - Pony Club Site - Gilbert Road, Castle Hill
Detailed Site Investigation & Remedial Action Plan

Further to the preliminary site investigation (PSI) (Our Ref: 14985/1-AA dated 29 October 2021), prepared by Geotechnique Pty Ltd (Geotechnique), please find herewith our Detailed Site Investigation (DSI) and Remedial Action Plan (RAP) for the above site.

A brief of the outcome of the assessment was summarised in the Executive Summary.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECHNIQUE PTY LTD

Author

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Senior Environmental Engineer
B.E (Civil), MEng (Civil & Enviro)

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EXECUTIVE SUMMARY

Further to the preliminary site investigation (PSI) (Our Ref: 14985/1-AA dated 29 October 2021), prepared by Geotechnique Pty Ltd (Geotechnique), this executive summary presents a synopsis of a Detailed Site Investigation (DSI) and Remedial Action Plan (RAP) for a parcel of land currently registered as Lot 224 DP752020, located at Gilbert Road, Castle Hill, in the local government area of The Hills Shire (hereafter known as the site), indicated on Figure 1 (page 1 of the report).

It is understood that the site is proposed for sporting fields.

The objective of the DSI was to supplement the PSI Report 14985/1-AA for the site with appropriate soil sampling and testing, in order to ascertain whether the site is likely to present a risk of harm to human health and/or the environment. The objectives of the RAP were to provide methods of remediation that can be implemented and validated so that a statement can be made declaring the site environmentally suitable for the proposed sporting fields development; to ensure all remediation works are carried out with due regard to the protection of the environment; to ensure all remediation works comply with current regulations and guidelines; and to provide details of the validation processes to be adopted during and at completion of remediation.

To achieve the objectives of the DSI and RAP, the scope of works included review of the previous site investigation report, detailed sampling and testing of soil in the vicinity of previously identified contaminated locations within the site, sampling and testing of soil of beneath the former site features, in-situ dam and dam wall following breaching the dam, carry out on-site sieving test to identify any fibro-cement pieces in the relevant sample locations, developing suitable remediation and validation strategies for the site and preparation of this report.

Based on the previous PSI and this DSI, soil contaminated with / impacted by asbestos (bonded asbestos) and copper were identified in a number of locations, as shown on Drawing No 14985/3-AA2. Moreover, two areas with scattered ACM fragments were also observed on the site, as also shown on Drawing No 14985/3-AA2. Bonded asbestos presents a potential risk of harm to human health and elevated copper concentration impact on terrestrial ecosystems.

Due to the detection of elevated E. coli in one dam sediment sample, we recommend excavating and spreading the entire dam sediment in 200mm thickness over the designated area and retest for E. Coli as it is our understanding that exposure to sunlight effectively kills the microbes. Once the retest results confirm pathogen is no longer an issue, the dam sediment can be reused as fill within the site.

Based on the contaminant concentrations and locations identified from the contamination assessments, three areas (Area 1 to Area 3) requiring remediation was identified as indicated on Drawing No: 14985/3-AA3. Remediation is therefore deemed necessary, as detailed in Section 16.0 of the report.

Based on the advantages, disadvantages, risks and costs of each of the remediation options, we consider that remediation in accordance to Drawing No 14985/3-AA3 will be appropriate for the site:

- Disposal of bonded asbestos and copper contaminated soil in Area 1 at an appropriately licensed landfill facility.
- Ground surface of Area 2 and Area 3 will be remediated via emu picking process.

Asbestos air monitoring will be required during all remedial works.

The RAP once implemented and validated will render the above site suitable for the proposed sporting field land use.

The contaminated soil in Area 1 to be excavated and removed from the site for off-site disposal is preliminary classified as **Special Waste (Asbestos Waste)**. Excavated soil will be retested to confirm the final waste classification.

The waste must be disposed of at a licensed landfill facility with an appropriate waste classification. All landfill delivery / disposal dockets and the associated NSW EPA consignment for transportation of asbestos waste shall be provided to Geotechnique for inclusion in a site validation report.

Removal and disposal of the waste must be carried out in accordance with the requirements of the regulators, such as SafeWork NSW and NSW EPA.

The proposed remediation works are considered to be Category 2 (subject to agreement by The Hills Shire Council). A minimum of 30 days notice of the intention to proceed with remedial works must be given to Council.

The Site Management Plan, Occupational Health & Safety Plan and Contingency Plan, outlined in Sections 17.0, 18.0 and 20.0 of the report are required to be implemented during remediation works.

A report will then be prepared on the suitability of the site for the proposed sporting field land use, after completion of remediation. Asbestos clearance by an NSW SafeWork licensed asbestos assessor is required.

Reference should be made to Section 21.0 of the report for details of the recommendations regarding an unexpected finds management protocol to be implemented, any other materials to be excavated and removed from the site, and any fill to be imported to the site.

Reference should also be made to Section 22.0 of the report and **Appendix D** for the limitations of this DSI and RAP.

TABLE OF CONTENTS

LIST OF REFERENCES

DRAWING

TABLES

APPENDICES

1.0 INTRODUCTION

Further to the preliminary site investigation (PSI) (Our Ref: 14985/1-AA dated 29 October 2021), prepared by Geotechnique Pty Ltd (Geotechnique), and as requested, we have completed Detailed Site Investigation (DSI) and Remedial Action Plan (RAP) for a parcel of land currently registered as Lot 224 DP752020 located at Gilbert Road, Castle Hill, in the local government area of The Hills Shire (hereafter known as the site), as indicated on Figure 1 below:

FIGURE 1

Map Data ©2024 Google

It is understood that the site is proposed for sporting fields.

The objective of the DSI was to supplement the PSI Report 14985/1-AA for the site with appropriate soil sampling and testing, in order to ascertain whether the site is likely to present a risk of harm to human health and/or the environment. The objectives of the RAP were to provide methods of remediation that can be implemented and validated so that a statement can be made declaring the site environmentally suitable for the proposed sporting fields development; to ensure all remediation works are carried out with due regard to the protection of the environment; to ensure all remediation works comply with current regulations and guidelines; and to provide details of the validation processes to be adopted during and at completion of remediation.

This report was prepared generally in accordance with the NSW Environment Protection Authority (EPA), “Consultants Reporting on Contaminated Land" – 2020, and in consideration of State Environmental Planning Policy (Resilience and Hazards, 2021-Chapter 4 Remediation of Land) under the Environmental Planning and Assessment Act 1979.

2.0 SCOPE OF WORK

In order to achieve the objectives of this assessment, the following scope of work was conducted in accordance with our fee proposal (Q14985-3) dated 19 January 2024:

- Review and summary of the *Preliminary Site Investigation* report prepared by Geotechnique in October 2021.
- An inspection by an Environmental Scientist from Geotechnique, to identify current site activities, site features and any visible or olfactory indicators of potential contamination.
- Detailed sampling by using an excavator and testing at and in the vicinity of asbestos and/ copper contamination locations TP23 and TP26.
- Judgemental sampling by using an excavator and testing at 16 locations beneath the former site features.
- Systematic sampling by using an excavator and testing at 8 locations in the dried dam and 4 locations in the dam wall.
- Carry out on-site sieving test to identify any fibro-cement pieces in the fill materials with inclusions of demolition waste in the relevant sampling locations.
- Implementation of industry standard quality assurance (QA) and quality control (QC) measures. QC samples were also forwarded to the testing laboratories.
- Assessment of the laboratory analytical results against current applicable guidelines.
- Assessment of field and laboratory QA and QC.
- Assessment of the contamination status of soil in the site.
- Devising a suitable remedial and validation strategy for the site.
- Preparation of this report.

3.0 SITE INFORMATION

The site is registered as Lot 224 DP752020, located at Gilbert Road (referred to as the site), in the local government area of The Hills.

As shown in Drawing No 14985/3-AA1, the site is a rectangular in shape, covering an area of about 68,342m^2 (approximately 6.8 ha).

An Environmental Scientist from Geotechnique carried out site inspection for this DSI on 8 February 2024. Since the initial site inspection was carried out in 2021 as part of the PSI, the following salient changes were observed:

- The sports club building, umpire sports stand, and galvanised iron (GI) stables have been removed.
- Some demolition waste including brick and concrete fragments were observed within the footprint of the former sports club building.
- An area with scattered fibro-cement pieces was observed near the building footprints.
- Dam was breached.

There was no petroleum hydrocarbon staining on the ground surface of the site that would indicate the potential for contamination. There were no signs of plant distress or visible indicators of potential contamination. There were no olfactory indicators of potential contamination. There were no obvious features (bowsers, breather pipe, inlet valve and piping) associated with underground storage tanks.

The site is bound by dense vegetation/cemetery to the north, residential properties to the east and dense vegetation to the south and west.

4.0 TOPOGRAPHY, GEOLOGY & HYDROGEOLOGY

Reference to the Geological Map of Sydney (Herbert 1983) indicates that the bedrock at the site is Ashfield Shale, belonging to the Wianamatta Group of rocks and comprising dark grey to black shale and laminite.

Reference to the Soil Landscape Map of Sydney (Chapman et al. 2004) indicates that the landscape at the site belongs to Glenorie Group, which is characterised by undulating to rolling hills on Wianamatta Group shales, with local relief of 50m to 80m, ground slopes of 5% to 20%, narrow ridges, hill crests and valleys. The subsurface soil in this group is likely to be impermeable (localised), highly plastic and moderately reactive clay, varying in thickness, from less than 1.0m on crests and more than 2.0m on lower slopes.

There is no waterbody close to the site. Cattai Creek is located about 230m to the northwest of the site. Based on observation and site topography, most of the surface run-off may eventuate in the northwest adjoining property.

A site-specific groundwater analysis was outside the scope of this assessment. However, a search was carried out on 29 October 2021 through the website of the Department of Primary Industries Office of Water for any registered groundwater bore data within a radius of 500m of the site as a part of PSI. The search revealed no records of any bores located within a radius of 500m of the site.

5.0 SITE HISTORY INFORMATION

Geotechnique carried out a review of site history information as part of the PSI. The review included historical aerial photographs, NSW Department of Lands records, Planning Certificates under Section 10.7 (2 & 5) of the Environmental Planning and Assessment Act 1979 and NSW EPA record of Notices for Contaminated Land and records of the POEO Public Register. For details, reference should be made to Report 14985/1-AA.

Aerial photographs reveal that the site was a bushland without obvious activities between 1961 and 1998. The site appears to be used as sporting facility since at least 2009.

NSW Department of Lands records indicate that The State of NSW owns the property since 1969.

The Section 10.7 (2 & 5) Planning Certificate indicates no issues arising under the Contaminated Land Management Act 1997.

A search of the NSW EPA records revealed no EPA Notices issued for the site. A search of the Protection of the Environment Operations (POEO) Public Register found no records for the site.

Given site history, it is not likely that any substantial storage or use of chemicals or disposal of wastes, any history of product spill or loss, any discharges to land, air or water, has occurred.

6.0 SUMMARY OF THE PSI REPORT

A PSI was carried out for the site currently registered as Lot 224 in DP752020, located at Gilbert Road, Castle Hill, in the local government area of The Hills Shire. The results were presented in the Geotechnique report *Preliminary Site Investigation* (Our Ref: 14985/1-AA dated 29 October 2021). It is understood that the site is proposed for sporting fields.

The objectives of this investigation are to identify any areas of potential contamination at the site from past and present activities, in consideration of State Environmental Planning Policy No. 55 – Remediation of Land (DUAP/EPA 1998), to assess if the site is likely to present a risk of harm to human health and the environment under the conditions of the proposed development, and to provide recommendations for further detailed assessment, and / or contamination management if required, such that the site can be made suitable for the proposed use.

In order to achieve the objectives, a desktop study of site history, site inspection and soil sampling at eighty-two locations were carried out.

An Environmental Scientist from Geotechnique inspected the site on 13 to 15 September 2021 as a part of PSI. The site appeared to be a former sports field/ equestrian area. There were building footprint, former carpark, GI/ Brick sports building and a dam located in the eastern portion of the site. There was a GI shed with fibro fragments around the toe of the structure in the northeastern portion of the site. A weatherboard / timber / GI umpires box was also observed on the northern portion of the site. GI / timber stables were present on the southern boundary of the site. Gravel driveway was observed on the southern portion of the site which links to Gilbert Road to the east of the site.

The site features are indicated in Drawing No 14985/1-AA1.

Based on the test results of the PSI, the laboratory test results, with the exception of the locations of concern as indicated in Drawing No 14985/1-AA3, satisfied the criteria for stating that the analytes selected are either not present, i.e. concentrations less than laboratory LOR, or present in the sampled soil at concentrations that do not pose a risk of harm to human health or the environment under the proposed sporting fields (public open space). The presence of ACM at the locations of concern would present a potential risk of harm to human health. The elevated concentration of copper does not pose a risk of harm to human health but might pose a risk of harm to the environment (terrestrial ecosystems).

It is our opinion that the site (excluding the footprints of the existing building features) would be suitable for the proposed land use, subject to the following:

- Remediation of ACM and/or Cu impacted soil at and in the vicinity of the locations of concern as indicated in Drawing No 14985/1-AA3.
- A building hazardous material survey to be carried out by a professional hygienist for the presence of any hazarded material within the existing features (building and sheds) before their demolition, and remediation of the site at and in the vicinity of locations of concern.
- Given that a fragment of ACM was reported in the surface soil sample (adjacent to the existing features, a detailed inspection and sampling of the existing building/sheds footprint area should be completed by a suitably experienced occupational hygienist and an asbestos clearance certificate obtained.

Assessment of dam water was beyond the scope of the PSI. It is therefore recommended for the following:

- Assessment of the dam water prior to de-watering, to determine the contamination status of the dam water and recommend de-watering method (if required).
- On completion of de-watering, contamination assessment of the dam sediment and dam walls and should be carried out.

No obvious unacceptable aesthetic issues were identified at the site surface or within fill soils at the site. The inclusions such as glass, cans, plastic bags and fabric cloth, in the test pit TP77 (0-2m) and rusted metals and boulders in TP29 (0-1m) were encountered during the field sampling.

It is recommended that inclusions, glass, cans, plastic bags and fabric cloth, in the vicinity of test pit TP77 (0-2m) and rusted metals and boulders in the vicinity of TP29 (0-1m), encountered during the field sampling should be segregated followed by appropriate disposal or reuse.

7.0 CONCEPTUAL SITE MODEL (CSM)

Based on the initial CSM prepared during the PSI, the potential contamination sources and receptors and potential migration pathways between those sources and receptors have been identified.

7.1 Potential Areas of Environmental Concern

Based on the preceding sections, areas of environmental concern (AEC) and associated contaminants of potential concern have been identified and are presented in the following table.

Areas of Environmental Concern& Associated Contaminants of Potential Concern

Potential Source	Potential Contaminants of Concern (PCOC)
1. The site in the vicinity of the site features, such as building and sheds.	• Metals[1] • Organochlorine Pesticides (OCP) • Asbestos
2. Dam sediment & dam wall	• Metals[1] • Organochlorine Pesticides (OCP) • Asbestos
3. Uncontrolled fill encountered in the test pits with unknown source of origin will have the potential for contamination	• Metals[1] • Total Recoverable Hydrocarbons (TRH) and Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX) • OCP • Polycyclic Aromatic Hydrocarbons (PAH) • Polychlorinated Biphenyls (PCB) • Asbestos

[1] Metals suite includes arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc.

7.2 Potentially Contaminated Media

Potentially contaminated media present at the site include:

- Imported fill
- In-situ original topsoil/fill
- Natural soils

Based on the potential mobility of contaminants and their associated potential leachability through the soil/fill profile, vertical migration of contaminants from the surface soils into the underlying natural soils might have occurred. As a result, the natural soils are also considered to be potentially contaminated media.

If a substantial source is identified within the soil on-site, a groundwater assessment could be necessary.

Surface water is not identified as a potentially contaminated medium based on the absence of any permanent waterbody transecting the site.

7.3 Potential Migration

Contaminants generally migrate from a site via a combination of windblown dust, rainwater infiltration, groundwater migration, and surface water run-off. The potential for contaminants to migrate is a combination of:

- The nature of the contaminants (solid / liquid and mobility characteristics).
- The extent of the contaminants (isolated or widespread).
- The location of the contaminants (surface soils or at depth).
- The site topography, geology, hydrology and hydrogeology.

Off-site impacts of contaminants in soil are generally governed by the transport media available and likely receptors. The most common transport medium is water, whilst receptors include initially uncontaminated soils, groundwater, surface waterbodies, humans, flora and fauna.

The site is mainly grass covered. The potential for migration of contamination via surface run-off is expected to be minor. Some migration of contaminants via surface water may still occur in the event of heavy rain. Surface run-off would generally follow the topography and most of the surface run-off may eventuate in the adjoining northwestern properties.

Migration of any soil contaminants to the deeper soil and/or groundwater regime would generally be via leaching from the contaminated soil, facilitated by infiltration of surface water.

Sensitive receptors at the site under the current site conditions and in the immediate vicinity are considered to include site visitors who may come into contact with potentially contaminated media within the site.

8.0 DATA QUALITY OBJECTIVES

Data quality objectives (DQO) are qualitative and quantitative statements that specify the quality of the data required for the contamination assessment. DQO must ensure that the data obtained is sufficient to characterise the contamination on a site and enable appropriate assessment of health and environmental risks for the current or proposed use. The DQO were developed for this contamination assessment in accordance with the NSW EPA, Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme (3rd edition) and the NEPM 1999 (2013) Assessment of Site Contamination.

The project specific DQO process adopted consists of the following steps and is outlined as follows:

State the Problem
The site has been used for sporting activities. Imported fill could have been used for levelling purposes within the footprints of the existing features and the site, and the building and shed features might contain asbestos and lead. The vicinity of the existing building has the potential for metals and pesticides contamination. The previous building and shed features might have contained asbestos. Dam sediment and dam wall has the potential for Metals, OCP and asbestos contamination.

It is understood that the site is proposed for sporting fields.

The following key professional personnel were involved in the assessment;

Mr Anwar Barbhuyia	Senior Associate
Lan Ye	Senior Environmental Engineer
Justin Hofmann	Environmental Scientist

Identify the Decisions
The decisions to be made in completing the assessment are as follows;

- Does the site, or is the site, likely to present a risk of harm to human health or the environment?
- Is the site currently suitable for the proposed end use?
- Is there any potential for groundwater contamination?
- Are there any off-site migration issues to be considered?
- Is further investigation required to adequately address the abovementioned decisions?
- Is further investigation required to delineate the extent of contamination identified?
- Does the site require remediation to ensure suitability for the proposed end use?

Identify Inputs to the Decisions
The inputs into the decision process are as follows;

- Historical information (presented in Section 5.0).
- Site operations and observation details (presented in Section 3.0).
- Judgemental soil sampling targeting footprints of former site features using an excavator.
- Systematic soil sampling targeting dried dam and dam wall, using an excavator.
- Soil profile information obtained through the sampling phase.
- Chemical and/or physical test data on analysed samples.
- Assessment of test data/data sets against applicable soil investigation levels in the NEPM 1999 (April 2013).

Define the Study Boundaries
The study boundary for this assessment is defined by the boundaries of the subject site, as shown on Drawing No 14985/3-AA1 and summarised in Section 3.0 of this report.

Develop a Decision Rule
The information obtained through this assessment will be used to characterise the site in terms of contamination issues and risk to human health and the environment. The decision rule in characterising the site will be as follows;

- Laboratory test results will be assessed individually.
- The assessment criteria are the NSW EPA produced and/or endorsed criteria, as specified in Section 13.0 of this report. For asbestos assessment, the assessed soil must not contain asbestos containing material (ACM) in excess of 0.02%w/w and surface soil within the site is free of visible ACM, and asbestos fines (AF) and fibrous asbestos (FA) in the soil is <0.001% w/w.
- The site will be deemed to potentially contain contamination "hot spots" if any of the individual concentrations exceed the assessment criteria adopted.
- Further investigation, remediation and/or management will be recommended if the site is found to be contaminated or containing contamination "hot spots".

Specify Limits on Decision Errors

The limits on decision errors for this assessment are as follows:

- The assessment criteria adopted from the guidelines stated in Section 13.0 have risk probabilities already incorporated.
- The acceptable limits for field and inter-laboratory duplicate (split) comparisons are outlined in Sections 10.6 and 10.7 of this report.
- The acceptance limits for laboratory QA and QC parameters are based on the laboratory reported acceptance limits and those stated in the NEPM 1999 (April 2013) "*Guideline on Laboratory Analysis of Potentially Contaminated Soils*".

Laboratory test results will only be accepted and considered useable for this assessment under the following conditions;

- All laboratories used are accredited by NATA for the analyses undertaken.
- All detection limits set by the laboratories fall below the assessment criteria adopted.
- Analyte concentrations in the rinsate water sample should be less than laboratory limits of reporting or should not be detected significantly (refer to Section 10.4).
- The recovery of spike concentrations in the trip spike sample is sufficient so as not to affect the reported concentrations of the soil samples when the same recovery is applied (BTEX only) (refer to Section 10.5).
- The differences between the reported concentrations of analytes in the field duplicate samples and the corresponding original samples are within accepted limits (refer to Section 10.6).
- The differences between the reported concentrations of analytes in the inter-laboratory duplicate (split) samples and the corresponding original samples are within accepted limits (refer to Section 10.7).

Optimise the Design for Obtaining Data

- The procedures adopted for location and collection of environmental samples were developed prior to implementation, in accordance with NSW EPA guidelines and current industry practice. The sampling program as detailed below was designed to ensure integrity of data collection during the assessment, including decontamination techniques, sample labelling, storage and chain of custody protocols;
  - Judgemental soil sampling in the footprints of former site features.
  - Systematic soil sampling targeting dried dam and dam wall.

- The analytical program was developed prior to undertaking the sampling (based on site history, site activities and site features) and refined on the basis of field observations (both surface and sub-surface) during the sampling phase. All potential contaminants have been covered within the site.
- Only laboratories accredited by NATA for the analyses undertaken were used for this assessment. The laboratory performance is assessed through review of statistics calculated for QA samples such as blanks, spikes, duplicates and surrogates.
- The field QA and QC protocols adopted are outlined in Section 10.0 of this report. The QA and QC program incorporates preparation of traceable documentation of procedures used in the sampling and analytical program and in data validation procedures.

Data Quality Indicators
The performance of the assessment in achieving the DQO will be assessed through the application of Data Quality Indicators (DQI), defined as follows:

Precision	A quantitative measure of the variability (or reproducibility) of data;
Accuracy	A quantitative measure of the closeness of reported data to the "true" value;
Representativeness	The confidence (expressed qualitatively) that data is representative of each media present on the site;
Completeness	A measure of the amount of useable data from a data collection activity;
Comparability	The confidence (expressed qualitatively) that data can be considered equivalent for each sampling and analytical event.

Assessment of the data quality indicators is presented in Section 9.0 (sampling) and Section 12.0 (analysis) of this report.

9.0 SAMPLING & ANALYSIS PLAN AND SAMPLING METHODOLOGY

As part of the DSI, judgemental, systematic and delineation sampling was carried out on 8 and 27 February 2024, by an Environmental Scientist from Geotechnique, responsible for visually assessing the site, positioning the sample locations as close as possible to nominated locations, recovery of soil samples, preparation of samples for delivery to NATA accredited laboratories and logging the sub-surface profile encountered at each sample location.

Seventeen judgemental test pit locations (B1 to B16) were positioned in the footprint of former site features.

Twelve delineation test pit locations (TP23a, TP23-1 to TP23-11) were positioned in the vicinity of former test pit location TP23 with identified contaminants of ACM and copper impacted topsoil.

Five delineation test pit locations (TP26a, TP26-1 to TP26-4) were positioned in the vicinity of former test pit location TP26 with identified contaminants of surface ACM.

Moreover, four test pit locations (TPDW1 to TPDW4) were positioned along the former dam wall and eight dam sediment samples (SD1 to SD8) were collected from the breached dam.

Based on the initial test results of judgmental samples beneath the former features, five delineation test pit locations (B10a, B10-1 to B10-4) were positioned in the vicinity of test pit location B10 with identified potential contaminants of ACM impacted fill. Due to presence of fibro-cement pieces, an addition test pit (B17) was positioned on the former gravel driveway. Moreover, 4 additional test pits (B17-1 to B17-4) were also positioned in the vicinity of test pit location B17.

Test pits are shown on Drawing No 14985/3-AA1.

Sieve analysis was carried out in for all fill/topsoil samples in the detailed test pit locations.

The sampling procedures adopted were as follows:

- The test pits were excavated using an excavator, over the depth interval nominated by the Environmental Scientist. The representative soil sample was recovered directly from the excavator bucket using a stainless-steel trowel.
- The trowel was decontaminated prior to use in order to prevent cross contamination (refer to Section 10.3 for details of the procedures for decontamination of the trowel).
- To minimise the potential loss of volatiles, the laboratory soil sample was immediately transferred to a labelled, laboratory supplied, 250ml glass jar and sealed with an airtight, Teflon screw top lid. The fully filled jar was then placed in a chilled container.
- The recovered soil sample and fibro-cement piece for asbestos analysis, transferred into separate small plastic zip-lock bag, which was placed in a container.

On site bonded asbestos sampling for sieving test was conducted in accordance with gravimetric procedures as per NEPM 1999 (April 2013), i.e., individual samples (minimum of 10L) were manually screened on-site through a 7mm sieve, and the residual material left in the sieve examined for any bonded ACM and transferred into separate small plastic zip-lock bag, which was placed in a container.

To measure the reproducibility of test results, duplicate and split samples were prepared for analyses. Samples were kept in a labelled laboratory supplied glass jars (acid-washed and solvent-rinsed) and sealed with airtight screw top Teflon lids. The fully filled jars were placed in a chilled container.

A rinsate water sample was collected and placed in a glass bottle and vial supplied by the laboratory at the completion of field works. The fully filled bottle and vial were labelled and placed in a chilled container.

At completion of field sampling, the chilled containers and container were transported to our Penrith office. The chilled container was then transferred to a refrigerator where the temperature was maintained below 4°C.

The primary samples and QA / QC samples, in the chilled containers, were forwarded under COC conditions to the primary testing laboratory of SGS Environmental Services (SGS). Inter-laboratory duplicate (split) sample was forwarded in a chilled container to the secondary testing laboratory of Envirolab Services Pty Ltd (Envirolab). For asbestos testing, selected soil and fibro-cement pieces in the container was sent to Australian Safer Environment & Technology Pty Ltd (ASET). SGS, Envirolab and ASET are National Association of Testing Authorities (NATA) accredited.

On receipt of the samples and COC, the laboratories returned the Sample Receipt Confirmation, verifying the integrity of all samples received.

Reference should be made to Table 1 in Appendix A for descriptions of the soils encountered during sampling for this assessment using an excavator. Based on information from the sample locations, the sub-surface profile across the site is generalised as follows:

Topsoil	Silty Clay, low plasticity, brown, with sand, trace of root fibres, underlain by natural clayey soil.
Fill Material	Three types of fill material were encountered: Type 1: Silty Clay, low plasticity, brown to grey. Type 2: Gravelly Clay, low plasticity, grey Type 3: Gravelly Silty Sand, low plasticity, yellow
Natural Soil	Two types of natural material were encountered: Type 1: Silty CLAY, medium plasticity, orange. Type 2: Sandy CLAY, medium plasticity, brown
Sediment	Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres

There were no obvious ash materials and odour in the test pits. Fibro-cement piece was noticed in the topsoil at TP23a, TP23-5 and TP23-6 and on the ground surface near the former building footprints and at and in the vicinity of test pit location B17.

The following table provides a list of the data quality indicators (refer to Section 9.0) for the soil sampling phase of the assessment and the methods adopted in ensuring that the data quality indicators were met.

DATA QUALITY INDICATOR	METHOD(S) OF ACHIEVEMENT
Completeness	Judgemental, systematic and detailed soil sampling at predetermined locations, spacing and depths; All soils of concern (potential contamination) sampled; On site visual assessment of soils uncovered; Preparation of sample location plan; Records of test pit logs; Field duplicate sample numbers complying with NEPM; Inter-laboratory duplicate (split) numbers complying with NEPM; Rinsate sample recovered at the completion of field works; Preparation of chain of custody records.
Comparability	Using appropriate techniques for sample recovery. Appropriate industry standard decontamination procedures adopted (Section 10.2). Experienced samplers used. Using appropriate sample storage and transportation methods.
Representativeness	Sufficient judgmental sampling coverage of footprint of site features and location of concerns from previous PSI.
Precision and Accuracy	Rinsate blank water, trip spike, field duplicate, and inter-laboratory duplicate / split samples recovered or prepared (Section 10.4 to 10.7).

10.0 FIELD QUALITY ASSURANCE AND QUALITY CONTROL

10.1 Sampling Personnel

An Environmental Scientist (Justin Hofmann) from Geotechnique nominated sampling positions based on consultation with the Project Manager, supervised (full time) the excavation of each borehole, logged the soil profile encountered, recovered soil samples at a frequency determined by the sampling plan, and transported the samples.

Justin Hofmann has a bachelor's degree in science from Western Sydney University. At commencement of employment, Justin underwent supervised training in Geotechnique procedures for sampling and logging.

10.2 Decontamination Procedures

As stated in Section 9.0 of this report, soil sampling was carried out using an excavator. The stainless steel trowel was used to transfer the soil sample from the excavator bulk sample to the laboratory supplied glass jar and plastic bag. The stainless steel trowel was decontaminated prior to use. As stated in Sections 10.5 and 10.6, a trowel was used to divide the soil sample into two portions to prepare duplicate/split samples. Decontamination of the trowel involved the following:

- Removal of soils adhering to the trowel by scrubbing with a brush;
- Washing the trowel thoroughly in a solution of phosphate free detergent (Decon 90) using brushes and disposable towels;
- Rinsing the trowel thoroughly with distilled water;
- Repeating the washing / rinsing steps and rinsing with water;
- Drying the trowel with a clean cloth.

A sample of the final rinsate water sample was recovered at completion of sampling as only one piece of equipment is used for sampling.

10.3 Rinsate

One rinsate water sample (RS1) was recovered on completion of field work in order to identify possible cross contamination between the sampling locations.

The rinsate water sample was analysed for Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRH, BTEX and PAH. The test results for the rinsate water sample are summarised in Table A. The laboratory test results certificates are included in Appendix B.

As indicated in Table A concentrations of all analytes in the rinsate blank sample were less than the laboratory detection limits, which indicates that adequate decontamination had been carried out in the field.

10.4 Trip Spike

Trip spike sample was obtained from the laboratory on a regular basis, prior to conducting field sampling where volatile substances are suspected. The samples are held in the Penrith office of Geotechnique, at less than 4°C, for a period of not more than fourteen days. During the field work, the trip spike sample was kept in the chilled container with soil samples recovered from the site. The trip spike sample was then forwarded to the primary laboratory together with the soil samples recovered from the site.

The trip spike is prepared by the laboratory by adding a known amount of a pure petrol standard to a clean sand sample. The sample is mixed thoroughly to ensure a relatively homogenous distribution of the spike throughout the sample. When the sample is submitted for analysis, the same procedure is adopted for testing as the soil samples being analysed from the site.

The purpose of the trip spike is to detect any loss, or potential loss, of volatiles from the soil samples, during field work, transportation, sample extraction or testing.

One trip spike sample (TS1) was forwarded to the primary analytical laboratory with the samples collected from the site and tested for BTEX. The test results for the trip spike sample, reported as a percentage recovery of the applied and known spike concentrations, are shown in Table B. A copy of the laboratory analytical report is included in Appendix B.

As indicated in Table B, the results show a good recovery of the spike concentrations, ranging between 91% and 110%, which were within the acceptable ranges (60% - 130%). Furthermore, all the BTEX results for the soil samples analysed were less than laboratory detection limits and there was no visible or olfactory indication of hydrocarbon contamination.

Based on the above, it is considered that any loss of volatiles from the recovered samples that might have occurred would not affect the outcome / conclusion of this report.

10.5 Duplicate Samples

A field duplicate sample was prepared in the field through the following processes:

- A larger than normal quantity of soil was recovered from the sample location selected for duplication.
- The sample was placed in a decontaminated stainless bowl and divided into two portions using the decontaminated trowel.
- One portion of the sub-sample was immediately transferred using the decontaminated trowel into a labelled, laboratory supplied, 250ml glass jar and sealed with an airtight Teflon screw top lid. The fully filled jar was labelled as the duplicate sample and immediately placed in a chilled container.
- The remaining portion was stored in the same way and labelled as the original sample.

Duplicate samples were prepared on the basis of sample numbers recovered during the field work. The duplicate sample frequency was computed using the total number of samples analysed as part of this assessment. The duplicate sample frequencies computed are as follows:

• Metals (As, Cd, Cr, Pb, Hg, Ni, Zn)	39 samples analysed;	2 duplicates;	5.1% frequency
• Copper	44 samples analysed;	3 duplicates;	6.8% frequency
• TRH, BTEX & PAH	25 samples analysed;	2 duplicates;	8.0% frequency
• OCP	39 samples analysed;	2 duplicates;	5.1% frequency
• PCB	24 samples analysed;	2 duplicates;	8.3% frequency

The duplicate frequency adopted complies with the Schedule B3 Guideline on Laboratory Analysis of Potentially Contaminated Soils of the National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999 (April 2013), which recommends a duplicate frequency of at least 5%.

The duplicate sample test results are presented with the analytical reports in Appendix B and summarised in Table C1 to C3.

A comparison was made of the laboratory test results for the duplicate samples with the original samples and the Relative Percentage Differences (RPD) were computed to assess the accuracy of the laboratory test procedures. RPD within 30% are generally considered acceptable. However, this variation can be higher for low concentrations of analytes or non-homogeneous samples.

As shown in Table C1 to C3, the comparisons between the duplicate and corresponding original sample indicated acceptable RPD, with the exception of RPD for a few metals. This is considered to be due to the low concentrations of some analytes and / or the non-homogeneous nature of the soil samples.

All the concentrations with RPD in excess of 30% in the duplicate pairs were both less than the relevant assessment criteria.

Based on the above, the variation is not considered critical. Based on the overall duplicate sample numbers and comparisons, it is concluded that the laboratory test data provided by SGS are of adequate accuracy and reliability for this assessment.

10.6 Inter-laboratory Duplicate (Split) Samples

The inter-laboratory duplicate (split) sample provides a check on the analytical performance of the primary laboratory. The split sample was prepared in the same manner as the duplicate sample. Reference should be made to Section 10.5. The split sample was prepared on the basis of sample numbers recovered during field work and the analyses undertaken by the primary laboratory. Split sample was submitted for analysis to a secondary laboratory (Envirolab).

The split sample frequency was computed using the total number of samples analysed as part of this assessment. The split sample frequencies computed are as follows:

- Metals (As, Cd, Cr, Pb, Hg, Ni, Zn) 39 samples analysed; 2 splits; 5.1% frequency
- Copper 44 samples analysed; 3 splits; 6.8% frequency
- TRH, BTEX & PAH 25 samples analysed; 2 splits; 8.0% frequency
- OCP 39 samples analysed; 2 splits; 5.1% frequency
- PCB 24 samples analysed; 2 splits; 8.3% frequency

The split sample frequency adopted complies with the Schedule B3 of the NEPM 1999 (April 2013), which recommends a frequency of 5%.

The laboratory certificates of analysis from Envirolab are included in Appendix B of this report. The results are also summarised in Table D1 to D3.

Based on Schedule B3 of the NEPM 1999 (April 2013), the difference in the results between the split samples should generally be within 30% of the mean concentration determined by both laboratories, i.e., RPD should be within 30%. However, this variation can be higher for low concentrations of analytes or non-homogeneous samples.

As shown in Table D1 to D3, the comparisons between the split and corresponding original sample indicated generally acceptable RPD, with the exception of RPD for some metals. This is considered to be due to the non-homogeneous nature of the soil samples analysed.

All the concentrations with RPD in excess of 30% in the split pairs were both less than the relevant assessment criteria.

Based on the above, the variations are not considered critical. Based on the overall split sample numbers and comparisons, it is concluded that the test results provided by the primary laboratory are deemed reliable for this assessment.

11.0 LABORATORY QUALITY ASSESSMENT AND QUALITY CONTROL

11.1 Laboratory Accreditation

Only laboratories accredited by the NATA for chemical analyses were used for analysis of samples recovered as part of this assessment. The laboratory must also incorporate quality laboratory management systems to ensure that trained analysts using validated methods and suitably calibrated equipment produce reliable results.

In addition to the quality control samples, the laboratory must also ensure that all analysts receive certification as to their competence in carrying out the analysis and participate in national and international proficiency studies.

SGS, ASET and Envirolab are accredited by NATA and operate Quality Systems designed to comply with ISO / IEC 17025.

11.2 Sample Holding Times

The following table lists the allowable holding times of soils and water, detailed in Schedule B3 of the NEPM 1999 (April 2013) and in Standard Methods for the Examination of Water and Wastewater (APHA).

ANALYTE	HOLDING TIME (SOIL)	HOLDING TIME (WATER)
Metals *	6 months	6 months
Mercury (Hg)	28 days	28 days
Total Recoverable Hydrocarbons (TRH)	14 days	7 days
Benzene, Toluene, Ethyl benzene and Xylenes (BTEX)	14 days	14 days
Polycyclic Aromatic Hydrocarbons (PAH)	14 days	7 days
Organochlorine Pesticides (OCP)	14 days	-
Polychlorinated Biphenyls (PCB)	14 days	-
pH	7 days	-
CEC	28 days	-

* Metals include Arsenic, Cadmium, Chromium, Copper, Lead, Nickel and Zinc

It should be noted that there is no specific holding time for asbestos analysis.

The actual holding times of the laboratories used for this assessment are shown in the laboratory analytical reports / certificate of analyses in Appendix B of this report. All analyses were conducted within the relevant holding times.

11.3 Test Methods and Limits of Reporting / Practical Quantitation Limits

The test methods and LOR / Practical Quantitation Limits (PQL) adopted by the laboratories are indicated with the analytical reports / certificates of analysis in Appendix B.

All reported laboratory LOR / PQL were less than the assessment criteria adopted for each analyte or analyte group.

11.4 Method Blanks

Method blank samples are designed to monitor the introduction of incidental or accidental interferences into the analysis, which might result in a false increase in analyte concentration. The blank comprises reagents specific to each individual analytical method and is analysed in the same manner as the site sample. The reagents are carried through the preparation, extraction and digestion procedures and analysed at the beginning of every sample batch analysis, or at least 1 in 20 samples.

Reagent blank samples for soil samples were analysed by the primary and secondary laboratories for Metals, TRH, BTEX, PAH, OCP and PCB.

The reagent blank sample for rinsate water sample was analysed for metals, TRH, BTEX and PAH by the primary laboratory (SGS).

All reported blank concentrations were below the LOR or PQL, as detailed in the laboratory analytical reports from SGS and certificate of analysis from Envirolab. The results complied with the acceptance criteria for each laboratory (must not be detected at the LOR / PQL).

The test results indicate that there was no interference to the analysis.

11.5 Laboratory Duplicate Samples

The laboratory prepares duplicate samples from the supplied samples (original samples) and/or laboratory spike samples, carries out preparation and testing in the same manner as the original sample. The duplicate sample provides an indication of laboratory precision and reproducibility.

The laboratory prepared duplicates were analysed for the same range of analytes as the samples submitted from the site.

SGS requires 1 duplicate analysed for every 10 samples whilst Envirolab requires 1 duplicate analysed for every 20 samples.

The comparisons between the laboratory duplicates and original samples have been reported on the laboratory test results certificates as RPD.

Maximum Allowable Difference (MAD) was suggested by SGS as RPD criteria for Lab Duplicates.

Note: MAD = 100 x Statistical Detection Limit (SDL) / Mean + Limiting Repeatability

Reference may be made to SGS analytical reports in Appendix B for details of the reported duplicate sample numbers, RPD ranges, as well as acceptance criteria.

As presented in the SGS analytical reports, the duplicate sample numbers and reported RPD were in general within the acceptance criteria adopted by the laboratory, with exception of some metals and VOCs mainly due to the heterogeneity of the soil samples and matrix interference. RPD exceeded the laboratory accepted limit for one surrogate but at least 2 of 3 surrogates are within acceptance criteria.

Based on the overall duplicate sample numbers and comparisons, the RPD are not considered crucial.

The RPD acceptance for Envirolab is typically in the range of 20% to 50% (if concentrations are greater than 10 times the PQL). The acceptance RPD is higher for concentrations less than 10 times the PQL as the results approach PQL and estimated measurement uncertainty will statistically increase.

No duplicate sample was reported for Envirolab in the certificate of analysis in Appendix B but claims to run one sample in batches of 20 samples. The results are not reported with the laboratory certificates provided to clients; however, claim to be within the laboratory acceptance criteria.

Based on the above the duplicate sample numbers and reported RPD for SGS and Envirolab were within the acceptance criteria adopted by the laboratories.

11.6 Laboratory Control Samples

A laboratory control sample is a sample of material with known concentrations of various analytes, such as a standard reference material or control matrix. The control sample is analysed with the sample batch and the recorded concentrations reported as a percentage recovery of the known or expected concentration. At least one control sample is included in each run to confirm calibration validity.

The acceptance criteria for both laboratories are presented below:

SGS: 80% to 120% for metals / inorganics and 60% to 130% for organics

Envirolab: 70% to 130% for metals / inorganics and 60% to 140% for organics

Reference may be made to SGS analytical reports and Envirolab certificate of analyses in Appendix B for details of the reported percentage recoveries.

The control sample data presented by the laboratories, fall within the acceptance limits of the laboratories.

11.7 Matrix Spikes

The purpose of matrix spikes is to monitor the performance of the analytical methods used and to determine whether matrix interferences exist. Samples are spiked with identical concentrations of the target analyte before extraction or digestion. The results are reported as percentage recoveries of the known spike concentration.

The acceptance criteria for the matrix spike recoveries in soil samples for SGS and Envirolab are 60% to 140% for organics and 70% to 130% for metals / inorganics.

The acceptance criteria for the matrix spike recoveries in water samples for SGS are 60% to 140% for organics and 80% to 120% for metals / inorganics.

The matrix spike data presented by SGS fall in general within the laboratory acceptance criteria.
Three matrix spike recoveries reported RPD exceeding the laboratory accepted limit for TRH, mainly due to matrix interference.

No matrix spike for the analytes was reported for Envirolab but claims to run one sample in batches of 20 samples. The results are generally not reported with the laboratory certificates provided to clients; however, claim to be within the laboratory acceptance criteria.

11.8 Surrogate Spikes

Surrogate spikes are used during analysis for organics to provide a means of checking that no gross errors have occurred at any stage of the procedure, leading to significant analyte losses. The surrogate spikes are added to each sample, blank, matrix spike, duplicate and control sample before the extraction stage. The percentage recovery of the known spike is recorded and reported on the laboratory report / certificate.

The acceptance limits for the laboratories are as follows:

SGS: 60% to 130% for soil and 40% to 130% for water

Envirolab: 60% to 140%

Reference may be made to SGS analytical reports and Envirolab certificate of analyse in Appendix B for details of the reported recovery percentages.

As shown in laboratory reports / certificate, the surrogate spike data presented by the laboratories fall within the acceptance limits of the laboratories.

12.0 QA/QC DATA EVALUATION

The following table provides a list of the data quality indicators for the analytical phase of the assessment and the methods adopted in ensuring that the data quality indicators were met.

DATA QUALITY INDICATOR	METHOD(S) OF ACHIEVEMENT
Data Completeness	Laboratory sample receipt information received confirming receipt of samples intact and appropriate chain of custody. Analysis for all potential contaminants of concern in the site. NATA registered laboratory analytical reports / certificates of analysis provided.
Data Comparability	Use of NATA registered laboratories. Test methods consistent for each sample. Test methods comparable between primary and secondary laboratory. Acceptable Relative Percentage Differences between original samples and field duplicates and inter-laboratory duplicate / split samples.
Data Representativeness	Representative coverage of potential contaminants in the site based on site history, site activities, site features, disentitled contaminates during PSI and the presence of fill materials, fibro-cement pieces. Collection and analysis of soil samples was in accordance with the sampling and analysis plan based in accordance with NSW EPA guidelines and current industry practice. Adequate duplicate, split and rinsate sample numbers. Adequate laboratory internal quality control and quality assurance methods, complying with the NEPM.
Data Precision and Accuracy	Acceptable concentrations in rinsate blank water sample. Acceptable RPD for duplicate comparison overall. Acceptable RPD for inter-laboratory duplicate / split sample comparison overall. Appropriate and validated laboratory test methods used. Adequate laboratory performance based on results of the blank samples, duplicates, control samples and/or matrix spike samples.

Based on the above, it is considered that both laboratories complied with the quality assurance and quality control data quality indicators. As such, it is concluded that the laboratory test data obtained are reliable and useable for this assessment.

13.0 ASSESSMENT CRITERIA

Investigation levels and screening levels developed in the NEPM 2013 were used in this assessment, as follows:

- Risk-based Health Investigation Levels (HIL) for a broad range of metals and organic substances. The HIL are applicable for assessing human health risk via all relevant pathways of exposure. The HIL as listed in Table 1A (1) of Schedule B1 "*Guideline on Investigation Levels for Soil and Groundwater*" are provided for different land uses.

  The site is proposed for a sports field. Therefore, with regard to human health, analytical results were assessed against risk based HIL for *Public open space* (HIL C) which includes park.

- Health Screening Levels (HSL) for selected petroleum compounds, fractions and Naphthalene are applicable for assessing human health risk via inhalation pathways. The HSL depend on specific soil physicochemical properties, land use scenarios and the characteristics of building structures. The HSL listed in Table 1A(3) of Schedule B1 "Guideline on Investigation Levels for Soil and Groundwater" apply to different soil types and depths below surface to >4 m.

  For this assessment, the analytical results will be assessed against the available HSL for clay to depth of 0m to <1m and sand to depth of 0m to <1m for low density residential (HSL C).

- Ecological Screening Levels (ESL) for selected petroleum hydrocarbon compounds, TPH fractions and Benzo(a)Pyrene (BaP) are applicable for assessing the risk to terrestrial ecosystems. ESL listed in Table 1B(6) of Schedule B1 "Guideline on Investigation Levels for Soil and Groundwater" broadly apply to coarse and fine-grained soils and various land uses and are generally applicable to the top 2m of soil.

  For this assessment, the analytical results will be assessed against the available ESL for fine-grained soil (clay) and coarse-grained soil (sand) for public open space land use.

- Ecological Investigation Levels (EIL), a specific type of Soil Quality Guidelines (SQG) for selected metals, are applicable for assessing the risk to terrestrial ecosystems. EIL listed in Table 1B(1-5) of Schedule B1 "*Guideline on Investigation Levels for Soil and Groundwater*" depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2m of soil. For arsenic and lead, generic EIL are adopted, for *urban residential* land use for aged contamination. For other metals, where available, EIL are calculated using the EIL calculator developed by CSIRO for NEPC.

  For this assessment, the analytical results were assessed against the available SQG / EIL for public open space land use for aged contamination in soil for low traffic volume.

  For arsenic, Naphthalene and DDT, generic EIL for urban residential are adopted for aged contaminants. For other metals, EIL are the sum of the added contaminant limit (ACL) and the ambient background concentration (ABC). Where available, EIL are calculated using the EIL calculator developed by CSIRO for NEPC.

- For asbestos, the assessed soil must not contain asbestos containing material (ACM) in excess of 0.02%w/w, surface soil within the site is free of visible ACM, and asbestos fines (AF) and fibrous asbestos (FA) in the soil is <0.001% w/w.

The Microbiological Standards in the NSW EPA *Environmental Guidelines: Use and Disposal of Biosolids Products* was adopted for assessing the potential risk to human health of the pathogens within the soil.

The site will be deemed contaminated or containing contamination "hot spots" if the above criteria are unfulfilled. Further investigation, remediation and/or management will be recommended if the area of concern is found to be contaminated or containing contamination "hot spots".

14.0 FIELD & LABORATORY TEST RESULTS, ASSESSMENT & DISCUSSION

14.1 Field Results

Details of the sub-surface conditions encountered during field work for this assessment are presented in Table 1 in Appendix A of this report. As discussed in Section 4.0 the general soil profile comprised fill materials/topsoil overlying natural clayey soil.

Dam sediment was consisted of silty clay, medium plasticity, dark brown, with sand, trace of root fibres.

The test pits did not reveal any visual evidence of significant contamination, such as staining, odours or significant foreign matter. Fibro-cement piece was noticed in the topsoil at TP23a, TP23-5 and TP23-6 and on the ground surface near the former building footprints and at and in the vicinity of test pit location B17.

14.2 Analytical Results

Reference may be made to Appendix B for the actual laboratory test results certificates. The test results are also presented in Tables E1 to E7, F to I, J1, J2, K1 and K2 together with the assessment criteria adopted. A discussion of the test data is presented in the following sub-sections.

14.2.1 Metals (As, Cd, Cr, Cu, Pb, Hg, Ni & Zn)

Test results of CEC and pH were adopted to calculate ecological investigation levels (EIL) in Table E1 to E7.

The Metals test results indicated that all concentrations of Metals were below the relevant available EIL and Health Investigation Levels (HIL) public open space (HIL C) which also includes park.

14.2.2 Total Petroleum / Recoverable Hydrocarbons (TPH / TRH) and BTEX

The TRH and BTEX test results are presented in Table F. As shown in Table F, the concentrations of F1 TRH, F2 TRH, F3 TRH, F4 TRH and BTEX were below the relevant ESL adopted.

14.2.3 Polycyclic Aromatic Hydrocarbons (PAH)

As shown in Table G, all the concentrations of Benzo(a)pyrene (BaP) (TEQ), Total PAH, Naphthalene and BaP were well below the relevant HIL C, HSL C, EIL and / or ESL.

14.2.4 Organochlorine Pesticides (OCP)

As shown in Table H, the concentrations of OCP were well below the relevant HIL C. Concentrations of DDT were also below the EIL.

14.2.5 Polychlorinated Biphenyls (PCB)

As shown in Table H, the concentrations of PCB were below the HIL C and less than laboratory LOR.

14.2.6 Phenols

As shown in Table H, the concentrations of Phenols were below the HIL C and less than laboratory LOR.

14.2.7 Pathogen

The E.coli, Faecal Coliform and Salmonella test results of dam sediment are presented in Table I.

As presented in Table I, the concentrations of E. coli and Faecal Coliforms were below the relevant Stabilisation Grade A Microbiological Standard, with exception of E.coli at one sediment sample SD6. No Salmonella was detected in any sediment sample.

14.2.8 Asbestos

The asbestos test results for selected discrete soil samples are presented in Table J1 and J2 and as indicated, no ACM in excess of 0.02%w/w were found and also no AF and FA in excess of 0.001%w/w were found in the analysed soil samples. All four analysed FCP samples were ACM.

In total, twenty-eight (each about 10L volume) were recovered for on-site sieving test in accordance with gravimetric procedures as per NEPM 1999 (April 2013).

The on-site sieving test results for asbestos are presented in Table K1 and K2. Bonded ACM (>7mm) was found above the criteria 0.02% w/w in one sample (TP23-6_0-0.1m).

15.0 SITE CHARACTERISATION

Based on the previous site investigations and this DSI, soil contaminated with / impacted by asbestos (bonded asbestos) and copper were identified in a number of locations, as shown on Drawing No 14985/3-AA2. Moreover, two areas with scattered ACM fragments were also observed on the site, as indicated on Drawing No 14985/3-AA2.

Based on the laboratory test results and soil profiles for the PSI and DSI, it is our opinion that the information is sufficient to delineate the estimated extents of the contaminated soils. Three (3) areas requiring remediation were identified and labelled as Area 1, Area 2 and Area 3 as shown on Drawing No 14985/3-AA3. Included on the drawing is a table indicating the estimated area / size (in square metres), thickness (in metre) and volume (in cubic metres) of the contaminated topsoil, where applicable.

Subsequently, remediation / management followed by validation are required.

16.0 REMEDIAL ACTION PLAN

Based on the previous PSI and this DSI, soil contaminated with asbestos (bonded asbestos) and copper were identified in a number of locations, as shown on Drawing No 14985/3-AA2. Moreover, two areas with scattered ACM fragments were also observed on the site, as indicated on Drawing No 14985/3-AA2. Area 1 to Area 3 requiring remediation were identified as indicated on Drawing No 14985/3-AA3. Therefore, remediation / management is required.

16.1 Site Remediation Policy

The preferred hierarchy of options for site remediation and / or management is set out in s.6(16) Assessment of Site Contamination Policy Framework of Schedules A and B of the NEPM 1999 (April 2013), which is summarised as follows, in order of preference:

- On-site treatment of the contamination so that it is destroyed, or the associated risk is reduced to an acceptable level; and
- Off-site treatment of excavated soil, so that the contamination is destroyed, or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or

If the above are not practicable:

- Consolidation and isolation of the soil on-site by containment within a properly designed barrier; and
- Removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material;

Or:

- Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

When deciding which option to choose, the sustainability (environmental, economic and social) of each option should be considered, in terms of achieving an appropriate balance between the benefits and effects of undertaking the option.

16.2 Remediation and Management Strategies

The contaminants identified are bonded asbestos and copper. Based on the contaminants identified the following remediation strategies are considered.

Based on the preferred hierarchy of options for site remediation and / or management as summarised in Section 12.1 and reference to *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, it is our opinion that the available techniques for remediation of asbestos contaminated soils that would be suitable for the site are described below:

- **On-site Treatment:** This involves undertaking physical treatment of asbestos contaminated soils with the following methods;
  - Hand (emu-bob) picking of bonded asbestos.
  - Tilling, a process of mechanically turning over the soil to facilitate the picking of bonded asbestos.
  - Mechanical screening.

  The following factors are to be considered;

  Advantages

  - No soil with bonded asbestos on ground surface need to be removed for off-site disposal, thereby minimising the occupation of landfill space;
  - Cost saving (of Landfill Disposal) for large volumes;
  - Reducing bonded asbestos to acceptable level.

  Disadvantages

  - Trial & error process;
  - Disposal of some contaminated soil may still be required;
  - Not an option for soil contaminated with friable asbestos;

- May not be suitable if the ground surface containing significant amount of bonded asbestos fragments;
- May not be suitable for soil with high clay contents;
- There is potential to generate considerable dust which requires management and monitoring to ensure there are no off-site impacts.

- **Cap and Contain:** This involves encapsulating the contaminated soil above groundwater table through construction of an engineered barrier to prevent human exposure to asbestos and in contact with groundwater. The cap may be a layer of clean certified fill material, such as virgin excavated natural material (VENM), excavated natural material (ENM) or hardstand material (such as concrete, asphalt);

  The following factors are to be considered;

  Advantages

  - Minimising the occupation of landfill space;
  - Cost saving (of Landfill Disposal) for large volumes;
  - Short time frame.

  Disadvantages

  - Asbestos contaminated soil will need to be properly managed;
  - Subject to Council approval;
  - Long term cost involved;
  - Owner of contaminated soil remains liable;
  - A cap and contain strategy would require the implementation of long term institutional controls. This would be in the form of an Environmental Management Plan (EMP). The EMP should clearly define the entity responsible for managing the cap, the extent of the encapsulated soils, details of the monitoring requirements and an outline the reporting responsibilities. The entity responsible for the EMP will depend on who the owner of land is, this may be a private entity, a company or government (local, state or federal). If the encapsulated soils are to be placed onto government land, prior agreement from the relevant agency would be required.
  - Potential devaluation of land where on-site burial occurred.

- **Excavation and Off-site Disposal:** This involves the excavation and off-site disposal of the asbestos contaminated soil at an appropriately licensed landfill facility.

  The following factors are to be considered;

  Advantages

  - Risk and the liability are removed from the site;
  - Simple & straightforward process;
  - Short time frame.

  Disadvantages

  - Adding to already filling landfill;
  - Requires movement of contaminated soil on public roads;
  - Can be very costly;
  - Requiring reinstatement with clean materials to fill void.

16.3 Remediation Goal

The goal of remediation is to be able to provide a statement declaring that the site is environmentally suitable for the proposed sporting field land use.

16.4 Extents of Contamination Requiring Remediation

Remediation of Area 1 to Area 3 as shown on Drawing No 14985/3-AA3 will be required. Reference should be made to the table in the drawing for estimated size, thickness and/or volume of the contaminated Area 1 to Area 3.

It is reiterated that the defined remediation size and thickness for each area are estimates only. The actual size and thickness may be decreased or increased. This will be confirmed by the necessary visual assessment, validation sampling and testing.

16.5 Adopted Remedial Method

Many factors such as advantages, disadvantages, risks and the costs of separating relatively small amounts of waste, compared to apparently less complicated disposal off-site, etc., need to be considered in adoption of the final remediation and management strategies.

One single remediation / management strategy is unlikely to render the site suitable for the proposed sporting field land use. A combination of the techniques noted in Section 12.2 will provide a balance between cost of remediation and ongoing management controls.

Based on the advantages, disadvantages, risks and costs of each of the remediation options, it is our opinion that remediation in accordance to Drawing No 14985/3-AA3 and consistent with the NSW EPA draft Position Statement – Management of Asbestos Contaminated Sites (May 2023) will be appropriate for the site:

- Disposal of bonded asbestos and copper contaminated soil in Area 1 at an appropriately licensed landfill facility.
- Ground surface of Area 2 and Area 3 will be remediated via emu picking process.

Area 1

It is recommended the following methodology / procedure for remediation strategy to be implemented in relation to Area 1 impacted by bonded ACM and copper:

1. Physical (peg and markers) and digital (GPS) identification of the Area 1 (refer to Drawing No 14985/3-AA3 for the estimated spatial extent and thickness).
2. Excavation and temporarily stockpile the contaminated soil on the ground surface (preferably over a high-density polyethylene (HDPE) sheet) for final waste classification of the contaminated soil for off-site landfill disposal under instruction / supervision of an Environmental Consultant and Asbestos Assessor. The stockpile should be labelled, covered and appropriately protected against erosion.
3. Appropriate waste classification (refer to the following Section 16.6).
4. Removal and disposal of the waste must be carried out in accordance with the requirements of the regulators, such as SafeWork NSW and NSW EPA. A SafeWork Class B licensed asbestos removalist must be engaged to supervise excavation and loading of the soil contaminated with bonded asbestos.
5. Disposal of the waste at an appropriately licensed landfill facility.
6. Validation sampling and testing as per Section 19.1.

7. The removalist licence, landfill disposal dockets and the associated NSW EPA consignment for transportation of asbestos waste shall be provided to Geotechnique for inclusion in a site validation report.
8. All landfill delivery / disposal dockets shall be provided to Geotechnique for inclusion in a site validation report.

Area 2 and Area 3

It is recommended the following methodology / procedure for remediation strategy to be implemented in relation to Area 2 and Area 3 impacted by bonded ACM on the ground surface:

1. Physical (peg and markers) and digital (GPS) identification of Area 2 and Area 3 (refer to Drawing No 14985/3-AA3) for the estimated size.
2. Removal of scattered rubbish and building debris, including charcoal, brick, tile, concrete, PVC pipe, etc. Disposal of these rubbish and debris at licensed waste facility.
3. Hand-picking (emu pick) and removal of bonded ACM fragments from the ground surface by non-mechanical means (visual identification, hand collection and surface raking / scraping) by SafeWork Class B licensed asbestos removalist.

   All ACM fragments shall be placed in 200µm clear plastic bag with asbestos warning signage. The asbestos waste bag(s) shall be double bagged and secured via gooseneck, which are disposed of as Special Waste (asbestos waste) at licensed waste facility (refer to the following Section 16.6).
4. Stripping of any covering vegetation; ensuring the vegetation is clean of ACM before disposal *.
5. Repeat item 3 (hand-picking and removal of bonded ACM fragments).
6. Validation sampling and testing as per Section 19.2.
7. The removalist licence, landfill disposal dockets and the associated NSW EPA consignment for transportation of asbestos waste shall be provided to Geotechnique for inclusion in a site validation report.
8. All landfill delivery / disposal dockets shall be provided to Geotechnique for inclusion in a site validation report.

* To fully identify asbestos within the vegetation would be difficult. We are of the opinion that the stripped vegetation should be disposed of as Special Waste (asbestos waste), due to the presence of bonded ACM within the site. Should there be any soil mixed with the vegetation, re-classification of the vegetation with soil will be required prior to disposal (refer to Section 16.6).

16.6 Preliminary Waste Classification

Waste classification is required to provide information to the nominated landfill facility regarding classification of the contaminated soil to be disposed.

In NSW, the criteria for disposal of contaminated soils / material are generally governed by the "Waste Classification Guidelines Part 1: Classifying Waste", the NSW EPA 2014. This guideline outlines a clear, step-by-step process for classifying waste. There are six waste classes to be used:

- Specific Waste, including clinical and related waste, asbestos waste, as well as waste tyres
- Liquid Waste

- Hazardous Waste
- Restricted Solid Waste
- General Solid Waste (Putrescible)
- General Solid Waste (Non-putrescible)

Waste is classified according to Contaminant Threshold (CT) values without TCLP test or Specific Contaminant Concentration (SCC) values with the TCLP test.
The topsoil in Area 1 is classified as "Special Waste – Asbestos Waste" as a preliminary based on the asbestos test results according to the "Waste Classification Guidelines Part 1: Classifying Waste", the NSW EPA 2014.

For final waste classification of excavated soil from Area 1 (about 16m^3), 3 samples will be recovered and analysed, in accordance with section 5.4.5 and Table 3 of the Sampling Design Guidelines – application by NSW EPA 2022.

Final Waste Classification Report will be prepared in accordance with:

- Guidelines for Consultants Reporting on Contaminated Land (NSW EPA, 2020); and
- Waste Classification Guidelines Part 1: Classifying waste (NSW EPA, 2014

16.7 Preparation for Remedial Works

Prior to conducting remedial works on-site, the following procedures will be carried out:

- The remedial works are considered Category 2 (subject to agreement by The Hills Shire Council), as defined under the Chapter 4 Remediation of Land in the *State Environmental Planning Policy (Resilience and Hazards) 2021 under the Environmental Planning and Assessment Act 1979*, which has repealed "*Managing Land Contamination: Planning Guidelines*"-*SEPP 55 Remediation of Land*. Development consent to carry out the works is not likely to be required. Under Clause 4.13 of the *State Environmental Planning Policy (Resilience and Hazards)*, a minimum of 30 days notice of the intention to proceed with remedial works must be given to The Hills Shire Council
- Notification must be provided by the remediation contractor to SafeWork NSW to excavate and dispose of asbestos contaminated material / soils at an EPA licensed landfill facility, specifically by the Class A licensed contractor for friable asbestos and Class B Licence for bonded asbestos.
- Under the Protection of the Environment Operations (Waste) Regulation, asbestos transporters are required to track loads of asbestos using WasteLocate.
- The nominated licensed landfill shall be contacted and informed of the soil classification details in order to obtain an approval for acceptance of the contaminated soil. All documentation required by the landfill facility shall be completed as required.
- Marking of the contaminated areas by an Environmental Representative and fencing off with red ribbon to prevent / minimise access during any future works.
- All intended environmental management measures (refer to Section 13.0) will be installed by the appointed contractor. Geotechnique will inspect all measures prior to remedial works commencing.
- No waste should be transported before acceptance of the application.
- Signage shall be placed at the site entrance, identifying the contact details of the appointed remediation contractor.

- The site shall remain secure during non-working hours.
- Asbestos air monitoring will be required during all remedial works.
- Provide a remediation schedule to Geotechnique, once the site owner or relevant party, has authorised the remediation.

16.8 Requirements for Importation of Fill to the Site

For the purpose of backfilling and/or elevating the level at the site, waste classified as virgin excavated natural material (VENM) or ENM (excavated natural material) would only be acceptable for the site.

The imported fill from off-site must conform to the requirements of VENM and ENM as defined below:

16.8.1 VENM

The Protection of the Environment Operations Act 1997 (POEO Act), as mentioned in NSW EPA 2018, defines VENM as:

'natural material (such as clay, gravel, sand, soil or rock fines);

(a) that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities,

and

(b) that does not contain any sulfidic ores or soils or any other waste and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.'

Where an excavated material cannot be classified as VENM, it may be eligible for reuse under the NSW ENM Exemption order, 2014.

16.8.2 ENM

The resource recovery exemption ('exemption') and resource recovery order ('order') framework (NSW EPA 2014) facilitate the lawful re-use of waste received from off-site for applying to land as engineering fill or for use in earthworks. For the importation of fill material, it is imperative that the fill material that is intended to be received has been assessed against the relevant order and exemption. Soil investigation and screening levels are not considered appropriate criteria for assessing incoming fill material. However, soil investigation and screening levels may be used in addition to orders and exemptions to ensure incoming material does not pose an unacceptable risk to human health or the environment at the site and the site is suitable for the proposed use.

The following information should be tracked and reported during material import:

- Land use history of the source.
- Source site condition.
- Engineering logs with material descriptions, soil profiles.
- Acid Sulphate soil status.
- Asbestos status.
- Waste classification report.

- Volume of material to be imported.
- Details including EPLs of source site and transporters.
- Placement locations and import dockets/invoices.

17.0 ENVIRONMENTAL MANAGEMENT PLAN

This RAP should be provided to the appointed remediation contractor to make the contractor aware of the contamination status of the Area 1 to Area 3 and the remediation methodologies.

All remediation works will be carried out with due regard to the environment and to all statutory requirements. The works shall comply with the requirements of the following Acts, Regulation and Guidelines:

- Protection of the Environment (Operations) Act
- NSW Work Health & Safety Act
- NSW Work Health & Safety Regulation
- How to Manage and Control Asbestos in the Workplace Code of Practice
- How to Safely Remove Asbestos Code of Practice
- Managing asbestos in or on soil, SafeWork NSW
- Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme (3rd Edition) – NSW EPA
- Chapter 4 Remediation of Land in the State Environmental Planning Policy (Resilience and Hazards)

In addition to any statutory requirements the contractor will be responsible for carrying out the remediation works with all due care to ensure that the following conditions are specifically complied with:

- Minimal wind borne dust leaves the confines of the site. This should be monitored.
- Water containing suspended matter must not leave the site, as this may pollute watercourses, either directly or indirectly through the stormwater drainage system.
- Vehicles must be cleaned and secured so that mud, soil or water is not deposited on any public roadway or adjacent areas. A truck wash area should be set up for this purpose.
- Noise levels at the site boundaries will comply with the noise quality objectives of the region and / or legislative requirements.

The following sub-sections provide details of the environmental management practices to be employed at the site in order to comply with the statutory requirements and the previously mentioned items.

17.1 Working Hours

All remediation works would be carried out between the working hours specified by council.

17.2 Security / Safety Measures

Public access is not allowed. The front gate should be closed and padlocked at the completion of each day. Signage containing a "no unauthorised entry" statement as well as the contractor's name and contact details, both during and after working hours, should be erected at the site entrance.

A site superintendent appointed by the remediation or earthworks contractor should be present for the duration of the works to ensure implementation of the day-to-day works and maintenance of the environmental safeguards. The superintendent should also be responsible for securing the site at the completion of each day.

All earthworks machinery used on the site should be fitted with warning lights and reversing signals.

17.3 Traffic Management / Truck Monitoring

Access into the site will be via the gate on Gilbert Road entry. Prior to exiting the site, trucks should pass over a shaker grid or truck wash bay.

At completion of each working day, or as required during the course of each day, the adjacent public road will be inspected for any soil deposit from exiting trucks, which should be cleaned up and returned to the site. If excess deposit is occurring, the truck cleaning procedure should be reviewed and refined as necessary.

All loaded trucks should be fitted with secured covers over the entire load thereby preventing any loss of the load on public roads.

17.4 Dust Control

Generation of dust must be kept to a minimum at all times.

During working hours, water sprays should be used to keep the surface of the excavation and any stockpiled soils (which should be kept to a minimum) reasonably damp in order to suppress any dust. Water used for dust suppression should be only the minimum required and must not be allowed to escape the confines of the excavation or any stockpile area(s). Polythene sheets should be used to cover stockpile(s) to minimise generation of dust. If in the event that excessive dust is being generated works must cease until the dust is sufficiently suppressed.

A complaints register should be set up on-site for recording complaints from nearby worker, tenants, etc., with regard to dust. The complaints register should be completed by the Site Superintendent. Action must be taken to minimise the dust plume.

The dust control measure should be regularly inspected and reviewed by the superintendent.

17.5 Sediment and Stormwater Containment

Industry standard sediment control fencing will be installed along the downslope of the remediation area. The fencing will comprise geofabric filter stretched between posts at appropriate spacing. The base of the fabric will be buried in the ground and / or adequately weighted. The fabric will be an approved material.

The sediment control measures will be regularly inspected and maintained by the superintendent. Should any section be damaged or not perform to satisfaction it will be immediately repaired or replaced.

17.6 Noise Management

Noise impacts will generally result from the excavator and truck movements within the site and surrounding streets, all of which have noise levels within levels normally expected at a construction site.

In order to minimise noise impacts during the remediation works, the following measures should be implemented:

- Construction noise should be confined to the council allowable working hours. No machinery / trucks should be permitted to access the site outside these hours of operation.
- Signage at the site entrance providing contact details for the site superintendent so that noise complaints can be readily addressed.

17.7 Asbestos Management Plan

As asbestos has been identified on the site, the following Asbestos Management Plan are proposed.

During remediation:

- Personnel other than remediation contractor must be made aware of the presence of bonded ACM fragments and trained, in the recognition of asbestos. Training is to be undertaken as a part of general site induction and refreshed periodically at toolbox meetings.
- Seek approval from a licensed waste facility prior to disposal of contaminated material / soil.
- An NSW SafeWork Class B licensed asbestos removalist must be engaged to supervise excavation and loading of the bonded asbestos mixed with the soil.
- An exclusion zone from the excavated area must be established, barricaded and access restricted to essential personnel. The appropriate asbestos warning signs must be erected close to the exclusion zone.
- NATA accredited asbestos air monitoring for airborne asbestos must be established in the vicinity of the exclusion zone and also on site boundaries by a suitably qualified occupational hygienist due to the presence of sensitive receptor (residential area) in close proximity to the nominated remediation area.

  If the results of the asbestos air monitoring indicate that airborne asbestos levels exceed 0.01 fibres/mL, the contractors must cease work immediately and the occupational hygienist must provide appropriate measures to rectify the issue.
- All workers within the exclusion zone must wear P2 dust masks / respirators, disposable coveralls and other appropriate PPE.

  The coveralls and P2 dust masks must be disposed of in a heavy duty polythene bag every time the worker leaves the exclusion zone and securely stored in a lined bin and disposed of at the licensed waste facility.
- During working hours, a water cart should be used to suppress any dust. Water used for dust suppression will be only the minimum required and will not be allowed to escape the confines of the site.
- A covered and leak-proof vehicle must transport the asbestos contaminated material / soils.
- The remediation contractor must keep records of all off-site waste disposals.

Restricted Site Access

Access to the site must be secured (via perimeter fencing).

Control Strategies

The asbestos in their present condition (bonded asbestos fragments in stable condition) would not present an asbestos related health risk as long as they remain undisturbed and dust control implemented.

The asbestos situation is allocated a low-risk rating on the proviso the access to the site is restricted and strictly controlled.

Stockpile Management

All materials stockpiled onsite must be managed by the Contractor. Unique numbers should be provided for each stockpile. The source of the stockpile, its estimated volume, material characterisation and its location onsite should also be recorded.

The following procedures should be implemented by the contractor:

- Sediment control measures (refer to Section 13.5) must be set up.
- All stockpiles likely to generate dust or odours should be covered (where practical).

Material Tracking throughout the Remediation Process

As part of the hand-picking approach adopted for the stockpiles, the soil must be placed in a designated area for remediation.

Cradle to grave tracking of volumes subject to hand-picking will be required to be documented in the validation report.

18.0 OCCUPATIONAL HEALTH & SAFETY PLAN

A site-specific Occupational Health and Safety (OH&S) Plan has been developed to ensure that the remediation works are conducted in a safe manner. Personnel working on the site are required to read and understand the OH&S Plan prior to works commencing.

18.1 Potential Contaminants Associated with Human Health Issue

The human health issue associated with asbestos is listed below, with brief descriptions of physical form and some general health and safety information. Note that the effects listed are usually the result of prolonged exposure to high concentrations. These extremes are not likely to be achieved during the works proposed.

According to the IARC asbestos is a human carcinogen. The health effects of asbestos are well understood and result from inhalation of airborne respirable fibres. If deposited in the lungs, the fibres can initiate diseases that take many years to produce serious health effects. These effects include asbestosis (scar-like tissue in the lungs and in the pleural membrane that surrounds the lungs), lung cancer and mesothelioma.

People with asbestosis have difficulty breathing, often a cough and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death. The likelihood of asbestos-related disease is related to the concentration and duration of exposure to respirable asbestos fibres.

Bonded asbestos fragments generally do not present a significant health risk unless tooled, cut, sanded, abraded or machined, which may release asbestos dust or fibres. Asbestos dust contains tiny almost indestructible fibres, which can cause damage to the lungs when breathed in.

Inhalation of associated dust should be prevented.

Other contaminants might be identified to have association with human health issues during the remediation works. The OH&S requirements will provide adequate protection for workers and / or the public during the works.

18.2 Personal Protective Equipment (PPE)

In order to minimise exposure to asbestos and to ensure the safety of workers, the minimum level of PPE for workers actively involved in handling the contaminated material / soils and visitors to the site, who will be observing activities being undertaken in or around excavation includes:

- Highly visible disposable long sleeve worker coveralls / overalls to be disposed of at the completion of each day.
- Steel-capped boots, complying with relevant Australian Standard; or waterproof boots with steel toe and shank, also complying with relevant Australian Standard, when deemed necessary in muddy condition.
- Safety glasses with side shields, complying with relevant Australian Standard.
- Hard hat, meeting relevant Australian Standard.
- Dust mask or half-face respirator with particulate filter. P2 rated face mask is the lowest rating of “dust mask” that can be used. If significant amounts of asbestos-cement pieces are encountered and air monitoring for dust and asbestos fibres indicates the presence of airborne asbestos (this is not expected), full-face respirator with particulate filter should be worn.
- Dust mask, P2 rated face mask is the lowest rating of “dust mask” that can be used, when deemed necessary to prevent excessive inhalation of dust.
- Nitrile work gloves, complying with relevant Australian Standard, when deemed necessary to prevent dermal contact with the contaminated soil.
- Long sleeve shirts and pants, when deemed necessary to prevent sunburnt from Ultraviolet (UV) radiation and to assist with limiting dermal contact with contaminated soil.

It should be noted that wearing PPE can reduce the dexterity of workers and senses of vision, hearing and smell. Heat stress is another important consideration that must be taken into account during hot weather.

Smoking, eating or drinking on-site will only be carried out in a designated lunchroom. Hands are to be washed thoroughly upon completion of work and prior to eating, drinking or any other hand-to-mouth activity.

Other site workers, other visitor or consultants not directly associated with the remedial works, but present on the site, should wear the following PPE (as a minimum):

- Highly visible safety vests.
- Steel-capped boots.
- Hard hat.

18.3 Safety Measures around Excavations

The safety measures to be adopted during any deep excavation works (i.e. deeper than 1.2m) are as follows:

- Only the minimum number of workers necessary will be used to adequately and safely complete the job at hand.
- During non-working hours, the entire site will be secured.
- All personnel performing the works in and around the excavation will wear appropriate personal protective equipment, as listed above.
- Environmental conditions will be monitored prior to excavation, including wind direction, wind speed, temperature and the likelihood of rain. Excavation works will not take place during periods of high wind, elevated temperature or heavy rain.
- Any deep excavation that is to remain open during non-working hours will be subject to dust suppression controls in the form of water sprinklers and/or protective plastic coverings.

19.0 SITE VALIDATION

Validation sampling and testing forms a crucial part of the site remediation process in that it monitors the success or otherwise of the adopted remediation strategy and confirms the suitability of the site for the proposed sporting field land use.

19.1 Area 1 - Impacted by Asbestos (Non-Friable) and Cu

Area 1 was impacted by asbestos in non-friable form and copper in the topsoil (refer to Drawing No 14985/3-AA3).

Following completion of the remediation, asbestos clearance inspection must be carried out by NSW SafeWork licensed Asbestos Assessor. Moreover, a thorough visual inspection of the excavation pit in Area 1 must also be carried out by the appointed environmental consultant to confirm that no soil with unacceptable odour or discoloration or inclusions of ash, charcoal, fibro-cement pieces etc., is in the pit of Area 1.

Validation sampling through on-site sieve test for bonded ACM will be undertaken. In addition, a 500ml soil sample will be collected and sent to NATA accredited laboratory for friable asbestos analysis.

The following samples will be recovered using a stainless steel trowel:

- Excavation of side wall samples, 1 location per 10 linear metres or at least 1 per excavation wall, recovered from the top of the excavation to the full depth of the wall (at least one sample in every 500mm of soil or change of soil profile, with allowable maximum sampling thickness of 300mm).
- Excavation base samples, 1 location per 25 square metres, recovered from the excavation base surface to a depth of 100mm.

In summary, the samples to be recovered and analysed are presented below.

Area	Estimated Excavation Size (m^2)	Estimated Excavated Depth (m)	Number of Samples to be Collected	Analysis	Remarks
1	156	0.1	16	Asbestos (bonded) & Cu	➢ 8 samples from excavation walls ➢ 8 samples from excavation base

The stainless steel trowel will be regularly decontaminated using Decon 90 and distilled water.

Disposable gloves will be used to transfer validation samples into large plastic bag (each about 10L volume) for on-site sieving test in accordance with gravimetric procedures as per NEPM 1999 (April 2013). Samples will also be collected in separate small plastic bag (1kg) for asbestos analysis by NATA accredited laboratory under COC condition.

Disposable gloves will be used to transfer validation samples into glass jar for copper analysis. The glass jars will be stored in a chilled container.

Industry standard QA and QC samples will also be prepared, including rinsate samples (one rinsate per day of field work per equipment), field duplicates (about 5% of samples analysed) and inter-laboratory duplicates (about 5% of samples analysed). The test results for these samples will be used to assess data precision and accuracy.

The recovered validation samples will be forwarded to a NATA accredited laboratory for asbestos and Cu analysis. All recovered samples will be forwarded under COC.

Excavated soil from Area 1 will be temporally stored on the ground of the site for final waste classification prior to disposal, generally the following samples will be recovered using a stainless-steel trowel from the footprint of the former stockpile:

- 1 location per 25 square metres or at least 3 per footprint, recovered from the ground surface to a depth of 0.1m.

However, if a HDPE sheet is used over the ground surface to stockpile the contaminated soil, instead of sampling, a through visual inspection by the appointed LAA and Environmental Consultant must be carried out after removal of the stockpile to confirm that no soil with fibro-cement pieces, unacceptable odour or discoloration or inclusions of ash, charcoal, fibre-cement pieces etc., remains in the footprint of the former stockpile.

For asbestos and copper validation assessment, the adopted validation criteria will be identical to the assessment criteria in Section 13.0.

If the validation test results meet the criteria the remediation area will be deemed as satisfactorily remediated.

If the validation test results do not meet the validation criteria, further excavation will continue followed by inspection, sampling and testing. This process will continue until the test results meet the acceptance criteria.

A clearance certificate by the NSW SafeWork licensed Asbestos Assessor (LAA) will be required for the remediated area.

19.2 Areas 2 and 3 Impacted by Asbestos in Non-Friable Forms

The ground surface of Area 2 and Area 3 was impacted by asbestos in non-friable forms. The estimated size to be remediated (refer to Drawing No 14985/3-AA3) is 356m^2 and 16 m^2 respectively.

Following completion of the remediation, asbestos clearance inspection must be carried out by LAA.

20.0 CONTINGENCY PLAN

20.1 Unexpected Finds

The contamination assessments had been undertaken to assess the identified contaminants of potential concern across the entire site. However, ground conditions between sampling points may vary, and further hazards may arise from unexpected sources and / or in unexpected locations during remediation. Residual hazards that may be present at the site are generally detectable through visual or olfactory means, for example:

- >10 m^2 of bonded ACM fragments encountered in location(s) outside the extent of known asbestos impacted soils;
- Friable ACM such as lagging encountered outside of the extent of known asbestos impacted soils;
- Bottles / containers / drums of chemicals;
- Odorous, unusual coloured or stained hydrocarbons impacted soils; and
- Ash and / or slag contaminated soils / fill materials.

The objective of the Unexpected Finds Management Protocol is to mitigate potential environmental and human health impacts associated with unexpected finds that may be encountered during remediation works.

As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances, any other unexpected potentially hazardous substance, imported fill materials (which are different to those encountered during the previous PSI and this further investigation), etc. be identified, we recommend that this office is contacted for assessment and an unexpected finds management protocol in Appendix C of this report should be implemented.

The procedure to be followed in the event of an unexpected find is presented below:

- In the event of an unexpected find, all work in the immediate vicinity should cease and an environmental consultant should be contacted immediately;
- Temporary barricades should be erected to isolate the area from access to the public and works;
- The environmental consultant should attend the site and assess the extent of remediation that may be required;
- In the event additional remediation is required, the procedures outlined within this report should be adopted where appropriate, alternatively an addendum RAP should be prepared;
- An additional sampling and analytical rationale should be established by the consultant and should be implemented with reference to the relevant guideline documents; and
- Appropriate validation sampling should be undertaken in accordance with the NSW EPA sampling Guidelines, depending on the type of unexpected finds encountered and the results should be included in the validation report.
- Any significant unexpected finds must be communicated to Geotechnique.

20.2 Contingency Scenarios & Corrective Actions

In some circumstances, remediation works can be unpredictable. The following table presents anticipated possible problems or events and the corresponding corrective actions to be implemented:

Incident / Event	Corrective Action
Failure of sediment control measures	Replace or repair failed control measure. Determine reason for failure and ensure no repeat. Clean up any materials penetrating the safeguard and return to either the stockpile or excavation (origin).
Excessive dust generation	Cease activities until more appropriate dust control measures can be implemented. Cover all areas generating dust with plastic sheeting. Improve water control (i.e. sprays) where appropriate. Assess measures being implemented.
Discovery of asbestos cement pieces in locations other than identified locations / areas during remediation	An unexpected finds management protocol (Appendix C) to be implemented.
Discovery of unexpected contamination and suspect materials that are not identified from the previous PSI and this further assessment	An unexpected finds management protocol (Appendix C) to be implemented.
Complaint from neighbouring property or sensitive receptor	Initiate pro-active consultation process with all neighbouring properties to ensure any concern and complaints will be resolved prior to commencement of any remediation work.
Excessive noise	Identify source and add or amend noise attenuation equipment.

21.0 CONCLUSION AND RECOMMENDATIONS

Based on the previous PSI and this DSI, soil contaminated with / impacted by asbestos (bonded asbestos) and copper were identified in a number of locations, as shown on Drawing No 14985/3-AA2. Moreover, two areas with scattered ACM fragments were also observed on the site, as also shown on Drawing No 14985/3-AA2. Bonded asbestos presents a potential risk of harm to human health and elevated copper concentration impact on terrestrial ecosystems.

Due to the detection of elevated E. coli in one dam sediment sample, we recommend excavating and spreading the entire dam sediment in about 200mm thickness over the designated area and retest for E. Coli as it is our understanding that exposure to sunlight effectively kills the microbes. Once the retest results confirm pathogen is no longer an issue, the dam sediment can be reused as fill within the site.

Based on the contaminant concentrations and locations identified from the contamination assessments, three areas (Area 1 to Area 3) requiring remediation was identified as indicated on Drawing No: 14985/3-AA3. Remediation is therefore deemed necessary, as detailed in Section 16.0 of the report.

Based on the advantages, disadvantages, risks and costs of each of the remediation options, we consider that remediation in accordance to Drawing No 14985/3-AA3 will be appropriate for the site:

- Disposal of bonded asbestos and copper contaminated soil in Area 1 at an appropriately licensed landfill facility.
- Ground surface of Area 2 and Area 3 will be remediated via emu picking process.

Asbestos air monitoring will be required during all remedial works.

The RAP once implemented and validated will render the above site suitable for the proposed sporting field land use.

The contaminated soil in Area 1 to be excavated and removed from the site for off-site disposal is preliminary classified as **Special Waste (Asbestos Waste)**. Excavated soil will be retested to confirm the final waste classification.

The waste must be disposed of at a licensed landfill facility with an appropriate waste classification. All landfill delivery / disposal dockets and the associated NSW EPA consignment for transportation of asbestos waste shall be provided to Geotechnique for inclusion in a site validation report.

Removal and disposal of the waste must be carried out in accordance with the requirements of the regulators, such as SafeWork NSW and NSW EPA.

The proposed remediation works are considered to be Category 2 (subject to agreement by The Hills Shire Council). A minimum of 30 days notice of the intention to proceed with remedial works must be given to Council.

The Site Management Plan, Occupational Health & Safety Plan and Contingency Plan, outlined in Sections 17.0, 18.0 and 20.0 of the report are required to be implemented during remediation works.

A report will then be prepared on the suitability of the site for the proposed sporting field land use, after completion of remediation. Asbestos clearance by an NSW SafeWork licensed asbestos assessor is required.

For any other materials to be excavated and removed from the site, it is recommended that waste classification of the materials, in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA 2014; NSW EPA resource recovery exemptions and orders under the Protection of the Environment Operations (Waste) Regulation 2014; or NSW EPA *Certification: Virgin excavated natural material* is undertaken prior to disposal at a facility that can lawfully accept the materials.

For any material to be imported to the site, the material classification such as VENM or ENM must be assessed by the appointed Environmental Consultant prior to such importation. The imported fill must not contain asbestos and ash, be free of unusual odour, not discoloured and not acid sulphate soil or potential acid sulphate soil.

22.0 LIMITATIONS

This report has been prepared for the purpose stated within. This report can also be relied upon by The Hills Shire Council for development and building application assessment processes. Any reliance on this report by other parties shall be at such parties' sole risk as the report might not contain sufficient information for their purposes.

The information in this report is considered accurate at the dates of the field work for this further investigation (8 and 27 February 2024), in accordance with the conditions of the site. Any variations to the site form or use beyond those dates could nullify the conclusion stated.

No contamination assessment can eliminate all risk; even a rigorous professional assessment might not detect all contamination within a site. Although the potential always exists for contaminants and contaminated soils to be present between sampled locations and in the grass covered areas.

Presented in **Appendix D** is a document entitled "Environmental Notes", which should be read in conjunction with this further investigation and RAP.

LIST OF REFERENCES

Contaminated Land Management Act 1997

Contaminated Land Management Regulation 1998

Contaminated Sites: Consultants Reporting on Contaminated Land – NSW Environment Protection Authority 2020

Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (3rd Edition) –NSW EPA 2017

Contaminated Sites: Sampling Design Part 1- Application - NSW Environment Protection Authority 2022

Geotechnique - Preliminary Site Investigation (Contamination) with Sampling, Lot 224 in DP752020 - Gilbert Road Castle Hill – Pony Club Site, Report No. 14985/1-AA dated 29 October 2021

Herbert, C (compiler), 1983, Geological Series Sheet 9030, Scale 1:100,000 (Sydney), Department of Minerals and Energy, NSW, Sydney

National Environment Protection (Assessment of Site Contamination) Measure – National Environmental Protection Council (NEPM) 1999 (April 2013)

Protection of the Environment Operations (Waste) Regulation 2005 – General Exemption Under Part 6, Clause 51 and 51A – The Excavated Natural Material Exemption & Order 2014

Chapman GA, Murphy CL, Tille PJ and Morse RJ (compliers), 2004, Soil Landscape Series Sheet 9130, Scale 1:100,000 (Sydney), Soil Conservation Service of NSW

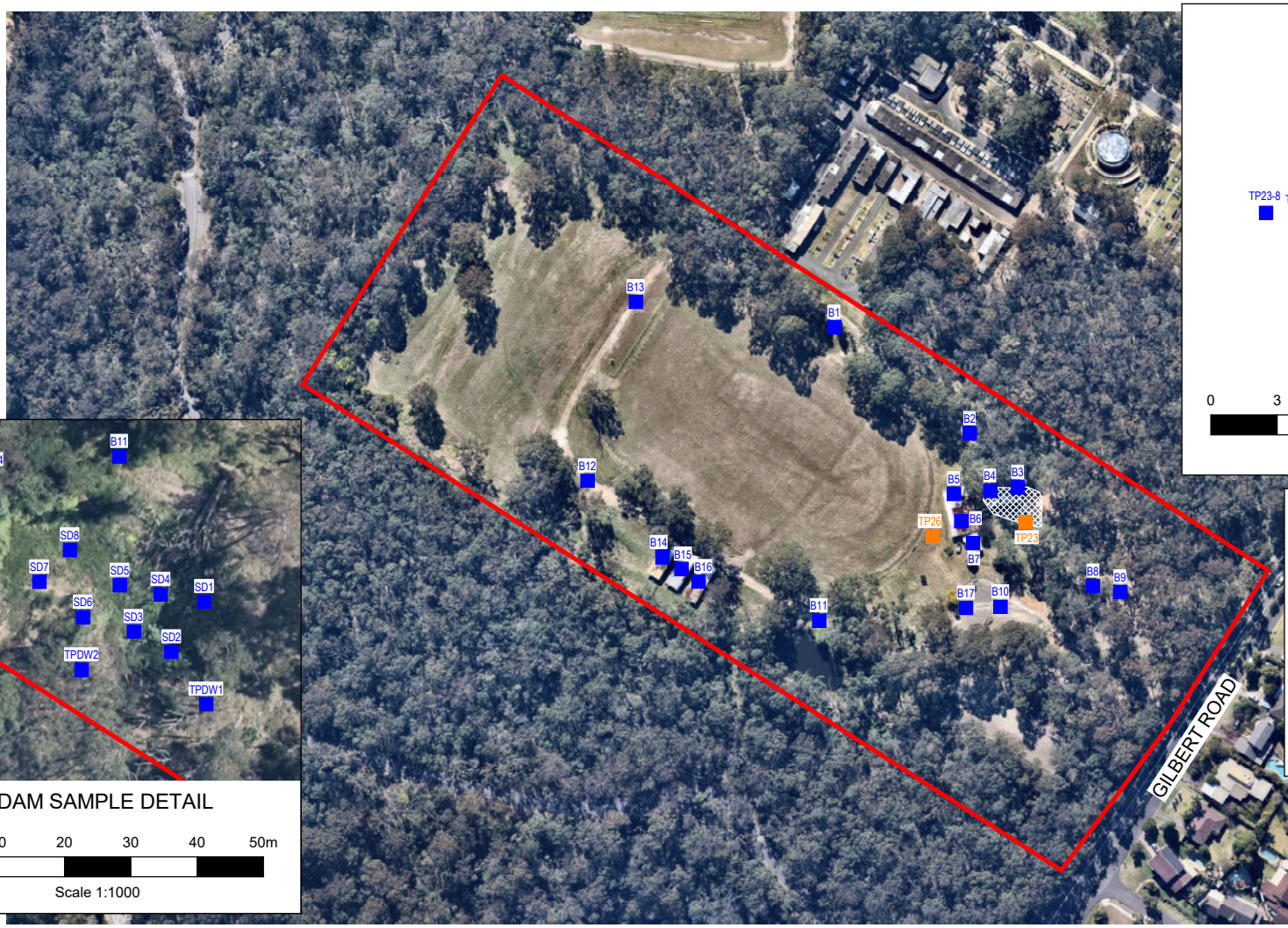
State Environmental Planning Policy (Resilience and Hazards, 2021) under the Environmental Planning and Assessment Act 1979

Standard Methods for the Examination of Water and Wastewater – American Public Health Association (APHA) 2017

Waste Classification Guidelines Part 1: Classifying Waste - NSW DECC (November 2014)

DRAWING

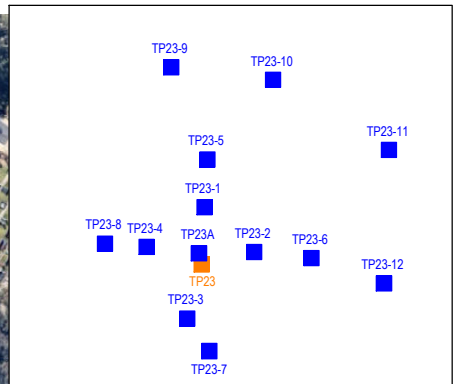
Drawing No 14985/3-AA1	*Test Pit Locations*
Drawing No 14985/3-AA2	*Locations of Contamination*
Drawing No 14985/3-AA3	*Indicative Areas to be Remediated*



Imagery © NearMap.com

0 30 60 90 120 150m

Scale 1:3000



TP23 DETAIL

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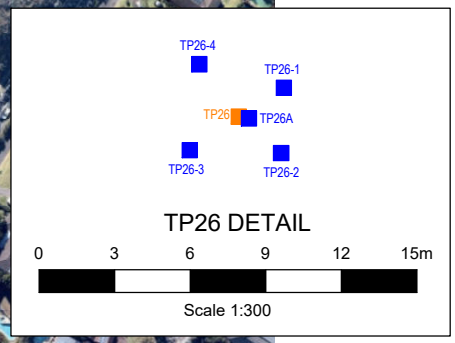
Scale 1:300

DAM SAMPLE DETAIL

0 10 20 30 40 50m

Scale 1:1000



TP26 DETAIL

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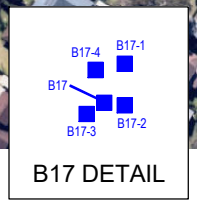
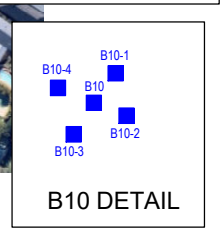
Scale 1:300



B17 DETAIL



B10 DETAIL

0 3 6 9 12 15m

Scale 1:300

LEGEND

Test Pit (September 2021)

Test Pit (February 2024)

Area with Scattered Fibro-cement Pieces

GEOTECHNIQUE® PTY LTD

PO Box 880
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www.geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

The Hills Shire Council
Proposed Sporting Field
Pony Club Site
Gilbert Road, Castle Hill

Test Pit Locations

Drawing No: 14985/3-AA1
Job No: 14985/3
Drawn By: MH
Date: 13 March 2024
Checked By: JH

File No: 14985-3
Layers: 0, AA1

N

Location of Contamination	Depth (m)	Contaminant	Concentration
TP23	0-0.1	Copper (Cu)	**420mg/kg**
TP23a	0-0.1	Asbestos (bonded ACM fragments)	-
TP23-5	0-0.1	Asbestos (bonded ACM fragments)	-
TP23-6	0-0.1	Asbestos (bonded ACM fragments)	**0.071% w/w**
Area near the former building footprints	Surface	Asbestos (bonded ACM fragments)	-
B17 and its vicinity	Surface	Asbestos (bonded ACM fragments)	-
Assessment Criteria	Cu = **17000mg/kg** (HIL C) & 5**mg/kg** (EIL) **0.02% w/w** for ACM in soil for public open space such as parks, land use **0.001% w/w** for AF & FA in soil **No visual asbestos (ACM)** for surface soil		

Notes:

HIL C :	Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths
EIL :	Ecological Investigation Level for public open space land use
ACM:	Asbestos Containing Material
AF:	Asbestos Fine
FA:	Fibrous Asbestos

LEGEND

Test Pit

Area with Scattered Fibro-cement Pieces

0 30 60 90 120 150m

Scale 1:3000

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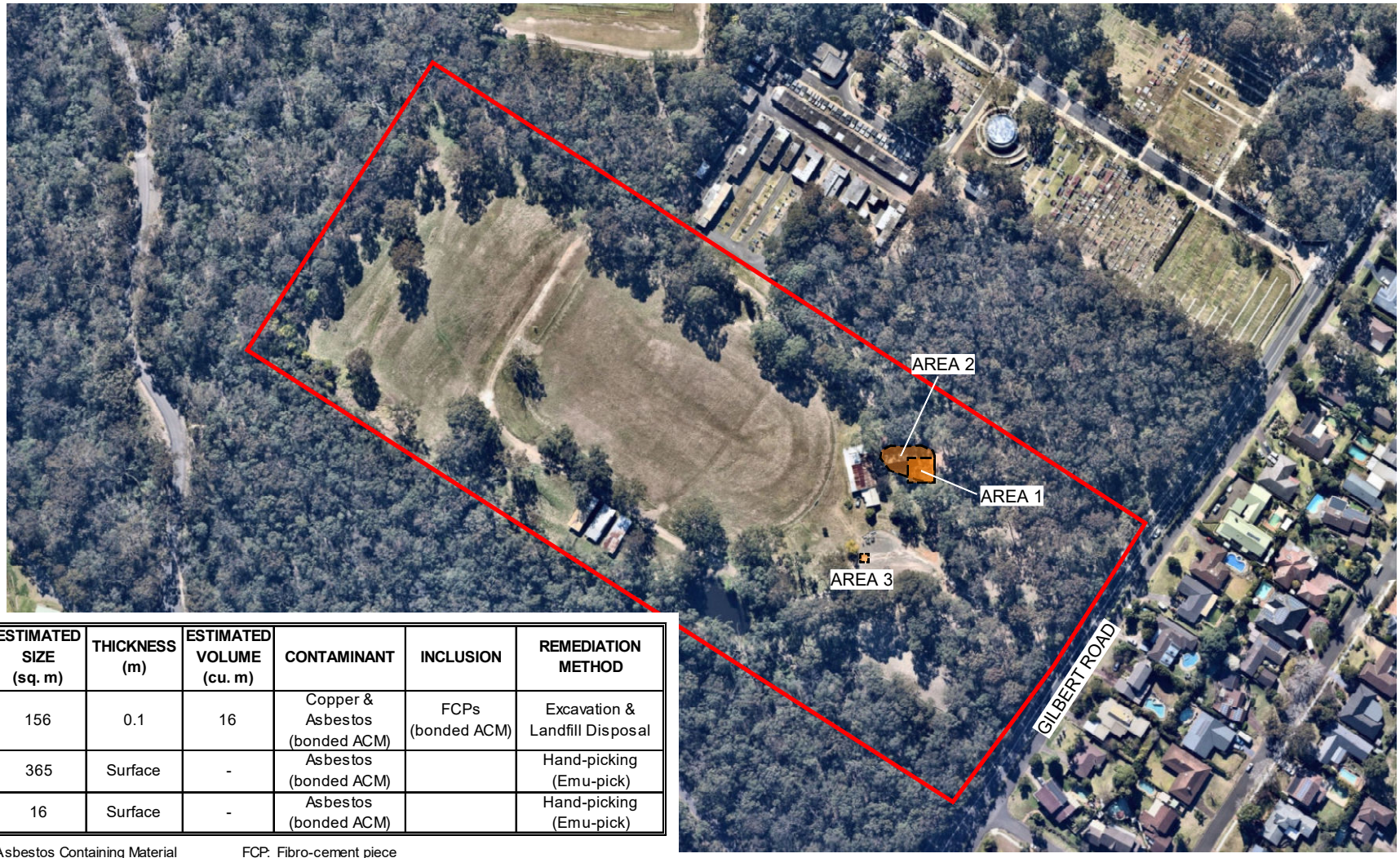
The Hills Shire Council
Proposed Sporting Field
Pony Club Site
Gilbert Road, Castle Hill

Locations of Contamination

Drawing No: 14985/3-AA2
Job No: 14985/3
Drawn By: MH
Date: 14 March 2024
Checked By: AB

File No: 14985-3
Layers: 0, AA2



AREA	MATERIAL	ESTIMATED SIZE (sq. m)	THICKNESS (m)	ESTIMATED VOLUME (cu. m)	CONTAMINANT	INCLUSION	REMEDIATION METHOD
1	Topsoil (Silty Clay)	156	0.1	16	Copper & Asbestos (bonded ACM)	FCPs (bonded ACM)	Excavation & Landfill Disposal
2	ACM	365	Surface	-	Asbestos (bonded ACM)		Hand-picking (Emu-pick)
3	ACM	16	Surface	-	Asbestos (bonded ACM)		Hand-picking (Emu-pick)

Notes: ACM : Asbestos Containing Material FCP: Fibro-cement piece

LEGEND

Area to be Remediated

0 30 60 90 120 150m

Scale 1:3000

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The Hills Shire Council
Proposed Sporting Field
Pony Club Site
Gilbert Road, Castle Hill

Indicative Areas to be Remediated

Drawing No: 14985/3-AA3
Job No: 14985/3
Drawn By: MH
Date: 26 March 2024
Checked By: AB

File No: 14985-3
Layers: 0, AA3

TABLES

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TABLE A
RINSATE
(Ref No: 14985/3-AA)

SAMPLE	RS1
DATE	8/02/2024
METAL	**(mg/L)**
Arsenic	<0.02
Cadmium	<0.001
Chromium	<0.005
Copper	<0.005
Lead	<0.02
Mercury	<0.0001
Nickel	<0.005
Zinc	<0.01
TOTAL RECOVERABLE HYDROCARBON (TRH)	**(µg/L)**
F1 (C6-C10 less BTEX)	<50
F2 (>C10-C16)	<60
F3 (>C16-C34)	<500
F4 (>C34-C40)	<500
BTEX	**(µg/L)**
Benzene	<0.5
Toluene	<0.5
Ethyl Benzene	<0.5
Xylenes	<1.5
POLYCYCLIC AROMATIC HYDROCARBON (PAH)	**(µg/L)**
Total PAH	<1
Naphthalene	<0.1
Benzo(a)Pyrene	<0.1

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TABLE B
TRIP SPIKE
(Ref No: 14985/3-AA)

Sample	Sampling Date	BTEX			
		Benzene	Toluene	Ethylbenzene	Xylenes
TS1	8/02/2024	110%	100%	92%	91%

Note : results are reported as percentage recovery of known spike concentrations

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TABLE C1
DUPLICATE SAMPLE
(Ref No: 14985/3-AA)

ANALYTE	B7 0.0-0.1 (m) mg/kg	DDS1 mg/kg	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Arsenic	7	8	13
Cadmium	<0.3	<0.3	-
Chromium	14	14	0
Copper	14	13	7
Lead	20	21	5
Mercury	<0.05	<0.05	-
Nickel	2.7	3.7	31
Zinc	59	82	33
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<25	-
F3 (>C16-C34)	<90	<90	-
F4 (>C34-C40)	<120	<120	-
BTEX			
Benzene	<0.1	<0.1	-
Toluene	<0.1	<0.1	-
Ethyl Benzene	<0.1	<0.1	-
Xylenes	<0.3	<0.3	-
POLYCYCLIC AROMATIC HYDROCARBONS			
Benzo(a)Pyrene TEQ	<0.3	<0.3	-
Total PAH	<0.1	<0.1	-
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	<0.1	<0.1	-
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.15	<0.15	-
Endrin	<0.1	<0.1	-
Methoxychlor	<0.1	<0.1	-
Mirex	<0.1	<0.1	-
Endosulfan (alpha, beta & sulphate)	<0.3	<0.3	-
DDD+DDE+DDT	<0.6	<0.6	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<1	-

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TABLE C2
DUPLICATE SAMPLE
(Ref No: 14985/3-AA)

ANALYTE	B16 0.0-0.1 (m) mg/kg	DDS2 mg/kg	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Arsenic	2	2	0
Cadmium	<0.3	<0.3	-
Chromium	3.9	4.4	12
Copper	1	1.3	26
Lead	7	31	126
Mercury	<0.05	<0.05	-
Nickel	0.7	0.7	0
Zinc	4	7	55
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<25	-
F3 (>C16-C34)	<90	<90	-
F4 (>C34-C40)	<120	<120	-
BTEX			
Benzene	<0.1	<0.1	-
Toluene	<0.1	<0.1	-
Ethyl Benzene	<0.1	<0.1	-
Xylenes	<0.3	<0.3	-
POLYCYCLIC AROMATIC HYDROCARBONS			
Benzo(a)Pyrene TEQ	<0.3	<0.3	-
Total PAH	<0.1	<0.1	-
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	<0.1	<0.1	-
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.15	<0.15	-
Endrin	<0.1	<0.1	-
Methoxychlor	<0.1	<0.1	-
Mirex	<0.1	<0.1	-
Endosulfan (alpha, beta & sulphate)	<0.3	<0.3	-
DDD+DDE+DDT	<0.6	<0.6	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<1	-

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TABLE C3
DUPLICATE SAMPLE
(Ref No: 14985/3-AA)

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ANALYTE	TP23-1 0.0-0.1 (m) mg/kg	DDS3 mg/kg	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Copper	17	15	13

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TABLE D1
SPLIT SAMPLE
(Ref No: 14985/3-AA)

ANALYTE	B4 0.0-0.1 (m) mg/kg (SGS)	DSS1 mg/kg (ENVIROLAB)	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Arsenic	4	8	67
Cadmium	<0.3	<0.4	-
Chromium	14	27	63
Copper	1.5	4	91
Lead	11	17	43
Mercury	<0.05	<0.1	-
Nickel	1.2	3	86
Zinc	7	7	0
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<50	-
F3 (>C16-C34)	<90	<100	-
F4 (>C34-C40)	<120	<100	-
BTEX			
Benzene	<0.1	<0.2	-
Toluene	<0.1	<0.5	-
Ethyl Benzene	<0.1	<1	-
Xylenes	<0.3	<1	-
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)			
Benzo(a)Pyrene TEQ	<0.3	<0.5	-
Total PAH	<0.1	<0.05	-
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	<0.1	<0.05	-
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.15	<0.2	-
Endrin	<0.1	<0.1	-
Methoxychlor	<0.1	<0.1	-
Endosulfan (alpha (I), beta (II) & sulphate)	<0.3	<0.3	-
DDD+DDE+DDT	<0.6	<0.1	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<0.1	-

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TABLE D2
SPLIT SAMPLE
(Ref No: 14985/3-AA)

ANALYTE	B14 0.0-0.1 (m) mg/kg (SGS)	DSS2 mg/kg (ENVIROLAB)	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Arsenic	2	9	127
Cadmium	<0.3	<0.4	-
Chromium	5.4	24	127
Copper	2.4	<1	-
Lead	6	13	74
Mercury	<0.05	<0.1	-
Nickel	1.2	2	50
Zinc	33	20	49
TOTAL RECOVERABLE HYDROCARBONS (TRH)			
F1 (C6-C10 less BTEX)	<25	<25	-
F2 (>C10-C16)	<25	<50	-
F3 (>C16-C34)	<90	<100	-
F4 (>C34-C40)	<120	<100	-
BTEX			
Benzene	<0.1	<0.2	-
Toluene	<0.1	<0.5	-
Ethyl Benzene	<0.1	<1	-
Xylenes	<0.3	<1	-
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)			
Benzo(a)Pyrene TEQ	<0.3	<0.5	-
Total PAH	<0.1	<0.05	-
Naphthalene	<0.1	<0.1	-
Benzo(a)Pyrene	<0.1	<0.05	-
ORGANOCHLORINE PESTICIDES (OCP)			
Hexachlorobenzene (HCB)	<0.1	<0.1	-
Heptachlor	<0.1	<0.1	-
Aldrin+Dieldrin	<0.15	<0.2	-
Endrin	<0.1	<0.1	-
Methoxychlor	<0.1	<0.1	-
Endosulfan (alpha (I), beta (II) & sulphate)	<0.3	<0.3	-
DDD+DDE+DDT	<0.6	<0.1	-
Chlordane (alpha & gamma)	<0.2	<0.2	-
POLYCHLORINATED BIPHENYLS (PCB)			
Total PCB	<1	<0.1	-

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TABLE D3
SPLIT SAMPLE
(Ref No: 14985/3-AA)

ANALYTE	TP23-3 0.0-0.1 (m) mg/kg (SGS)	DSS3 mg/kg (ENVIROLAB)	RELATIVE PERCENTAGE DIFFERENCES (RPD) %
Copper	14	34	83

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TABLE E1
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	METAL (mg/kg)								CEC ($cmol_c/kg$)	pH
		ARSENIC	CADMIUM	CHROMIUM (Total)	COPPER	LEAD	MERCURY	NICKEL	ZINC		
Topsoil, Fill and Natural Soil											
B1	0.0-0.1	8	<0.3	19	5.2	20	<0.05	3.4	25	2.8	6.1
B1	0.15-0.25	4	<0.3	15	1	12	<0.05	1.0	5	2.3	5.9
B2	0.15-0.25	3	<0.3	11	1.4	10	<0.05	1.2	3	2.6	5.8
B3	0.15-0.25	5	<0.3	17	3.1	13	<0.05	1.3	8	1.9	5.5
B4	0.0-0.1	4	<0.3	14	1.5	11	<0.05	1.2	7	1.9	5.4
B6	0.15-0.25	4	<0.3	25	1.2	12	<0.05	1.3	5	5.6	5.5
B7	0.0-0.1	7	<0.3	14	14	20	<0.05	2.7	59	12	7.4
B8	0.25-0.35	8	<0.3	20	3.8	17	<0.05	1.3	6	15	8.2
B9	0.0-0.1	10	<0.3	25	8.5	32	<0.05	6.0	26	3.1	6.2
B10	0.0-0.1	5	<0.3	20	3.8	16	<0.05	4.3	10	4.4	5.4
B10	0.35-0.45	6	<0.3	21	2.5	16	<0.05	1.4	5	3.3	5.5
B12	0.0-0.1	3	<0.3	13	<0.5	8	<0.05	0.8	3	1.4	5.7
B13	0.0-0.1	3	<0.3	13	<0.5	6	<0.05	0.8	5	2	5.7
B13	0.35-0.45	3	<0.3	19	<0.5	6	<0.05	0.7	6	2.5	5.4
B14	0.0-0.1	2	<0.3	5.4	2.4	6	<0.05	1.2	33	4.2	6.9
B15	0.0-0.1	4	<0.3	12	1.8	11	<0.05	1.1	11	3.3	6.5
B15	0.15-0.25	3	<0.3	19	<0.5	9	<0.05	0.7	3	3.1	5.7
B16	0.0-0.1	2	<0.3	3.9	1	7	<0.05	0.7	4	1.6	6.8
Limit of Reporting (LOR)		1	0.3	0.5	0.5	1	0.05	0.5	2	0.02	0.1
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)											
Health-based Investigation Levels (HIL) [a] C - Recreation		300	90	300 [c]	17000	600	13 [d]	1200	30000		
Ecological Investigation Levels (EIL) [b]- Public open spac		100 [e]	-	190[f]	210	1200 [g]	-	190	540		

Notes:
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.
b: EIL of aged chromium (III), copper, nickel & zinc were derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; the lowest CEC=1.4 cmolc/kg & pH=5.4; the assumed clay content=1 % were selected for derivation of EIL; a conservative approach.
c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)
g: Generic added contaminant limit for aged lead + ambient background concentration; Old Suburb with Low Traffic.

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TABLE E2
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	METAL (mg/kg) ARSENIC	CADMIUM	CHROMIUM (Total)	COPPER	LEAD	MERCURY	NICKEL	ZINC	CEC ($cmol_c/kg$)	pH
Fill											
B3	0.0-0.1	19	0.3	18	15	48	0.05	2.9	130	5.6	6.1
B6	0.0-0.1	3	<0.3	9.1	1.1	9	<0.05	1.0	4	2.7	5.6
B8	0.1-0.2	8	<0.3	22	5.4	19	<0.05	6.8	14	14	8.3
Limit of Reporting (LOR)		1	0.3	0.5	0.5	1	0.05	0.5	2	0.02	0.1
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)											
Health-based Investigation Levels (HIL) [a] C - Recreation		300	90	300 [c]	17000	600	13 [d]	1200	30000		
Ecological Investigation Levels (EIL) [b]- Public open spac		100 [e]	-	190[f]	210	1200 [g]	-	190	540		

Notes:
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.
b: EIL of aged chromium (III), copper, nickel & zinc were derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; the lowest CEC=2.7 cmolc/kg & pH=5.6; the assumed clay content=1 % were selected for derivation of EIL; a conservative approach.
c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)
g: Generic added contaminant limit for aged lead + ambient background concentration; Old Suburb with Low Traffic.

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TABLE E3
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	METAL (mg/kg) ARSENIC	CADMIUM	CHROMIUM (Total)	COPPER	LEAD	MERCURY	NICKEL	ZINC	CEC ($cmol_c/kg$)	pH
Fill and Topsoil											
B2	0.0-0.1	4	<0.3	7.7	23	18	<0.05	18	72	6.0	6.7
B11	0.0-0.1	4	<0.3	27	16	18	<0.05	30	49	10	7.1
Limit of Reporting (LOR)		1	0.3	0.5	0.5	1	0.05	0.5	2	0.02	0.1
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)											
Health-based Investigation Levels (HIL) [a] C - Recreation		300	90	300 [c]	17000	600	13 [d]	1200	30000		
Ecological Investigation Levels (EIL) [b]- Public open spac		100 [e]	-	190[f]	210	1200 [g]	-	190	540		

Notes:
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.
b: EIL of aged chromium (III), copper, nickel & zinc were derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; the lowest CEC=6 cmolc/kg & pH=6.7; the assumed clay content=1 % were selected for derivation of EIL; a conservative approach.
c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)
g: Generic added contaminant limit for aged lead + ambient background concentration; Old Suburb with Low Traffic.

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TABLE E4
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLE
(Ref No: 14985/3-AA)

Sample Location	Depth (m)		Soil Type	METAL (mg/kg) ARSENIC	CADMIUM	CHROMIUM (Total)	COPPER	LEAD	MERCURY	NICKEL	ZINC	CEC ($cmol_c/kg$)	pH
Fill													
B5	0.0-0.1	F.2	Clay	2	<0.3	13	52	8	<0.05	130	160	12	7.1
Limit of Reporting (LOR)				1	0.3	0.5	0.5	1	0.05	0.5	2	0.02	0.1
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)													
Health-based Investigation Levels (HIL) [a] C - Recreatior				300	90	300 [c]	17000	600	13 [d]	1200	30000		
Ecological Investigation Levels (EIL) [b]- Public open spac				100 [e]	-	190[f]	210	1200 [g]	-	190	540		

Notes:
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.
b: EIL of aged chromium (III), copper, nickel & zinc were derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; an individual CEC=12 cmolc/kg & pH=7.1; the assumed clay content=1 % were selected for derivation of EIL; a conservative approach.
c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)
g: Generic added contaminant limit for aged lead + ambient background concentration; Old Suburb with Low Traffic.

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TABLE E5
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	METAL (mg/kg) ARSENIC	CADMIUM	CHROMIUM (Total)	COPPER	LEAD	MERCURY	NICKEL	ZINC	CEC ($cmol_c/kg$)	pH
Dam Sediment											
SD1	0.0-0.15	5	<0.3	21	9.8	28	<0.05	13	47	11	5.9
SD2	0.0-0.15	5	<0.3	44	21	31	<0.05	48	68	-	-
SD3	0.0-0.15	4	<0.3	35	19	15	<0.05	42	66	16	6.8
SD4	0.0-0.15	5	<0.3	19	6.4	13	<0.05	18	39	-	-
SD5	0.0-0.15	4	<0.3	25	23	21	<0.05	30	130	11	5.3
SD6	0.0-0.15	5	<0.3	32	21	21	<0.05	33	86	-	-
SD7	0.0-0.15	3	<0.3	13	5.7	15	<0.05	5.7	23	6.6	5
SD8	0.0-0.15	3	<0.3	15	16	12	<0.05	14	51	-	-
Limit of Reporting (LOR)		1	0.3	0.5	0.5	1	0.05	0.5	2	0.02	0.1
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)											
Health-based Investigation Levels (HIL) [a] C - Recreation		300	90	300 [c]	17000	600	13 [d]	1200	30000		
Ecological Investigation Levels (EIL) [b]- Public open spac		100 [e]	-	190[f]	180	1200 [g]	-	180	410		

Notes:
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.
b: EIL of aged chromium (III), copper, nickel & zinc were derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; the average CEC=11.15 cmolc/kg & pH=5.75; the assumed clay content=1 % were selected for derivation of EIL; a conservative approach.
c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)
g: Generic added contaminant limit for aged lead + ambient background concentration; Old Suburb with Low Traffic.

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TABLE E6
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	METAL (mg/kg) ARSENIC	CADMIUM	CHROMIUM (Total)	COPPER	LEAD	MERCURY	NICKEL	ZINC	CEC ($cmol_c/kg$)	pH
Dam WallI											
TPDW1	0.0-0.15	2	<0.3	4.2	0.8	6	<0.05	<0.5	4	2.5	5.6
TPDW1	0.5-0.8	3	<0.3	12	9.4	18	<0.05	8.5	48	-	-
TPDW2	0.0-0.15	2	<0.3	6.1	3.2	8	<0.05	1.8	12	3.3	5.4
TPDW2	0.5-0.8	2	<0.3	7.5	3.9	11	<0.05	3.2	20	-	-
TPDW3	0.0-0.15	4	<0.3	6.8	3.7	12	<0.05	2.1	14	2.1	5.3
TPDW3	0.5-0.8	3	<0.3	6.4	3.5	14	<0.05	1.5	18	-	-
TPDW4	0.0-0.15	3	<0.3	5.9	1.8	8	<0.05	0.8	7	0.91	5.7
Limit of Reporting (LOR)		1	0.3	0.5	0.5	1	0.05	0.5	2	0.02	0.1
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)											
Health-based Investigation Levels (HIL) [a] C - Recreation		300	90	300 [c]	17000	600	13 [d]	1200	30000		
Ecological Investigation Levels (EIL) [b]- Public open spac		100 [e]	-	190[f]	210	1200 [g]	-	190	540		

Notes:
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.
b: EIL of aged chromium (III), copper, nickel & zinc were derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; the average CEC=2.2 cmolc/kg & pH=5.5; the assumed clay content=1 % were selected for derivation of EIL; a conservative approach.
c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)
g: Generic added contaminant limit for aged lead + ambient background concentration; Old Suburb with Low Traffic.

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TABLE E7
METAL, CATION EXCHANGE CAPACITY (CEC) & pH TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	METAL (mg/kg) COPPER	CEC ($cmol_c/kg$)	pH
Natural Soil				
TP23a	0.15-0.25	4.8	6.3	6.7
Topsoil				
TP23-1	0.0-0.1	17	8.6	6.3
TP23-2	0.0-0.1	21	8.9	7.0
TP23-3	0.0-0.1	14	6.6	5.9
TP23-4	0.0-0.1	10	7.2	6.0
Limit of Reporting (LOR)		0.5	0.02	0.1
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)				
Health-based Investigation Levels (HIL) [a] C - Recreation		17000		
Ecological Investigation Levels (EIL) [b]- Public open spac		140		

Notes:
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary
b: EIL of aged copper was derived from calculation spreadsheet developed by CSIRO for NEPC; Old Suburb with Low Traffic; the lowest CEC=6.3 cmolc/kg & pH=5.9; the assumed clay content=1 % were selected for derivation of EIL; a conservative approach.

c: Chromium (VI)
d: Methyl Mercury
e: Generic EIL for aged arsenic
f: Chromium (III)

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TABLE F
TOTAL RECOVERABLE HYDROCARBONS (TRH) AND BTEX TEST RESULTS
DISCRETE SAMPLES

			TRH (mg/kg)					BTEX (mg/kg)				NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)																					
												Health Screening Levels (HSL) C Recreational / open space						Ecological Screening Levels for fine-grained soil Public open space								Ecological Screening Levels for coarse-grained soil Public open space							
Sample Location	Depth (m)	Soil type	F1	F2*	F2**	F3	F4	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	F1	F2*	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	F1	F2**	F3	F4	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	F1	F2**	F3	F4	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
B2	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B3	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B4	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B5	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B6	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B7	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B8	0.1-0.2	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B10	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B11	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B12	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B13	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B14	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
B16	0.0-0.1	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD1	0.0-0.15	Clay	<25	<25	<25	250	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD2	0.0-0.15	Clay	<25	<25	<25	160	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD3	0.0-0.15	Clay	<25	30	30	230	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD4	0.0-0.15	Clay	<25	47	47	350	140	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD5	0.0-0.15	Clay	<25	<25	<25	260	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD6	0.0-0.15	Clay	<25	52	52	580	280	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD7	0.0-0.15	Clay	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
SD8	0.0-0.15	Clay	<25	32	32	200	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	180	120	1300	5600	65	105	125	45	-	-	-	-	-	-	-	-
TPDW1	0.0-0.15	Sand	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	-	-	-	-	-	-	-	-	180	120	300	2800	50	85	70	105
TPDW2	0.0-0.15	Sand	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	-	-	-	-	-	-	-	-	180	120	300	2800	50	85	70	105
TPDW3	0.0-0.15	Sand	<25	<25	<25	120	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	-	-	-	-	-	-	-	-	180	120	300	2800	50	85	70	105
TPDW4	0.0-0.15	Sand	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	NL	NL	NL	NL	NL	NL	-	-	-	-	-	-	-	-	180	120	300	2800	50	85	70	105
Limit of Reporting (LOR)			25	25	25	90	120	0.1	0.1	0.1	0.3																					

Notes:
F1: C6-C10 less BTEX
F2*: >C10-C16 less Naphthalene
F2**: >C10-C16
F3: >C16-C34
F4: >C34-C40
NL: Not Limiting

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TABLE G
POLYCYCLIC AROMATIC HYDROCARBONS (PAH) TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

			PAH (mg/kg)				NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)				
							Health-based Investigation Levels (HIL) C [a] Recreational C		Health Screening Level (HSL) C - Recreational / open space	Generic Ecological Investigation Level (EIL) - Public open space	Ecological Screening Level (ESL) - Public open space
Sample Location	Depth (m)	Soil type	BaP TEQ	TOTAL PAHs	NAPHTHALENE	BENZO(a)PYRENE (BaP)	BaP TEQ	TOTAL PAHs	NAPHTHALENE	NAPHTHALENE	BENZO(a)PYRENE (BaP)
B2	0.0-0.1	Clay	<0.3	0.1	<0.1	<0.1	3	300	NL	170	0.7
B3	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B4	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B5	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B6	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B7	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B8	0.1-0.2	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B10	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B11	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B12	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B13	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B14	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
B16	0.0-0.1	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD1	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD2	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD3	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD4	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD5	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD6	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD7	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
SD8	0.0-0.15	Clay	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
TPDW1	0.0-0.15	Sand	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
TPDW2	0.0-0.15	Sand	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
TPDW3	0.0-0.15	Sand	<0.3	0.5	<0.1	<0.1	3	300	NL	170	0.7
TPDW4	0.0-0.15	Sand	<0.3	<0.1	<0.1	<0.1	3	300	NL	170	0.7
Limit of Reporting (LOR)			0.3	0.1	0.1	0.1					

Notes: a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.

NL: Not Limiting

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TABLE H
ORGANOCHLORINE PESTICIDES (OCP), POLYCHLORINATED BIPHENYLS (PCB) & PHENOLS TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	OCP (mg/kg)										PCB (mg/kg)	Phenols (mg/kg)
		HEXACHLOROBENZENE (HCB)	HEPTACHLOR	ALDRIN+DIELDRIN	ENDRIN	METHOXYCHLOR	MIREX	ENDOSULFAN (alpha, beta & sulphate)	DDD+DDE+DDT	DDT	CHLORDANE (alpha & gamma)		
B1	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B1	0.15-0.25	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B2	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B2	0.15-0.25	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B3	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B3	0.15-0.25	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B4	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B5	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B5	0.15-0.25	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B6	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B6	0.15-0.25	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B7	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B8	0.1-0.2	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B8	0.25-0.35	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B9	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B10	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	<5
B10	0.35-0.45	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B12	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	<5
B13	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	<5
B13	0.35-0.45	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B14	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
B15	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B15	0.15-0.25	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
B16	0.0-0.1	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD1	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD2	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD3	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD4	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD5	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD6	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD7	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
SD8	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
TPDW1	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
TPDW1	0.5-0.8	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
TPDW2	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
TPDW2	0.5-0.8	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
TPDW3	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
TPDW3	0.5-0.8	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	-	-
TPDW4	0.0-0.15	<0.1	<0.1	<0.15	<0.1	<0.1	<0.1	<0.3	<0.6	<0.2	<0.2	<1	-
Limit of Reporting (LOR)		0.1	0.1	0.15	0.1	0.1	0.1	0.3	0.6	0.2	0.2	1	5
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)													
Health-based Investigation Levels (HIL) C [a] - Recreational C		10	10	10	20	400	20	340	400		70	1	40000
Ecological Investigation Levels (EIL) - Public open space										180 [b]			

Notes: a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.

b: Generic EIL for DDT

GEOTECHNIQUE
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Table I
MICROBIOLOGICAL TEST RESULTS
(Ref No: 14985/3-AA)

Location	Depth (m)	E.COLI (MPN/g)	FAECAL COLIFORMS (MPN	SALMONELLA (/25g)
SD1	0.0-0.15	15	15	Not Detected
SD2	0.0-0.15	9.2	9.2	Not Detected
SD3	0.0-0.15	11	11	Not Detected
SD4 -	0.0-0.15	<3	<3	Not Detected
SD5	0.0-0.15	15	15	Not Detected
SD6	0.0-0.15	**240**	240	Not Detected
SD7	0.0-0.15	<3	<3	Not Detected
SD8	0.0-0.15	9.2	9.2	Not Detected
Environmental Guidelines: Use and Disposal of Biosolids Product (NSW EPA)				
Stabilisation Grade A Microbiological Standards		<100	<1,000	Not Detected / 50g of final product

GEOTECHNIQUE PTY LTD

TABLE J1
ASBESTOS TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	ASBESTOS (% w/w)		
Soil Sample		Bonded ACM (>7mm)	AF	FA
B1	0.0-0.1	<0.01	<0.001	<0.001
B2	0.0-0.1	<0.01	<0.001	<0.001
B3	0.0-0.1	<0.01	<0.001	<0.001
B5	0.0-0.1	<0.01	<0.001	<0.001
B6	0.0-0.1	<0.01	<0.001	<0.001
B7	0.0-0.1	<0.01	<0.001	<0.001
B8	0.1-0.2	<0.01	<0.001	<0.001
B9	0.0-0.1	<0.01	<0.001	<0.001
B10	0.0-0.1	0.02	<0.001	<0.001
B12	0.0-0.1	<0.01	<0.001	<0.001
B13	0.0-0.1	<0.01	<0.001	<0.001
TP23a	0.0-0.1	<0.01	<0.001	<0.001
TP23_1	0.0-0.1	<0.01	<0.001	<0.001
TP23_2	0.0-0.1	<0.01	<0.001	<0.001
TP23_3	0.0-0.1	<0.01	<0.001	<0.001
TP23_4	0.0-0.1	<0.01	<0.001	<0.001
TP23_5	0.0-0.1	<0.01	<0.001	<0.001
TP23_6	0.0-0.1	<0.01	<0.001	<0.001
TP23_7	0.0-0.1	<0.01	<0.001	<0.001
TP23_8	0.0-0.1	0.01	<0.001	<0.001
TP23_9	0.0-0.1	0.01	<0.001	<0.001
TP23_10	0.0-0.1	<0.01	<0.001	<0.001
TP23_11	0.0-0.1	<0.01	<0.001	<0.001
TP23_12	0.0-0.1	<0.01	<0.001	<0.001
TP26a	0.0-0.1	<0.01	<0.001	<0.001
TP26_1	0.0-0.1	<0.01	<0.001	<0.001
TP26_2	0.0-0.1	<0.01	<0.001	<0.001
TP26_3	0.0-0.1	<0.01	<0.001	<0.001
TP26_4	0.0 - 0.1	<0.01	<0.001	<0.001
SD1	0.0 - 0.15	<0.01	<0.001	<0.001
SD2	0.0 - 0.15	<0.01	<0.001	<0.001
SD3	0.0 - 0.15	<0.01	<0.001	<0.001
SD4	0.0 - 0.15	<0.01	<0.001	<0.001
SD5	0.0 - 0.15	<0.01	<0.001	<0.001
SD6	0.0 - 0.15	<0.01	<0.001	<0.001
SD7	0.0 - 0.15	<0.01	<0.001	<0.001
SD8	0.0 - 0.15	<0.01	<0.001	<0.001
TPDW1	0.0 - 0.15	<0.01	<0.001	<0.001
TPDW1	0.5 - 0.8	<0.01	<0.001	<0.001

GEOTECHNIQUE PTY LTD

TABLE J1
ASBESTOS TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	ASBESTOS (% w/w)		
TPDW2	0.0 - 0.15	<0.01	<0.001	<0.001
TPDW2	0.5 - 0.8	<0.01	<0.001	<0.001
TPDW3	0.0 - 0.15	<0.01	<0.001	<0.001
TPDW3	0.5 - 0.8	<0.01	<0.001	<0.001
TPDW4	0.0 - 0.15	<0.01	<0.001	<0.001
TPDW4	0.5 - 0.8	<0.01	<0.001	<0.001
Limits of Reporting (LOR)		0.01	0.001	0.001
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)				
Health Screening Levels [a] - Recreational C		-	0.001	0.001
Fibro-cement Piece				
FCPTP23a	0.0 - 0.1	**ACM**		
FCPTP23_5	0.0 - 0.1	**ACM**		
FCPTP23_6	0.0 - 0.1	**ACM**		

Notes: ACM: Asbestos Containing Material
AF: Asbestos Fines
FA: Fibrous Asbestos
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.

GEOTECHNIQUE PTY LTD

TABLE J2
ASBESTOS TEST RESULTS
DISCRETE SAMPLES
(Ref No: 14985/3-AA)

Sample Location	Depth (m)	ASBESTOS (% w/w)		
Soil Sample		Bonded ACM (>7mm)	AF	FA
B10 a	0.0 - 0.1	<0.01	<0.001	<0.001
B10 _ 1	0.0 - 0.1	<0.01	<0.001	<0.001
B10 _ 2	0.0 - 0.1	<0.01	<0.001	<0.001
B10 _ 3	0.0 - 0.1	<0.01	<0.001	<0.001
B10 _ 4	0.0 - 0.1	<0.01	<0.001	<0.001
B17	0.0 - 0.1	<0.01	<0.001	<0.001
B17 _ 1	0.0 - 0.1	<0.01	<0.001	<0.001
B17 _ 2	0.0 - 0.1	<0.01	<0.001	<0.001
B17 _ 3	0.0 - 0.1	<0.01	<0.001	<0.001
B17 _ 4	0.0 - 0.1	<0.01	<0.001	<0.001
Limits of Reporting (LOR)		0.01	0.001	0.001
NATIONAL ENVIRONMENT PROTECTION AMENDMENT MEASURE (2013)				
Health Screening Levels [a] - Recreational C		-	0.001	0.001
Fibro-cement Piece				
FCPB17	Surface	**ACM**		

Notes: ACM: Asbestos Containing Material
AF: Asbestos Fines
FA: Fibrous Asbestos
a: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths.

GEOTECHNIQUE PTY LTD

Table K1

ASBESTOS IN-SITU SIEVING TEST RESULTS

Ref. No. (14985/3-AA)

Location	Depth (m)	In- Situ 10L Sieve Test				
		Soil Mass (kg)	Soil Density (kg/L)	Weight of Bonded ACM [a] (g)	% ACM in Soil w/w [b]	Criterion [c] (% w/w)
TP23a	0.0-0.1	13.68	1.37	4.80	0.005	0.02
TP23-1	0.0-0.1	13.25	1.33	0.00	0.000	0.02
TP23-2	0.0-0.1	13.87	1.39	0.00	0.000	0.02
TP23-3	0.0-0.1	13.62	1.36	0.00	0.000	0.02
TP23-4	0.0-0.1	13.47	1.35	0.00	0.000	0.02
TP23-5	0.0-0.1	13.2	1.32	16.50	0.019	0.02
TP23-6	0.0-0.1	13.87	1.39	66.00	**0.071**	0.02
TP23-7	0.0-0.1	13.69	1.37	0.00	0.000	0.02
TP23-8	0.0-0.1	13.58	1.36	0.00	0.000	0.02
TP23-9	0.0-0.1	13.53	1.35	0.00	0.000	0.02
TP23-10	0.0-0.1	13.85	1.39	0.00	0.000	0.02
TP23-11	0.0-0.1	13.39	1.34	0.00	0.000	0.02
TP23-12	0.0-0.1	13.58	1.36	0.00	0.000	0.02
TP26a	0.0-0.1	13.74	1.37	0.00	0.000	0.02
TP26-1	0.0-0.1	13.62	1.36	0.00	0.000	0.02
TP26-2	0.0-0.1	13.84	1.38	0.00	0.000	0.02
TP26-3	0.0-0.1	13.02	1.30	0.00	0.000	0.02
TP26-4	0.0-0.1	13.95	1.40	0.00	0.000	0.02

Notes a: Retained on 7mm sieve

b: NEPM 1999 (April 2013) (page 31): % Asbestos in Soil = % Asbestos Content x ACM (kg) / {Soil Volume (L) x Soil Density (kg/L)}, based on asbestos content of 15% and soil volume of 10L.

c: Health Screeing Level C (NEPM 1999 [April 2013]) for bonded ACM

GEOTECHNIQUE PTY LTD

Table K2

ASBESTOS IN-SITU SIEVING TEST RESULTS

Ref. No. (14985/3-AA)

Location	Depth (m)	In- Situ 10L Sieve Test				
		Soil Mass (kg)	Soil Density (kg/L)	Weight of Bonded ACM [a] (g)	% ACM in Soil w/w [b]	Criterion [c] (% w/w)
B10a	0.0-0.1	13.85	1.39	0.00	0.000	0.02
B10-1	0.0-0.1	13.65	1.37	0.00	0.000	0.02
B10-2	0.0-0.1	12.45	1.25	0.00	0.000	0.02
B10-2	0.0-0.1	13.08	1.31	0.00	0.000	0.02
B10-4	0.0-0.1	13.74	1.37	0.00	0.000	0.02
B17	0.0-0.1	14.08	1.41	0.00	0.000	0.02
B17-1	0.0-0.1	14.01	1.40	0.00	0.000	0.02
B17-2	0.0-0.1	13.69	1.37	0.00	0.000	0.02
B17-3	0.0-0.1	13.3	1.33	0.00	0.000	0.02
B17-4	0.0-0.1	14.69	1.47	0.00	0.000	0.02

Notes a: Retained on 7mm sieve

b: NEPM 1999 (April 2013) (page 31): % Asbestos in Soil = % Asbestos Content x ACM (kg) / {Soil Volume (L) x Soil Density (kg/L)}, based on asbestos content of 15% and soil volume of 10L.

c: Health Screeing Level C (NEPM 1999 [April 2013]) for bonded ACM

APPENDIX A

TABLE 1 – TEST PIT LOGS

GEOTECHNIQUE PTY LTD

Project:	Proposed Sports Field	**Job No:**	14985/3
Location:	Lot 224 in DP752020 Pony Club Site- Gilbert Road, Castle Hill	**Drawing No:**	14985/3-AA1
		Logged & Sampled by:	JH/KB

Table 1

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
B1	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Sandy CLAY, medium plasticity, brown	
B2	0.0-0.1	0.0-0.1	8/02/2024	FILL: Silty Clay, low plasticity, brown to grey	
	0.1-0.6	0.15-0.25		(CI) Sandy CLAY, medium plasticity, brown	
B3	0.0-0.1	0.0-0.1	8/02/2024	FILL: Silty Clay, low plasticity, brown to grey	
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
B4	0.0-0.5	0.0-0.1	8/02/2024	(CI) Silty CLAY, medium plasticity, orange	
B5	0.0-0.1	0.0-0.1	8/02/2024	FILL: Gravelly Clay, low plasticity, grey	Inclusion of bitumen fragments
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
B6	0.0-0.1	0.0-0.1	8/02/2024	FILL: Silty Clay, low plasticity, brown to grey	
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
B7	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Sandy CLAY, medium plasticity, brown	
B8	0.0-0.1	0.0-0.1	8/02/2024	FILL: Bitumen Hardstand	
	0.1-0.2	0.1-0.2		FILL: Silty Clay, low plasticity, brown to grey	
	0.2-0.7	0.25-0.35		(CI) Silty CLAY, medium plasticity, orange	
B9	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
B10	0.0-0.3	0.0-0.1	8/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	0.35-0.45		(CI) Silty CLAY, medium plasticity, orange	
B11	0.0-0.4	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Asbestos Containing Material (ACM), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Project:	Proposed Sports Field	**Job No:**	14985/3
Location:	Lot 224 in DP752020 Pony Club Site- Gilbert Road, Castle Hill	**Drawing No:**	14985/3-AA1
		Logged & Sampled by:	JH/KB

Table 1

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
B11	0.4-0.9	0.45-0.55	8/02/2024	(CI) Sandy CLAY, medium plasticity, brown	
B12	0.0-0.3	0.0-0.1	8/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	0.35-0.45		(CI) Sandy CLAY, medium plasticity, brown	
B13	0.0-0.3	0.0-0.1	8/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	0.35-0.45		(CI) Sandy CLAY, medium plasticity, brown	
B14	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Sandy CLAY, medium plasticity, brown	
B15	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Sandy CLAY, medium plasticity, brown	
B16	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Sandy CLAY, medium plasticity, brown	
TP23a	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	Inclusion of Fibro-Cement Piece (FCP)
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
TP23-1	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
TP23-2	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
TP23-3	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	
TP23-4	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	0.15-0.25		(CI) Silty CLAY, medium plasticity, orange	

NS = No Sample
*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Asbestos Containing Material (ACM), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Project:	Proposed Sports Field	**Job No:**	14985/3
Location:	Lot 224 in DP752020 Pony Club Site- Gilbert Road, Castle Hill	**Drawing No:**	14985/3-AA1
		Logged & Sampled by:	JH/KB

Table 1

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
TP23-5	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	Inclusion of FCP
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP23-6	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	Inclusion of FCP
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP23-7	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP23-8	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP23-9	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP23-10	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP23-11	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP23-12	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP26a	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP26-1	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP26-2	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Asbestos Containing Material (ACM), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Project:	Proposed Sports Field	**Job No:**	14985/3
Location:	Lot 224 in DP752020 Pony Club Site- Gilbert Road, Castle Hill	**Drawing No:**	14985/3-AA1
		Logged & Sampled by:	JH/KB

Table 1

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
TP26-2	0.1-0.6	NS	8/02/2024	(CI) Silty CLAY, medium plasticity, orange	
TP26-3	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
TP26-4	0.0-0.1	0.0-0.1	8/02/2024	TOPSOIL: Silty Clay, low plasticity, brown, with sand, trace of root fibres	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
SD1	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
SD2	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
SD3	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
SD4	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
SD5	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
SD6	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
SD7	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
SD8	0.0-0.5	0.0-0.15	8/02/2024	SEDIMENT: Silty Clay, medium plasticity, dark brown, with sand, trace of root fibres	
TPDW1	0.0-1.0	0.0-0.15	8/02/2024	FILL: Gravelly Silty Sand, low plasticity, yellow	
		0.5-0.8			
TPDW2	0.0-1.0	0.0-0.15	8/02/2024	FILL: Gravelly Silty Sand, low plasticity, yellow	
		0.5-0.8			
TPDW3	0.0-1.0	0.0-0.15	8/02/2024	FILL: Gravelly Silty Sand, low plasticity, yellow	
		0.5-0.8			
TPDW4	0.0-1.0	0.0-0.15	8/02/2024	FILL: Gravelly Silty Sand, low plasticity, yellow	
		0.5-0.8			

NS = No Sample

*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Asbestos Containing Material (ACM), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

Project:	Proposed Sports Field	**Job No:**	14985/3
Location:	Lot 224 in DP752020 Pony Club Site- Gilbert Road, Castle Hill	**Drawing No:**	14985/3-AA1
		Logged & Sampled by:	JH/KB

Table 1

Test Pit	Depth (m)	Sample Depth (m)	Date	Material Description	Remarks*
B10a	0.0-0.3	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	NS		(CI) Silty CLAY, medium plasticity, orange	
B10-1	0.0-0.3	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	NS		(CI) Silty CLAY, medium plasticity, orange	
B10-2	0.0-0.3	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	NS		(CI) Silty CLAY, medium plasticity, orange	
B10-3	0.0-0.3	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	NS		(CI) Silty CLAY, medium plasticity, orange	
B10-4	0.0-0.3	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.3-0.8	NS		(CI) Silty CLAY, medium plasticity, orange	
B17	0.0-0.1	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
B17-1	0.0-0.1	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
B17-2	0.0-0.1	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
B17-3	0.0-0.1	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	
B17-4	0.0-0.1	0.0-0.1	27/02/2024	FILL: Gravelly Clay, low plasticity, grey	
	0.1-0.6	NS		(CI) Silty CLAY, medium plasticity, orange	

NS = No Sample
*Odour (O), Discolouration (D), Petroleum Hydrocarbon Staining (PHS), Asbestos Containing Material (ACM), Ash Material (ASHM), Demolition Waste (DW), Groundwater (GW), Perched Water (PW) PID reading etc.

APPENDIX B

LABORATORY TEST RESULTS REPORTS/CERTIFICATES

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Anwar Barbhuyia
Client	Geotechnique
Address	P.O. Box 880 PENRITH NSW 2751
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Project	**14985/3 Castle Hill**
Order Number	**14985/3**
Samples	51

LABORATORY DETAILS

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SGS Reference	**SE260407 R0**
Date Received	12/2/2024
Date Reported	19/2/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ying Ying ZHANG
Laboratory Technician

VOC's in Soil [AN433] Tested: 14/2/2024

PARAMETER	UOM	LOR	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3

PARAMETER	UOM	LOR	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3

PARAMETER	UOM	LOR	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3

PARAMETER	UOM	LOR	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3

VOC's in Soil [AN433] Tested: 14/2/2024 (continued)

PARAMETER	UOM	LOR	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3

PARAMETER	UOM	LOR	DDS1 CLAY - 8/2/2024 SE260407.047	DDS2 CLAY - 8/2/2024 SE260407.048	TS1 SOIL - 8/2/2024 SE260407.051
Benzene	mg/kg	0.1	<0.1	<0.1	[110%]
Toluene	mg/kg	0.1	<0.1	<0.1	[100%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	[92%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	[91%]
o-xylene	mg/kg	0.1	<0.1	<0.1	[106%]
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	-
Total BTEX*	mg/kg	0.3	<0.3	<0.3	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 14/2/2024

PARAMETER	UOM	LOR	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	DDS1 CLAY - 8/2/2024 SE260407.047	DDS2 CLAY - 8/2/2024 SE260407.048
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 15/2/2024

PARAMETER	UOM	LOR	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	**120**	**70**
TRH C29-C36	mg/kg	45	<45	<45	<45	**190**	**130**
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	**250**	**160**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	**300**	**200**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	**250**	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038
TRH C10-C14	mg/kg	20	<20	31	<20	36	<20
TRH C15-C28	mg/kg	45	120	170	92	210	<45
TRH C29-C36	mg/kg	45	160	280	240	580	61
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	30	47	<25	52	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	30	47	<25	52	<25
TRH >C16-C34 (F3)	mg/kg	90	230	350	260	580	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	140	<120	280	<120
TRH C10-C36 Total	mg/kg	110	280	490	330	820	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	250	530	260	910	<210

PARAMETER	UOM	LOR	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
TRH C10-C14	mg/kg	20	22	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	75	<45	<45	61	<45
TRH C29-C36	mg/kg	45	160	<45	<45	81	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	32	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	32	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	200	<90	<90	120	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	260	<110	<110	140	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	230	<210	<210	<210	<210

PARAMETER	UOM	LOR	DDS1 CLAY - 8/2/2024 SE260407.047	DDS2 CLAY - 8/2/2024 SE260407.048
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/2/2024

PARAMETER	UOM	LOR	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
Total PAH (NEPM/WHO 16)	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (NEPM/WHO 16)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (NEPM/WHO 16)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (NEPM/WHO 16)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.1**	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.2**	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.2**	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.1	<0.1	<0.1	<0.1	**0.5**	<0.1
Total PAH (NEPM/WHO 16)	mg/kg	0.1	<0.1	<0.1	<0.1	**0.5**	<0.1

PARAMETER	UOM	LOR	DDS1 CLAY - 8/2/2024 SE260407.047	DDS2 CLAY - 8/2/2024 SE260407.048
Naphthalene	mg/kg	0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.1	<0.1	<0.1
Total PAH (NEPM/WHO 16)	mg/kg	0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024

PARAMETER	UOM	LOR	B1 CLAY 0.0-0.1 8/2/2024 SE260407.001	B1 CLAY 0.15-0.25 8/2/2024 SE260407.002	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B2 CLAY 0.15-0.25 8/2/2024 SE260407.004	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	B3 CLAY 0.15-0.25 8/2/2024 SE260407.006	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B5 CLAY 0.15-0.25 8/2/2024 SE260407.009	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	B6 CLAY 0.15-0.25 8/2/2024 SE260407.011	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B8 CLAY 0.25-0.35 8/2/2024 SE260407.014	B9 CLAY 0.0-0.1 8/2/2024 SE260407.015
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B10 CLAY 0.35-0.45 8/2/2024 SE260407.017	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020	B13 CLAY 0.35-0.45 8/2/2024 SE260407.021
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B15 CLAY 0.0-0.1 8/2/2024 SE260407.023	B15 CLAY 0.15-0.25 8/2/2024 SE260407.024	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW1 SAND 0.5-0.8 8/2/2024 SE260407.041	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	TPDW2 SAND 0.5-0.8 8/2/2024 SE260407.043	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW3 SAND 0.5-0.8 8/2/2024 SE260407.045	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046	DDS1 CLAY - 8/2/2024 SE260407.047
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.1**
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total Other OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	DDS2 CLAY - 8/2/2024 SE260407.048
Alpha BHC	mg/kg	0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Isodrin	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
Alpha Endosulfan	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1
o,p'-DDD*	mg/kg	0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05
Endrin	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1
Total Other OC VIC EPA	mg/kg	1	<1
Total OC VIC EPA	mg/kg	1	<1
trans-Nonachlor	mg/kg	0.1	<0.1

PCBs in Soil [AN420] Tested: 15/2/2024

PARAMETER	UOM	LOR	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0

PARAMETER	UOM	LOR	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0

PARAMETER	UOM	LOR	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0

PCBs in Soil [AN420] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0

PARAMETER	UOM	LOR	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046	DDS1 CLAY - 8/2/2024 SE260407.047
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0

PARAMETER	UOM	LOR	DDS2 CLAY - 8/2/2024 SE260407.048
Arochlor 1016	mg/kg	0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1.0

Total Phenolics in Soil [AN295] Tested: 15/2/2024

PARAMETER	UOM	LOR	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020
Total Phenols	mg/kg	5	<5.0	<5.0	<5.0	<5.0

pH in soil (1:5) [AN101] Tested: 15/2/2024

PARAMETER	UOM	LOR	B1 CLAY 0.0-0.1 8/2/2024 SE260407.001	B1 CLAY 0.15-0.25 8/2/2024 SE260407.002	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B2 CLAY 0.15-0.25 8/2/2024 SE260407.004	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005
pH	pH Units	0.1	6.1	5.9	6.7	5.8	6.1

PARAMETER	UOM	LOR	B3 CLAY 0.15-0.25 8/2/2024 SE260407.006	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B5 CLAY 0.15-0.25 8/2/2024 SE260407.009	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
pH	pH Units	0.1	5.5	5.4	7.1	7.2	5.6

PARAMETER	UOM	LOR	B6 CLAY 0.15-0.25 8/2/2024 SE260407.011	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B8 CLAY 0.25-0.35 8/2/2024 SE260407.014	B9 CLAY 0.0-0.1 8/2/2024 SE260407.015
pH	pH Units	0.1	5.5	7.4	8.3	8.2	6.2

PARAMETER	UOM	LOR	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B10 CLAY 0.35-0.45 8/2/2024 SE260407.017	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020
pH	pH Units	0.1	5.4	5.5	7.1	5.7	5.7

PARAMETER	UOM	LOR	B13 CLAY 0.35-0.45 8/2/2024 SE260407.021	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B15 CLAY 0.0-0.1 8/2/2024 SE260407.023	B15 CLAY 0.15-0.25 8/2/2024 SE260407.024	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025
pH	pH Units	0.1	5.4	6.9	6.5	5.7	6.8

PARAMETER	UOM	LOR	TP23a CLAY 0.15-0.25 8/2/2024 SE260407.027	TP23-1 CLAY 0.0-0.1 8/2/2024 SE260407.028	TP23-2 CLAY 0.0-0.1 8/2/2024 SE260407.029	TP23-3 CLAY 0.0-0.1 8/2/2024 SE260407.030	TP23-4 CLAY 0.0-0.1 8/2/2024 SE260407.031
pH	pH Units	0.1	6.7	6.3	7.0	5.9	6.0

PARAMETER	UOM	LOR	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040
pH	pH Units	0.1	5.9	6.8	5.3	5.0	5.6

pH in soil (1:5) [AN101] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
pH	pH Units	0.1	**5.4**	**5.3**	**5.7**

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 15/2/2024

PARAMETER	UOM	LOR	B1 CLAY 0.0-0.1 8/2/2024 SE260407.001	B1 CLAY 0.15-0.25 8/2/2024 SE260407.002	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B2 CLAY 0.15-0.25 8/2/2024 SE260407.004	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	1.7	0.84	2.0	0.95	4.9
Exchangeable Calcium Percentage*	%	0.1	60.6	36.5	32.9	36.2	86.6
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.23	0.24	0.28	0.14	0.18
Exchangeable Potassium Percentage*	%	0.1	8.3	10.3	4.7	5.4	3.3
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	0.81	1.1	3.3	1.3	0.48
Exchangeable Magnesium Percentage*	%	0.1	29.1	49.6	54.7	48.2	8.6
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.05	0.08	0.46	0.27	0.09
Exchangeable Sodium Percentage*	%	0.1	2.0	3.6	7.7	10.2	1.5
Cation Exchange Capacity	cmol (+)/kg	0.02	2.8	2.3	6.0	2.6	5.6

PARAMETER	UOM	LOR	B3 CLAY 0.15-0.25 8/2/2024 SE260407.006	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B5 CLAY 0.15-0.25 8/2/2024 SE260407.009	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	0.93	0.89	7.6	2.5	1.4
Exchangeable Calcium Percentage*	%	0.1	49.4	46.2	62.6	65.6	50.9
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.08	0.16	0.45	0.05	0.10
Exchangeable Potassium Percentage*	%	0.1	4.4	8.4	3.7	1.4	3.7
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	0.74	0.78	3.9	1.2	0.73
Exchangeable Magnesium Percentage*	%	0.1	39.5	40.6	31.8	30.4	27.0
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.12	0.09	0.24	0.10	0.49
Exchangeable Sodium Percentage*	%	0.1	6.6	4.9	1.9	2.6	18.3
Cation Exchange Capacity	cmol (+)/kg	0.02	1.9	1.9	12	3.8	2.7

PARAMETER	UOM	LOR	B6 CLAY 0.15-0.25 8/2/2024 SE260407.011	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B8 CLAY 0.25-0.35 8/2/2024 SE260407.014	B9 CLAY 0.0-0.1 8/2/2024 SE260407.015
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	1.1	10	4.6	2.5	1.0
Exchangeable Calcium Percentage*	%	0.1	19.4	87.3	32.2	17.3	33.8
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.23	0.17	0.22	0.18	0.38
Exchangeable Potassium Percentage*	%	0.1	4.2	1.5	1.6	1.2	12.4
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	3.5	1.2	7.7	9.2	1.4
Exchangeable Magnesium Percentage*	%	0.1	63.5	10.2	54.7	62.4	45.7
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.72	0.13	1.6	2.8	0.25
Exchangeable Sodium Percentage*	%	0.1	12.9	1.1	11.6	19.1	8.2
Cation Exchange Capacity	cmol (+)/kg	0.02	5.6	12	14	15	3.1

PARAMETER	UOM	LOR	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B10 CLAY 0.35-0.45 8/2/2024 SE260407.017	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	2.4	0.24	6.5	0.18	0.64
Exchangeable Calcium Percentage*	%	0.1	54.2	7.2	63.6	12.6	32.5
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.17	0.22	0.11	0.11	0.08
Exchangeable Potassium Percentage*	%	0.1	4.0	6.5	1.0	7.8	3.9
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	1.4	2.5	3.3	1.0	1.2
Exchangeable Magnesium Percentage*	%	0.1	31.8	73.8	32.8	73.4	58.8
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.44	0.41	0.26	0.09	0.10
Exchangeable Sodium Percentage*	%	0.1	10.0	12.4	2.5	6.2	4.9
Cation Exchange Capacity	cmol (+)/kg	0.02	4.4	3.3	10	1.4	2.0

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 15/2/2024 (continued)

PARAMETER	UOM	LOR	B13 CLAY 0.35-0.45 8/2/2024 SE260407.021	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B15 CLAY 0.0-0.1 8/2/2024 SE260407.023	B15 CLAY 0.15-0.25 8/2/2024 SE260407.024	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	0.21	2.1	1.4	0.41	0.22
Exchangeable Calcium Percentage*	%	0.1	8.6	49.2	41.3	13.3	13.7
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.05	0.97	1.2	0.62	1.1
Exchangeable Potassium Percentage*	%	0.1	2.2	23.3	36.8	19.9	71.8
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	2.1	1.0	0.59	2.0	0.15
Exchangeable Magnesium Percentage*	%	0.1	86.1	24.4	17.9	62.6	9.5
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.08	0.13	0.13	0.13	0.08
Exchangeable Sodium Percentage*	%	0.1	3.2	3.0	3.9	4.3	4.9
Cation Exchange Capacity	cmol (+)/kg	0.02	2.5	4.2	3.3	3.1	1.6

PARAMETER	UOM	LOR	TP23a CLAY 0.15-0.25 8/2/2024 SE260407.027	TP23-1 CLAY 0.0-0.1 8/2/2024 SE260407.028	TP23-2 CLAY 0.0-0.1 8/2/2024 SE260407.029	TP23-3 CLAY 0.0-0.1 8/2/2024 SE260407.030	TP23-4 CLAY 0.0-0.1 8/2/2024 SE260407.031
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	4.9	6.9	7.1	4.1	5.4
Exchangeable Calcium Percentage*	%	0.1	78.3	79.9	80.1	62.2	74.5
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.34	0.43	0.43	0.51	0.37
Exchangeable Potassium Percentage*	%	0.1	5.5	5.0	4.8	7.6	5.2
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	0.92	1.2	1.2	1.8	1.3
Exchangeable Magnesium Percentage*	%	0.1	14.6	13.8	13.1	27.1	18.6
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.10	0.11	0.17	0.20	0.13
Exchangeable Sodium Percentage*	%	0.1	1.6	1.3	2.0	3.0	1.7
Cation Exchange Capacity	cmol (+)/kg	0.02	6.3	8.6	8.9	6.6	7.2

PARAMETER	UOM	LOR	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	7.6	12	5.2	3.3	0.80
Exchangeable Calcium Percentage*	%	0.1	65.9	74.6	48.3	50.3	31.9
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.17	0.29	0.27	0.13	0.18
Exchangeable Potassium Percentage*	%	0.1	1.5	1.8	2.5	2.0	7.0
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	3.6	3.5	5.1	3.0	1.5
Exchangeable Magnesium Percentage*	%	0.1	31.2	22.5	47.2	46.2	59.4
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.16	0.18	0.21	0.10	0.04
Exchangeable Sodium Percentage*	%	0.1	1.4	1.2	2.0	1.5	1.7
Cation Exchange Capacity	cmol (+)/kg	0.02	11	16	11	6.6	2.5

PARAMETER	UOM	LOR	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
Exchangeable Calcium, Ca	cmol (+)/kg	0.01	1.6	0.73	0.19
Exchangeable Calcium Percentage*	%	0.1	50.5	35.3	20.8
Exchangeable Potassium, K	cmol (+)/kg	0.01	0.14	0.23	0.09
Exchangeable Potassium Percentage*	%	0.1	4.2	11.2	10.2
Exchangeable Magnesium, Mg	cmol (+)/kg	0.02	1.4	0.99	0.55
Exchangeable Magnesium Percentage*	%	0.1	42.9	47.9	61.1
Exchangeable Sodium, Na	cmol (+)/kg	0.01	0.08	0.12	0.07
Exchangeable Sodium Percentage*	%	0.1	2.4	5.7	8.0
Cation Exchange Capacity	cmol (+)/kg	0.02	3.3	2.1	0.91

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 13/2/2024

PARAMETER	UOM	LOR	B1 CLAY 0.0-0.1 8/2/2024 SE260407.001	B1 CLAY 0.15-0.25 8/2/2024 SE260407.002	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B2 CLAY 0.15-0.25 8/2/2024 SE260407.004	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005
Arsenic, As	mg/kg	1	8	4	4	3	19
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	0.3
Chromium, Cr	mg/kg	0.5	19	15	7.7	11	18
Copper, Cu	mg/kg	0.5	5.2	1.0	23	1.4	15
Lead, Pb	mg/kg	1	20	12	18	10	48
Nickel, Ni	mg/kg	0.5	3.4	1.0	18	1.2	2.9
Zinc, Zn	mg/kg	2	25	5	72	3	130

PARAMETER	UOM	LOR	B3 CLAY 0.15-0.25 8/2/2024 SE260407.006	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B5 CLAY 0.15-0.25 8/2/2024 SE260407.009	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Arsenic, As	mg/kg	1	5	4	2	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	17	14	13	12	9.1
Copper, Cu	mg/kg	0.5	3.1	1.5	52	1.9	1.1
Lead, Pb	mg/kg	1	13	11	8	10	9
Nickel, Ni	mg/kg	0.5	1.3	1.2	130	2.5	1.0
Zinc, Zn	mg/kg	2	8	7	160	39	4

PARAMETER	UOM	LOR	B6 CLAY 0.15-0.25 8/2/2024 SE260407.011	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B8 CLAY 0.25-0.35 8/2/2024 SE260407.014	B9 CLAY 0.0-0.1 8/2/2024 SE260407.015
Arsenic, As	mg/kg	1	4	7	8	8	10
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	25	14	22	20	25
Copper, Cu	mg/kg	0.5	1.2	14	5.4	3.8	8.5
Lead, Pb	mg/kg	1	12	20	19	17	32
Nickel, Ni	mg/kg	0.5	1.3	2.7	6.8	1.3	6.0
Zinc, Zn	mg/kg	2	5	59	14	6	26

PARAMETER	UOM	LOR	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B10 CLAY 0.35-0.45 8/2/2024 SE260407.017	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020
Arsenic, As	mg/kg	1	5	6	4	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	20	21	27	13	13
Copper, Cu	mg/kg	0.5	3.8	2.5	16	<0.5	<0.5
Lead, Pb	mg/kg	1	16	16	18	8	6
Nickel, Ni	mg/kg	0.5	4.3	1.4	30	0.8	0.8
Zinc, Zn	mg/kg	2	10	5	49	3	5

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 13/2/2024 (continued)

PARAMETER	UOM	LOR	B13 CLAY 0.35-0.45 8/2/2024 SE260407.021	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B15 CLAY 0.0-0.1 8/2/2024 SE260407.023	B15 CLAY 0.15-0.25 8/2/2024 SE260407.024	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025
Arsenic, As	mg/kg	1	3	2	4	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	19	5.4	12	19	3.9
Copper, Cu	mg/kg	0.5	<0.5	2.4	1.8	<0.5	1.0
Lead, Pb	mg/kg	1	6	6	11	9	7
Nickel, Ni	mg/kg	0.5	0.7	1.2	1.1	0.7	0.7
Zinc, Zn	mg/kg	2	6	33	11	3	4

PARAMETER	UOM	LOR	TP23a CLAY 0.15-0.25 8/2/2024 SE260407.027	TP23-1 CLAY 0.0-0.1 8/2/2024 SE260407.028	TP23-2 CLAY 0.0-0.1 8/2/2024 SE260407.029	TP23-3 CLAY 0.0-0.1 8/2/2024 SE260407.030	TP23-4 CLAY 0.0-0.1 8/2/2024 SE260407.031
Arsenic, As	mg/kg	1	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.5	-	-	-	-	-
Copper, Cu	mg/kg	0.5	4.8	17	21	14	10
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	2	-	-	-	-	-

PARAMETER	UOM	LOR	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036
Arsenic, As	mg/kg	1	5	5	4	5	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	21	44	35	19	25
Copper, Cu	mg/kg	0.5	9.8	21	19	6.4	23
Lead, Pb	mg/kg	1	28	31	15	13	21
Nickel, Ni	mg/kg	0.5	13	48	42	18	30
Zinc, Zn	mg/kg	2	47	68	66	39	130

PARAMETER	UOM	LOR	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW1 SAND 0.5-0.8 8/2/2024 SE260407.041
Arsenic, As	mg/kg	1	5	3	3	2	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	32	13	15	4.2	12
Copper, Cu	mg/kg	0.5	21	5.7	16	0.8	9.4
Lead, Pb	mg/kg	1	21	15	12	6	18
Nickel, Ni	mg/kg	0.5	33	5.7	14	<0.5	8.5
Zinc, Zn	mg/kg	2	86	23	51	4	48

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 13/2/2024 (continued)

PARAMETER	UOM	LOR	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW2 SAND 0.5-0.8 8/2/2024 SE260407.043	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW3 SAND 0.5-0.8 8/2/2024 SE260407.045	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
Arsenic, As	mg/kg	1	2	2	4	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.1	7.5	6.8	6.4	5.9
Copper, Cu	mg/kg	0.5	3.2	3.9	3.7	3.5	1.8
Lead, Pb	mg/kg	1	8	11	12	14	8
Nickel, Ni	mg/kg	0.5	1.8	3.2	2.1	1.5	0.8
Zinc, Zn	mg/kg	2	12	20	14	18	7

PARAMETER	UOM	LOR	DDS1 CLAY - 8/2/2024 SE260407.047	DDS2 CLAY - 8/2/2024 SE260407.048	DDS3 CLAY - 8/2/2024 SE260407.049
Arsenic, As	mg/kg	1	8	2	-
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	-
Chromium, Cr	mg/kg	0.5	14	4.4	-
Copper, Cu	mg/kg	0.5	13	1.3	15
Lead, Pb	mg/kg	1	21	31	-
Nickel, Ni	mg/kg	0.5	3.7	0.7	-
Zinc, Zn	mg/kg	2	82	7	-

Mercury in Soil [AN312] Tested: 14/2/2024

PARAMETER	UOM	LOR	B1 CLAY 0.0-0.1 8/2/2024 SE260407.001	B1 CLAY 0.15-0.25 8/2/2024 SE260407.002	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B2 CLAY 0.15-0.25 8/2/2024 SE260407.004	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	0.05

PARAMETER	UOM	LOR	B3 CLAY 0.15-0.25 8/2/2024 SE260407.006	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B5 CLAY 0.15-0.25 8/2/2024 SE260407.009	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	B6 CLAY 0.15-0.25 8/2/2024 SE260407.011	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B8 CLAY 0.25-0.35 8/2/2024 SE260407.014	B9 CLAY 0.0-0.1 8/2/2024 SE260407.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B10 CLAY 0.35-0.45 8/2/2024 SE260407.017	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	B13 CLAY 0.35-0.45 8/2/2024 SE260407.021	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B15 CLAY 0.0-0.1 8/2/2024 SE260407.023	B15 CLAY 0.15-0.25 8/2/2024 SE260407.024	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW1 SAND 0.5-0.8 8/2/2024 SE260407.041
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Mercury in Soil [AN312] Tested: 14/2/2024 (continued)

PARAMETER	UOM	LOR	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW2 SAND 0.5-0.8 8/2/2024 SE260407.043	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW3 SAND 0.5-0.8 8/2/2024 SE260407.045	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	DDS1 CLAY - 8/2/2024 SE260407.047	DDS2 CLAY - 8/2/2024 SE260407.048
Mercury	mg/kg	0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 13/2/2024

PARAMETER	UOM	LOR	B1 CLAY 0.0-0.1 8/2/2024 SE260407.001	B1 CLAY 0.15-0.25 8/2/2024 SE260407.002	B2 CLAY 0.0-0.1 8/2/2024 SE260407.003	B2 CLAY 0.15-0.25 8/2/2024 SE260407.004	B3 CLAY 0.0-0.1 8/2/2024 SE260407.005
% Moisture	%w/w	1	11.6	12.1	4.7	5.2	11.8

PARAMETER	UOM	LOR	B3 CLAY 0.15-0.25 8/2/2024 SE260407.006	B4 CLAY 0.0-0.1 8/2/2024 SE260407.007	B5 CLAY 0.0-0.1 8/2/2024 SE260407.008	B5 CLAY 0.15-0.25 8/2/2024 SE260407.009	B6 CLAY 0.0-0.1 8/2/2024 SE260407.010
% Moisture	%w/w	1	12.2	12.9	10.3	10.1	6.6

PARAMETER	UOM	LOR	B6 CLAY 0.15-0.25 8/2/2024 SE260407.011	B7 CLAY 0.0-0.1 8/2/2024 SE260407.012	B8 CLAY 0.1-0.2 8/2/2024 SE260407.013	B8 CLAY 0.25-0.35 8/2/2024 SE260407.014	B9 CLAY 0.0-0.1 8/2/2024 SE260407.015
% Moisture	%w/w	1	15.6	19.2	15.8	18.5	8.7

PARAMETER	UOM	LOR	B10 CLAY 0.0-0.1 8/2/2024 SE260407.016	B10 CLAY 0.35-0.45 8/2/2024 SE260407.017	B11 CLAY 0.0-0.1 8/2/2024 SE260407.018	B12 CLAY 0.0-0.1 8/2/2024 SE260407.019	B13 CLAY 0.0-0.1 8/2/2024 SE260407.020
% Moisture	%w/w	1	8.4	14.8	15.9	11.1	9.3

PARAMETER	UOM	LOR	B13 CLAY 0.35-0.45 8/2/2024 SE260407.021	B14 CLAY 0.0-0.1 8/2/2024 SE260407.022	B15 CLAY 0.0-0.1 8/2/2024 SE260407.023	B15 CLAY 0.15-0.25 8/2/2024 SE260407.024	B16 CLAY 0.0-0.1 8/2/2024 SE260407.025
% Moisture	%w/w	1	14.2	11.6	11.4	16.2	10.3

PARAMETER	UOM	LOR	TP23a CLAY 0.15-0.25 8/2/2024 SE260407.027	TP23-1 CLAY 0.0-0.1 8/2/2024 SE260407.028	TP23-2 CLAY 0.0-0.1 8/2/2024 SE260407.029	TP23-3 CLAY 0.0-0.1 8/2/2024 SE260407.030	TP23-4 CLAY 0.0-0.1 8/2/2024 SE260407.031
% Moisture	%w/w	1	9.4	13.9	11.9	10.7	2.3

PARAMETER	UOM	LOR	SD1 CLAY 0.0-0.15 8/2/2024 SE260407.032	SD2 CLAY 0.0-0.15 8/2/2024 SE260407.033	SD3 CLAY 0.0-0.15 8/2/2024 SE260407.034	SD4 CLAY 0.0-0.15 8/2/2024 SE260407.035	SD5 CLAY 0.0-0.15 8/2/2024 SE260407.036
% Moisture	%w/w	1	29.1	29.7	20.6	46.4	38.2

Moisture Content [AN002] Tested: 13/2/2024 (continued)

PARAMETER	UOM	LOR	SD6 CLAY 0.0-0.15 8/2/2024 SE260407.037	SD7 CLAY 0.0-0.15 8/2/2024 SE260407.038	SD8 CLAY 0.0-0.15 8/2/2024 SE260407.039	TPDW1 SAND 0.0-0.15 8/2/2024 SE260407.040	TPDW1 SAND 0.5-0.8 8/2/2024 SE260407.041
% Moisture	%w/w	1	31.9	29.4	37.8	7.8	16.5

PARAMETER	UOM	LOR	TPDW2 SAND 0.0-0.15 8/2/2024 SE260407.042	TPDW2 SAND 0.5-0.8 8/2/2024 SE260407.043	TPDW3 SAND 0.0-0.15 8/2/2024 SE260407.044	TPDW3 SAND 0.5-0.8 8/2/2024 SE260407.045	TPDW4 SAND 0.0-0.15 8/2/2024 SE260407.046
% Moisture	%w/w	1	9.7	13.2	8.7	9.3	6.3

PARAMETER	UOM	LOR	DDS1 CLAY - 8/2/2024 SE260407.047	DDS2 CLAY - 8/2/2024 SE260407.048	DDS3 CLAY - 8/2/2024 SE260407.049
% Moisture	%w/w	1	15.9	11.2	14.0

TCLP (Toxicity Characteristic Leaching Procedure) for Metals [AN006] Tested: 14/2/2024

PARAMETER	UOM	LOR	TP23a CLAY 0.0-0.1 8/2/2024 SE260407.026
pH 1:20	pH Units	-	**7.2**
pH 1:20 plus HCL	pH Units	-	**2.1**
Extraction Solution Used	No unit	-	**1**
Mass of Sample Used*	g	-	**13**
Volume of ExtractionSolution Used*	mL	-	**250**
pH TCLP after 18 hours	pH Units	-	**4.9**

Metals in TCLP Extract by ICPOES [AN320] Tested: 15/2/2024

PARAMETER	UOM	LOR	TP23a CLAY 0.0-0.1 8/2/2024 SE260407.026
Lead, Pb	mg/L	0.02	<0.02

VOCs in Water [AN433] Tested: 15/2/2024

PARAMETER	UOM	LOR	RS1 WATER - 8/2/2024 SE260407.050
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
m/p-xylene	µg/L	1	<1
o-xylene	µg/L	0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene (VOC)*	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 15/2/2024

PARAMETER	UOM	LOR	RS1 WATER - 8/2/2024 SE260407.050
TRH C6-C9	µg/L	40	<40
Benzene (F0)	µg/L	0.5	<0.5
TRH C6-C10	µg/L	50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 16/2/2024

PARAMETER	UOM	LOR	RS1 WATER - 8/2/2024 SE260407.050
TRH C10-C14	µg/L	50	<50
TRH C15-C28	µg/L	200	<200
TRH C29-C36	µg/L	200	<200
TRH C37-C40	µg/L	200	<200
TRH >C10-C16	µg/L	60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60
TRH >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C40	µg/L	320	<320

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 16/2/2024

PARAMETER	UOM	LOR	RS1 WATER - 8/2/2024 SE260407.050
Naphthalene	µg/L	0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1
Fluorene	µg/L	0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1
Anthracene	µg/L	0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1
Pyrene	µg/L	0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1
Chrysene	µg/L	0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1
Total PAH (18)	µg/L	1	<1

Metals in Water (Dissolved) by ICPOES [AN320] Tested: 14/2/2024

PARAMETER	UOM	LOR	RS1 WATER - 8/2/2024 SE260407.050
Arsenic, As	mg/L	0.02	<0.02
Cadmium, Cd	mg/L	0.001	<0.001
Chromium, Cr	mg/L	0.005	<0.005
Copper, Cu	mg/L	0.005	<0.005
Lead, Pb	mg/L	0.02	<0.02
Nickel, Ni	mg/L	0.005	<0.005
Zinc, Zn	mg/L	0.01	<0.01

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 14/2/2024

PARAMETER	UOM	LOR	RS1 WATER - 8/2/2024 SE260407.050
Mercury	mg/L	0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN006	Contaminants of interest in a waste material are leached out of the waste with a selected leaching solution under controlled conditions. The ratio of sample to extraction fluid is 100g to 2L (1 to 20 by mass). The concentration of each contaminant of interest is determined in the leachate by appropriate methods after separation from the sample by filtering. Base on USEPA 1311.
AN006	Extraction Fluid #1: This fluid is made by combining 128.6mL of dilute sodium hydroxide solution and 11.5mL glacial acetic acid with water and diluting to a volume of 2 litres. The pH of this fluid should be 4.93 ± 0.05.
AN006	Extraction Fluid #2: This fluid is made by diluting 5.7mL glacial acetic acid with water to a volume of 1 litre. The pH of this fluid should be 2.88 ± 0.05.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-
AN295	For Soil, a 1:10 NaOH extraction is made and analysed after 16 hours. The soil extract or water sample is distilled in a phosphoric acid stream. Phenolic compounds in the distillate react with a reagent stream of potassium hexacyanoferrate(III) and 4-Amino-2,3-dimethyl-3-pryazolin-5-one in an alkaline medium to form a coloured complex which is analysed spectrophotometrically onboard a continuous flow analyser.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN320	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.

AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting.
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR			
***	Indicates that both * and ** apply.		Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE260407 R0

CLIENT DETAILS

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Project	**14985/3 Castle Hill**
Order Number	**14985/3**
Samples	51

LABORATORY DETAILS

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SGS Reference	**SE260407 R0**
Date Received	12 Feb 2024
Date Reported	19 Feb 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	PAH (Polynuclear Aromatic Hydrocarbons) in Water	1 item
	TRH (Total Recoverable Hydrocarbons) in Water	1 item
Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	VOCs in Water	6 items
	Volatile Petroleum Hydrocarbons in Water	2 items
Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	3 items

SAMPLE SUMMARY

Sample counts by matrix	50 Clay/Soil/Sand, 1	Type of documentation received	COC
Date documentation received	12/2/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	10.0°C
Sample container provider	SGS	Turnaround time requested	Three Days/Standar
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE260407 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR)

Method: ME-(AU)-[ENV]AN122

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B1	SE260407.001	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B1	SE260407.002	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B2	SE260407.003	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B2	SE260407.004	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B3	SE260407.005	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B3	SE260407.006	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B4	SE260407.007	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B5	SE260407.008	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B5	SE260407.009	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B6	SE260407.010	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B6	SE260407.011	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B7	SE260407.012	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B8	SE260407.013	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B8	SE260407.014	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B9	SE260407.015	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B10	SE260407.016	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B10	SE260407.017	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B11	SE260407.018	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B12	SE260407.019	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B13	SE260407.020	LB304087	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B13	SE260407.021	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B14	SE260407.022	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B15	SE260407.023	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B15	SE260407.024	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
B16	SE260407.025	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TP23a	SE260407.027	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TP23-1	SE260407.028	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TP23-2	SE260407.029	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TP23-3	SE260407.030	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TP23-4	SE260407.031	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
SD1	SE260407.032	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
SD3	SE260407.034	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
SD5	SE260407.036	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
SD7	SE260407.038	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TPDW1	SE260407.040	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TPDW2	SE260407.042	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TPDW3	SE260407.044	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TPDW4	SE260407.046	LB304088	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE260407.050	LB303885	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	14 Feb 2024

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B1	SE260407.001	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B1	SE260407.002	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B2	SE260407.003	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B2	SE260407.004	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B3	SE260407.005	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B3	SE260407.006	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B4	SE260407.007	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B5	SE260407.008	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B5	SE260407.009	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B6	SE260407.010	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B6	SE260407.011	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B7	SE260407.012	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B8	SE260407.013	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B8	SE260407.014	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B9	SE260407.015	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024

HOLDING TIME SUMMARY

SE260407 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Mercury in Soil (continued)

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B10	SE260407.016	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B10	SE260407.017	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B11	SE260407.018	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B12	SE260407.019	LB303929	08 Feb 2024	12 Feb 2024	07 Mar 2024	14 Feb 2024	07 Mar 2024	16 Feb 2024
B13	SE260407.020	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
B13	SE260407.021	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
B14	SE260407.022	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
B15	SE260407.023	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
B15	SE260407.024	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
B16	SE260407.025	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD1	SE260407.032	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD2	SE260407.033	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD3	SE260407.034	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD4	SE260407.035	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD5	SE260407.036	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD6	SE260407.037	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD7	SE260407.038	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
SD8	SE260407.039	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
TPDW1	SE260407.040	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
TPDW1	SE260407.041	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
TPDW2	SE260407.042	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
TPDW2	SE260407.043	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
TPDW3	SE260407.044	LB304116	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	16 Feb 2024
TPDW3	SE260407.045	LB304117	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
TPDW4	SE260407.046	LB304117	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
DDS1	SE260407.047	LB304117	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024
DDS2	SE260407.048	LB304117	08 Feb 2024	12 Feb 2024	07 Mar 2024	15 Feb 2024	07 Mar 2024	19 Feb 2024

Metals in TCLP Extract by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP23a	SE260407.026	LB304067	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	15 Feb 2024

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE260407.050	LB303874	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	14 Feb 2024

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B1	SE260407.001	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B1	SE260407.002	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B2	SE260407.003	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B2	SE260407.004	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B3	SE260407.005	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B3	SE260407.006	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B4	SE260407.007	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B5	SE260407.008	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B5	SE260407.009	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B6	SE260407.010	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B6	SE260407.011	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B7	SE260407.012	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B8	SE260407.013	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B8	SE260407.014	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B9	SE260407.015	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B10	SE260407.016	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B10	SE260407.017	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B11	SE260407.018	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B12	SE260407.019	LB303923	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B13	SE260407.020	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B13	SE260407.021	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024

HOLDING TIME SUMMARY

SE260407 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

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Moisture Content (continued)

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B14	SE260407.022	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B15	SE260407.023	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B15	SE260407.024	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
B16	SE260407.025	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
TP23a	SE260407.027	LB303858	08 Feb 2024	12 Feb 2024	22 Feb 2024	13 Feb 2024	18 Feb 2024	15 Feb 2024
TP23-1	SE260407.028	LB303858	08 Feb 2024	12 Feb 2024	22 Feb 2024	13 Feb 2024	18 Feb 2024	15 Feb 2024
TP23-2	SE260407.029	LB303858	08 Feb 2024	12 Feb 2024	22 Feb 2024	13 Feb 2024	18 Feb 2024	15 Feb 2024
TP23-3	SE260407.030	LB303858	08 Feb 2024	12 Feb 2024	22 Feb 2024	13 Feb 2024	18 Feb 2024	15 Feb 2024
TP23-4	SE260407.031	LB303858	08 Feb 2024	12 Feb 2024	22 Feb 2024	13 Feb 2024	18 Feb 2024	15 Feb 2024
SD1	SE260407.032	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
SD2	SE260407.033	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
SD3	SE260407.034	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
SD4	SE260407.035	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
SD5	SE260407.036	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
SD6	SE260407.037	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
SD7	SE260407.038	LB303924	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	19 Feb 2024	15 Feb 2024
SD8	SE260407.039	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
TPDW1	SE260407.040	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
TPDW1	SE260407.041	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
TPDW2	SE260407.042	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
TPDW2	SE260407.043	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
TPDW3	SE260407.044	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
TPDW3	SE260407.045	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
TPDW4	SE260407.046	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
DDS1	SE260407.047	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
DDS2	SE260407.048	LB304113	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	20 Feb 2024	15 Feb 2024
DDS3	SE260407.049	LB303858	08 Feb 2024	12 Feb 2024	22 Feb 2024	13 Feb 2024	18 Feb 2024	15 Feb 2024

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B1	SE260407.001	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B1	SE260407.002	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B2	SE260407.003	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B2	SE260407.004	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B3	SE260407.005	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B3	SE260407.006	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B4	SE260407.007	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B5	SE260407.008	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B5	SE260407.009	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B6	SE260407.010	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B6	SE260407.011	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B7	SE260407.012	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B8	SE260407.013	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B8	SE260407.014	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B9	SE260407.015	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B10	SE260407.016	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B10	SE260407.017	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	15 Feb 2024
B11	SE260407.018	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B12	SE260407.019	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B13	SE260407.020	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B13	SE260407.021	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B14	SE260407.022	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B15	SE260407.023	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B15	SE260407.024	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B16	SE260407.025	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD1	SE260407.032	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD2	SE260407.033	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD3	SE260407.034	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD4	SE260407.035	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD5	SE260407.036	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD6	SE260407.037	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD7	SE260407.038	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD8	SE260407.039	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW1	SE260407.040	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW1	SE260407.041	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW2	SE260407.042	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW2	SE260407.043	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW3	SE260407.044	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW3	SE260407.045	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW4	SE260407.046	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS1	SE260407.047	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS2	SE260407.048	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B2	SE260407.003	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B3	SE260407.005	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B4	SE260407.007	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B5	SE260407.008	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B6	SE260407.010	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B7	SE260407.012	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B8	SE260407.013	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B10	SE260407.016	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B11	SE260407.018	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B12	SE260407.019	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B13	SE260407.020	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B14	SE260407.022	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B16	SE260407.025	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD1	SE260407.032	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD2	SE260407.033	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD3	SE260407.034	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD4	SE260407.035	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD5	SE260407.036	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD6	SE260407.037	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD7	SE260407.038	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD8	SE260407.039	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW1	SE260407.040	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW2	SE260407.042	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW3	SE260407.044	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW4	SE260407.046	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS1	SE260407.047	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS2	SE260407.048	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE260407.050	LB304168	08 Feb 2024	12 Feb 2024	15 Feb 2024	16 Feb 2024†	27 Mar 2024	19 Feb 2024

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B1	SE260407.001	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B1	SE260407.002	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B2	SE260407.003	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B2	SE260407.004	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B3	SE260407.005	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B3	SE260407.006	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B4	SE260407.007	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B5	SE260407.008	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B5	SE260407.009	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B6	SE260407.010	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B6	SE260407.011	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024

HOLDING TIME SUMMARY

SE260407 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

PCBs in Soil (continued) — **Method: ME-(AU)-[ENV]AN420**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B7	SE260407.012	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B8	SE260407.013	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B8	SE260407.014	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B9	SE260407.015	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B10	SE260407.016	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B10	SE260407.017	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B11	SE260407.018	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B12	SE260407.019	LB304108	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	16 Feb 2024
B13	SE260407.020	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B13	SE260407.021	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B14	SE260407.022	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B15	SE260407.023	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B15	SE260407.024	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B16	SE260407.025	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD1	SE260407.032	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD2	SE260407.033	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD3	SE260407.034	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD4	SE260407.035	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD5	SE260407.036	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD6	SE260407.037	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD7	SE260407.038	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD8	SE260407.039	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW1	SE260407.040	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW1	SE260407.041	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW2	SE260407.042	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW2	SE260407.043	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW3	SE260407.044	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW3	SE260407.045	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW4	SE260407.046	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS1	SE260407.047	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS2	SE260407.048	LB304110	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024

pH in soil (1:5) — **Method: ME-(AU)-[ENV]AN101**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B1	SE260407.001	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B1	SE260407.002	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B2	SE260407.003	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B2	SE260407.004	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B3	SE260407.005	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B3	SE260407.006	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B4	SE260407.007	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B5	SE260407.008	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B5	SE260407.009	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B6	SE260407.010	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B6	SE260407.011	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B7	SE260407.012	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B8	SE260407.013	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B8	SE260407.014	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B9	SE260407.015	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B10	SE260407.016	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B10	SE260407.017	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B11	SE260407.018	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B12	SE260407.019	LB304076	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B13	SE260407.020	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B13	SE260407.021	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B14	SE260407.022	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B15	SE260407.023	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B15	SE260407.024	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
B16	SE260407.025	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TP23a	SE260407.027	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024

HOLDING TIME SUMMARY

SE260407 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

pH in soil (1:5) (continued)

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP23-1	SE260407.028	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TP23-2	SE260407.029	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TP23-3	SE260407.030	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TP23-4	SE260407.031	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
SD1	SE260407.032	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
SD3	SE260407.034	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
SD5	SE260407.036	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
SD7	SE260407.038	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TPDW1	SE260407.040	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TPDW2	SE260407.042	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TPDW3	SE260407.044	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024
TPDW4	SE260407.046	LB304078	08 Feb 2024	12 Feb 2024	15 Feb 2024	15 Feb 2024	16 Feb 2024	15 Feb 2024

TCLP (Toxicity Characteristic Leaching Procedure) for Metals

Method: ME-(AU)-[ENV]AN006

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP23a	SE260407.026	LB303939	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	18 Feb 2024	15 Feb 2024

Total Phenolics in Soil

Method: ME-(AU)-[ENV]AN295

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B10	SE260407.016	LB304069	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	15 Feb 2024
B11	SE260407.018	LB304069	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	15 Feb 2024
B12	SE260407.019	LB304069	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	15 Feb 2024
B13	SE260407.020	LB304069	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	15 Feb 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B1	SE260407.001	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B1	SE260407.002	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B2	SE260407.003	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B2	SE260407.004	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B3	SE260407.005	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B3	SE260407.006	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B4	SE260407.007	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B5	SE260407.008	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B5	SE260407.009	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B6	SE260407.010	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B6	SE260407.011	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B7	SE260407.012	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B8	SE260407.013	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B8	SE260407.014	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B9	SE260407.015	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B10	SE260407.016	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B10	SE260407.017	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B11	SE260407.018	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B12	SE260407.019	LB303928	08 Feb 2024	12 Feb 2024	06 Aug 2024	14 Feb 2024	06 Aug 2024	16 Feb 2024
B13	SE260407.020	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
B13	SE260407.021	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
B14	SE260407.022	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
B15	SE260407.023	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
B15	SE260407.024	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
B16	SE260407.025	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
TP23a	SE260407.027	LB303856	08 Feb 2024	12 Feb 2024	06 Aug 2024	13 Feb 2024	06 Aug 2024	16 Feb 2024
TP23-1	SE260407.028	LB303856	08 Feb 2024	12 Feb 2024	06 Aug 2024	13 Feb 2024	06 Aug 2024	16 Feb 2024
TP23-2	SE260407.029	LB303856	08 Feb 2024	12 Feb 2024	06 Aug 2024	13 Feb 2024	06 Aug 2024	16 Feb 2024
TP23-3	SE260407.030	LB303856	08 Feb 2024	12 Feb 2024	06 Aug 2024	13 Feb 2024	06 Aug 2024	16 Feb 2024
TP23-4	SE260407.031	LB303856	08 Feb 2024	12 Feb 2024	06 Aug 2024	13 Feb 2024	06 Aug 2024	16 Feb 2024
SD1	SE260407.032	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
SD2	SE260407.033	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
SD3	SE260407.034	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
SD4	SE260407.035	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024

HOLDING TIME SUMMARY

SE260407 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SD5	SE260407.036	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
SD6	SE260407.037	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
SD7	SE260407.038	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
SD8	SE260407.039	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
TPDW1	SE260407.040	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
TPDW1	SE260407.041	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
TPDW2	SE260407.042	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
TPDW2	SE260407.043	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
TPDW3	SE260407.044	LB304114	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	16 Feb 2024
TPDW3	SE260407.045	LB304115	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	19 Feb 2024
TPDW4	SE260407.046	LB304115	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	19 Feb 2024
DDS1	SE260407.047	LB304115	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	19 Feb 2024
DDS2	SE260407.048	LB304115	08 Feb 2024	12 Feb 2024	06 Aug 2024	15 Feb 2024	06 Aug 2024	19 Feb 2024
DDS3	SE260407.049	LB303856	08 Feb 2024	12 Feb 2024	06 Aug 2024	13 Feb 2024	06 Aug 2024	16 Feb 2024

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B2	SE260407.003	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B3	SE260407.005	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B4	SE260407.007	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B5	SE260407.008	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B6	SE260407.010	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B7	SE260407.012	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B8	SE260407.013	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B10	SE260407.016	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B11	SE260407.018	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B12	SE260407.019	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B13	SE260407.020	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B14	SE260407.022	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
B16	SE260407.025	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD1	SE260407.032	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD2	SE260407.033	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD3	SE260407.034	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD4	SE260407.035	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD5	SE260407.036	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD6	SE260407.037	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD7	SE260407.038	LB304099	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
SD8	SE260407.039	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW1	SE260407.040	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW2	SE260407.042	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW3	SE260407.044	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
TPDW4	SE260407.046	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS1	SE260407.047	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024
DDS2	SE260407.048	LB304111	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	26 Mar 2024	19 Feb 2024

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE260407.050	LB304168	08 Feb 2024	12 Feb 2024	15 Feb 2024	16 Feb 2024†	27 Mar 2024	19 Feb 2024

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B2	SE260407.003	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B3	SE260407.005	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B4	SE260407.007	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B5	SE260407.008	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B6	SE260407.010	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B7	SE260407.012	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B8	SE260407.013	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B10	SE260407.016	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B11	SE260407.018	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024

HOLDING TIME SUMMARY

SE260407 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B12	SE260407.019	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B13	SE260407.020	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B14	SE260407.022	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B16	SE260407.025	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD1	SE260407.032	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD2	SE260407.033	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD3	SE260407.034	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD4	SE260407.035	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD5	SE260407.036	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD6	SE260407.037	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD7	SE260407.038	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD8	SE260407.039	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW1	SE260407.040	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW2	SE260407.042	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW3	SE260407.044	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW4	SE260407.046	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
DDS1	SE260407.047	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
DDS2	SE260407.048	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TS1	SE260407.051	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE260407.050	LB304070	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	16 Feb 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B2	SE260407.003	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B3	SE260407.005	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B4	SE260407.007	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B5	SE260407.008	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B6	SE260407.010	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B7	SE260407.012	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B8	SE260407.013	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B10	SE260407.016	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B11	SE260407.018	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B12	SE260407.019	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B13	SE260407.020	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B14	SE260407.022	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
B16	SE260407.025	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD1	SE260407.032	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD2	SE260407.033	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD3	SE260407.034	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD4	SE260407.035	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD5	SE260407.036	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD6	SE260407.037	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD7	SE260407.038	LB303921	08 Feb 2024	12 Feb 2024	22 Feb 2024	14 Feb 2024	22 Feb 2024	15 Feb 2024
SD8	SE260407.039	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW1	SE260407.040	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW2	SE260407.042	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW3	SE260407.044	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TPDW4	SE260407.046	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
DDS1	SE260407.047	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
DDS2	SE260407.048	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024
TS1	SE260407.051	LB304112	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	19 Feb 2024

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RS1	SE260407.050	LB304070	08 Feb 2024	12 Feb 2024	22 Feb 2024	15 Feb 2024	22 Feb 2024	16 Feb 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	B1	SE260407.001	%	60 - 130%	115
	B1	SE260407.002	%	60 - 130%	124
	B2	SE260407.003	%	60 - 130%	126
	B2	SE260407.004	%	60 - 130%	107
	B3	SE260407.005	%	60 - 130%	126
	B3	SE260407.006	%	60 - 130%	124
	B4	SE260407.007	%	60 - 130%	122
	B5	SE260407.008	%	60 - 130%	116
	B5	SE260407.009	%	60 - 130%	121
	B6	SE260407.010	%	60 - 130%	119
	B6	SE260407.011	%	60 - 130%	126
	B7	SE260407.012	%	60 - 130%	121
	B8	SE260407.013	%	60 - 130%	121
	B8	SE260407.014	%	60 - 130%	123
	B9	SE260407.015	%	60 - 130%	115
	B10	SE260407.016	%	60 - 130%	122
	B10	SE260407.017	%	60 - 130%	122
	B12	SE260407.019	%	60 - 130%	115
	B13	SE260407.020	%	60 - 130%	89
	B13	SE260407.021	%	60 - 130%	88
	B14	SE260407.022	%	60 - 130%	94
	B15	SE260407.023	%	60 - 130%	97
	B15	SE260407.024	%	60 - 130%	89
	B16	SE260407.025	%	60 - 130%	89
	SD1	SE260407.032	%	60 - 130%	95
	SD2	SE260407.033	%	60 - 130%	96
	SD3	SE260407.034	%	60 - 130%	99
	SD4	SE260407.035	%	60 - 130%	103
	SD5	SE260407.036	%	60 - 130%	105
	SD6	SE260407.037	%	60 - 130%	105
	SD7	SE260407.038	%	60 - 130%	95
	SD8	SE260407.039	%	60 - 130%	100
	TPDW1	SE260407.040	%	60 - 130%	95
	TPDW1	SE260407.041	%	60 - 130%	98
	TPDW2	SE260407.042	%	60 - 130%	96
	TPDW2	SE260407.043	%	60 - 130%	95
	TPDW3	SE260407.044	%	60 - 130%	88
	TPDW3	SE260407.045	%	60 - 130%	103
	TPDW4	SE260407.046	%	60 - 130%	98
	DDS1	SE260407.047	%	60 - 130%	98
	DDS2	SE260407.048	%	60 - 130%	91

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	B2	SE260407.003	%	70 - 130%	103
	B3	SE260407.005	%	70 - 130%	99
	B4	SE260407.007	%	70 - 130%	96
	B5	SE260407.008	%	70 - 130%	99
	B6	SE260407.010	%	70 - 130%	100
	B7	SE260407.012	%	70 - 130%	100
	B8	SE260407.013	%	70 - 130%	100
	B10	SE260407.016	%	70 - 130%	96
	B11	SE260407.018	%	70 - 130%	95
	B12	SE260407.019	%	70 - 130%	97
	B13	SE260407.020	%	70 - 130%	100
	B14	SE260407.022	%	70 - 130%	96
	B16	SE260407.025	%	70 - 130%	97
	SD1	SE260407.032	%	70 - 130%	103
	SD2	SE260407.033	%	70 - 130%	95
	SD3	SE260407.034	%	70 - 130%	99
	SD4	SE260407.035	%	70 - 130%	97

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — **Method: ME-(AU)-[ENV]AN420**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SD5	SE260407.036	%	70 - 130%	98
	SD6	SE260407.037	%	70 - 130%	101
	SD7	SE260407.038	%	70 - 130%	99
	SD8	SE260407.039	%	70 - 130%	102
	TPDW1	SE260407.040	%	70 - 130%	99
	TPDW2	SE260407.042	%	70 - 130%	100
	TPDW3	SE260407.044	%	70 - 130%	101
	TPDW4	SE260407.046	%	70 - 130%	96
	DDS1	SE260407.047	%	70 - 130%	96
	DDS2	SE260407.048	%	70 - 130%	100
d14-p-terphenyl (Surrogate)	B2	SE260407.003	%	70 - 130%	102
	B3	SE260407.005	%	70 - 130%	100
	B4	SE260407.007	%	70 - 130%	100
	B5	SE260407.008	%	70 - 130%	103
	B6	SE260407.010	%	70 - 130%	100
	B7	SE260407.012	%	70 - 130%	99
	B8	SE260407.013	%	70 - 130%	101
	B10	SE260407.016	%	70 - 130%	97
	B11	SE260407.018	%	70 - 130%	100
	B12	SE260407.019	%	70 - 130%	98
	B13	SE260407.020	%	70 - 130%	102
	B14	SE260407.022	%	70 - 130%	97
	B16	SE260407.025	%	70 - 130%	101
	SD1	SE260407.032	%	70 - 130%	106
	SD2	SE260407.033	%	70 - 130%	97
	SD3	SE260407.034	%	70 - 130%	99
	SD4	SE260407.035	%	70 - 130%	98
	SD5	SE260407.036	%	70 - 130%	101
	SD6	SE260407.037	%	70 - 130%	102
	SD7	SE260407.038	%	70 - 130%	99
	SD8	SE260407.039	%	70 - 130%	109
	TPDW1	SE260407.040	%	70 - 130%	101
	TPDW2	SE260407.042	%	70 - 130%	101
	TPDW3	SE260407.044	%	70 - 130%	99
	TPDW4	SE260407.046	%	70 - 130%	99
	DDS1	SE260407.047	%	70 - 130%	99
	DDS2	SE260407.048	%	70 - 130%	100
d5-nitrobenzene (Surrogate)	B2	SE260407.003	%	70 - 130%	111
	B3	SE260407.005	%	70 - 130%	107
	B4	SE260407.007	%	70 - 130%	106
	B5	SE260407.008	%	70 - 130%	108
	B6	SE260407.010	%	70 - 130%	106
	B7	SE260407.012	%	70 - 130%	106
	B8	SE260407.013	%	70 - 130%	107
	B10	SE260407.016	%	70 - 130%	103
	B11	SE260407.018	%	70 - 130%	106
	B12	SE260407.019	%	70 - 130%	106
	B13	SE260407.020	%	70 - 130%	101
	B14	SE260407.022	%	70 - 130%	101
	B16	SE260407.025	%	70 - 130%	103
	SD1	SE260407.032	%	70 - 130%	115
	SD2	SE260407.033	%	70 - 130%	104
	SD3	SE260407.034	%	70 - 130%	109
	SD4	SE260407.035	%	70 - 130%	104
	SD5	SE260407.036	%	70 - 130%	110
	SD6	SE260407.037	%	70 - 130%	109
	SD7	SE260407.038	%	70 - 130%	108
	SD8	SE260407.039	%	70 - 130%	109
	TPDW1	SE260407.040	%	70 - 130%	104
	TPDW2	SE260407.042	%	70 - 130%	105
	TPDW3	SE260407.044	%	70 - 130%	104

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	TPDW4	SE260407.046	%	70 - 130%	106
	DDS1	SE260407.047	%	70 - 130%	107
	DDS2	SE260407.048	%	70 - 130%	109

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	RS1	SE260407.050	%	40 - 130%	70
d14-p-terphenyl (Surrogate)	RS1	SE260407.050	%	40 - 130%	89
d5-nitrobenzene (Surrogate)	RS1	SE260407.050	%	40 - 130%	69

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	B2	SE260407.003	%	60 - 130%	123
	B3	SE260407.005	%	60 - 130%	126
	B4	SE260407.007	%	60 - 130%	118
	B5	SE260407.008	%	60 - 130%	121
	B6	SE260407.010	%	60 - 130%	116
	B7	SE260407.012	%	60 - 130%	121
	B8	SE260407.013	%	60 - 130%	121
	B10	SE260407.016	%	60 - 130%	121
	B12	SE260407.019	%	60 - 130%	115
	B13	SE260407.020	%	60 - 130%	86
	B14	SE260407.022	%	60 - 130%	91
	B16	SE260407.025	%	60 - 130%	86
	SD1	SE260407.032	%	60 - 130%	92
	SD2	SE260407.033	%	60 - 130%	93
	SD3	SE260407.034	%	60 - 130%	97
	SD4	SE260407.035	%	60 - 130%	100
	SD5	SE260407.036	%	60 - 130%	101
	SD6	SE260407.037	%	60 - 130%	102
	SD7	SE260407.038	%	60 - 130%	91
	SD8	SE260407.039	%	60 - 130%	99
	TPDW1	SE260407.040	%	60 - 130%	92
	TPDW2	SE260407.042	%	60 - 130%	92
	TPDW3	SE260407.044	%	60 - 130%	84
	TPDW4	SE260407.046	%	60 - 130%	95
	DDS1	SE260407.047	%	60 - 130%	95
	DDS2	SE260407.048	%	60 - 130%	87

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	B2	SE260407.003	%	60 - 130%	103
	B3	SE260407.005	%	60 - 130%	93
	B4	SE260407.007	%	60 - 130%	96
	B5	SE260407.008	%	60 - 130%	88
	B6	SE260407.010	%	60 - 130%	99
	B7	SE260407.012	%	60 - 130%	92
	B8	SE260407.013	%	60 - 130%	90
	B10	SE260407.016	%	60 - 130%	89
	B11	SE260407.018	%	60 - 130%	85
	B12	SE260407.019	%	60 - 130%	96
	B13	SE260407.020	%	60 - 130%	89
	B14	SE260407.022	%	60 - 130%	96
	B16	SE260407.025	%	60 - 130%	92
	SD1	SE260407.032	%	60 - 130%	77
	SD2	SE260407.033	%	60 - 130%	91
	SD3	SE260407.034	%	60 - 130%	77
	SD4	SE260407.035	%	60 - 130%	79
	SD5	SE260407.036	%	60 - 130%	96
	SD6	SE260407.037	%	60 - 130%	74
	SD7	SE260407.038	%	60 - 130%	87
	SD8	SE260407.039	%	60 - 130%	94

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TPDW1	SE260407.040	%	60 - 130%	89
	TPDW2	SE260407.042	%	60 - 130%	90
	TPDW3	SE260407.044	%	60 - 130%	87
	TPDW4	SE260407.046	%	60 - 130%	84
	DDS1	SE260407.047	%	60 - 130%	79
	DDS2	SE260407.048	%	60 - 130%	82
	TS1	SE260407.051	%	60 - 130%	86
d4-1,2-dichloroethane (Surrogate)	B2	SE260407.003	%	60 - 130%	97
	B3	SE260407.005	%	60 - 130%	87
	B4	SE260407.007	%	60 - 130%	90
	B5	SE260407.008	%	60 - 130%	85
	B6	SE260407.010	%	60 - 130%	95
	B7	SE260407.012	%	60 - 130%	94
	B8	SE260407.013	%	60 - 130%	81
	B10	SE260407.016	%	60 - 130%	90
	B11	SE260407.018	%	60 - 130%	88
	B12	SE260407.019	%	60 - 130%	97
	B13	SE260407.020	%	60 - 130%	90
	B14	SE260407.022	%	60 - 130%	95
	B16	SE260407.025	%	60 - 130%	88
	SD1	SE260407.032	%	60 - 130%	75
	SD2	SE260407.033	%	60 - 130%	95
	SD3	SE260407.034	%	60 - 130%	79
	SD4	SE260407.035	%	60 - 130%	77
	SD5	SE260407.036	%	60 - 130%	99
	SD6	SE260407.037	%	60 - 130%	68
	SD7	SE260407.038	%	60 - 130%	86
	SD8	SE260407.039	%	60 - 130%	84
	TPDW1	SE260407.040	%	60 - 130%	78
	TPDW2	SE260407.042	%	60 - 130%	79
	TPDW3	SE260407.044	%	60 - 130%	75
	TPDW4	SE260407.046	%	60 - 130%	90
	DDS1	SE260407.047	%	60 - 130%	83
	DDS2	SE260407.048	%	60 - 130%	86
	TS1	SE260407.051	%	60 - 130%	84
d8-toluene (Surrogate)	B2	SE260407.003	%	60 - 130%	95
	B3	SE260407.005	%	60 - 130%	90
	B4	SE260407.007	%	60 - 130%	104
	B5	SE260407.008	%	60 - 130%	88
	B6	SE260407.010	%	60 - 130%	106
	B7	SE260407.012	%	60 - 130%	92
	B8	SE260407.013	%	60 - 130%	89
	B10	SE260407.016	%	60 - 130%	89
	B11	SE260407.018	%	60 - 130%	84
	B12	SE260407.019	%	60 - 130%	93
	B13	SE260407.020	%	60 - 130%	87
	B14	SE260407.022	%	60 - 130%	99
	B16	SE260407.025	%	60 - 130%	89
	SD1	SE260407.032	%	60 - 130%	83
	SD2	SE260407.033	%	60 - 130%	89
	SD3	SE260407.034	%	60 - 130%	75
	SD4	SE260407.035	%	60 - 130%	70
	SD5	SE260407.036	%	60 - 130%	97
	SD6	SE260407.037	%	60 - 130%	72
	SD7	SE260407.038	%	60 - 130%	91
	SD8	SE260407.039	%	60 - 130%	96
	TPDW1	SE260407.040	%	60 - 130%	92
	TPDW2	SE260407.042	%	60 - 130%	93
	TPDW3	SE260407.044	%	60 - 130%	88
	TPDW4	SE260407.046	%	60 - 130%	100
	DDS1	SE260407.047	%	60 - 130%	82

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	DDS2	SE260407.048	%	60 - 130%	109
	TS1	SE260407.051	%	60 - 130%	92

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	RS1	SE260407.050	%	40 - 130%	106
d4-1,2-dichloroethane (Surrogate)	RS1	SE260407.050	%	40 - 130%	102
d8-toluene (Surrogate)	RS1	SE260407.050	%	40 - 130%	98

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	B2	SE260407.003	%	60 - 130%	103
	B3	SE260407.005	%	60 - 130%	93
	B4	SE260407.007	%	60 - 130%	96
	B5	SE260407.008	%	60 - 130%	88
	B6	SE260407.010	%	60 - 130%	99
	B7	SE260407.012	%	60 - 130%	92
	B8	SE260407.013	%	60 - 130%	90
	B10	SE260407.016	%	60 - 130%	89
	B11	SE260407.018	%	60 - 130%	85
	B12	SE260407.019	%	60 - 130%	96
	B13	SE260407.020	%	60 - 130%	89
	B14	SE260407.022	%	60 - 130%	96
	B16	SE260407.025	%	60 - 130%	92
	SD1	SE260407.032	%	60 - 130%	77
	SD2	SE260407.033	%	60 - 130%	91
	SD3	SE260407.034	%	60 - 130%	77
	SD4	SE260407.035	%	60 - 130%	79
	SD5	SE260407.036	%	60 - 130%	96
	SD6	SE260407.037	%	60 - 130%	74
	SD7	SE260407.038	%	60 - 130%	87
	SD8	SE260407.039	%	60 - 130%	94
	TPDW1	SE260407.040	%	60 - 130%	89
	TPDW2	SE260407.042	%	60 - 130%	90
	TPDW3	SE260407.044	%	60 - 130%	87
	TPDW4	SE260407.046	%	60 - 130%	84
	DDS1	SE260407.047	%	60 - 130%	79
	DDS2	SE260407.048	%	60 - 130%	82
d4-1,2-dichloroethane (Surrogate)	B2	SE260407.003	%	60 - 130%	97
	B3	SE260407.005	%	60 - 130%	87
	B4	SE260407.007	%	60 - 130%	90
	B5	SE260407.008	%	60 - 130%	85
	B6	SE260407.010	%	60 - 130%	95
	B7	SE260407.012	%	60 - 130%	94
	B8	SE260407.013	%	60 - 130%	81
	B10	SE260407.016	%	60 - 130%	90
	B11	SE260407.018	%	60 - 130%	88
	B12	SE260407.019	%	60 - 130%	97
	B13	SE260407.020	%	60 - 130%	90
	B14	SE260407.022	%	60 - 130%	95
	B16	SE260407.025	%	60 - 130%	88
	SD1	SE260407.032	%	60 - 130%	75
	SD2	SE260407.033	%	60 - 130%	95
	SD3	SE260407.034	%	60 - 130%	79
	SD4	SE260407.035	%	60 - 130%	77
	SD5	SE260407.036	%	60 - 130%	99
	SD6	SE260407.037	%	60 - 130%	68
	SD7	SE260407.038	%	60 - 130%	86
	SD8	SE260407.039	%	60 - 130%	84
	TPDW1	SE260407.040	%	60 - 130%	78
	TPDW2	SE260407.042	%	60 - 130%	79
	TPDW3	SE260407.044	%	60 - 130%	75

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued) — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	TPDW4	SE260407.046	%	60 - 130%	90
	DDS1	SE260407.047	%	60 - 130%	83
	DDS2	SE260407.048	%	60 - 130%	86
d8-toluene (Surrogate)	B2	SE260407.003	%	60 - 130%	95
	B3	SE260407.005	%	60 - 130%	90
	B4	SE260407.007	%	60 - 130%	104
	B5	SE260407.008	%	60 - 130%	88
	B6	SE260407.010	%	60 - 130%	106
	B7	SE260407.012	%	60 - 130%	92
	B8	SE260407.013	%	60 - 130%	89
	B10	SE260407.016	%	60 - 130%	89
	B11	SE260407.018	%	60 - 130%	84
	B12	SE260407.019	%	60 - 130%	93
	B13	SE260407.020	%	60 - 130%	87
	B14	SE260407.022	%	60 - 130%	99
	B16	SE260407.025	%	60 - 130%	89
	SD1	SE260407.032	%	60 - 130%	83
	SD2	SE260407.033	%	60 - 130%	89
	SD3	SE260407.034	%	60 - 130%	75
	SD4	SE260407.035	%	60 - 130%	70
	SD5	SE260407.036	%	60 - 130%	97
	SD6	SE260407.037	%	60 - 130%	72
	SD7	SE260407.038	%	60 - 130%	91
	SD8	SE260407.039	%	60 - 130%	96
	TPDW1	SE260407.040	%	60 - 130%	92
	TPDW2	SE260407.042	%	60 - 130%	93
	TPDW3	SE260407.044	%	60 - 130%	88
	TPDW4	SE260407.046	%	60 - 130%	100
	DDS1	SE260407.047	%	60 - 130%	82
	DDS2	SE260407.048	%	60 - 130%	109

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	RS1	SE260407.050	%	40 - 130%	106
d4-1,2-dichloroethane (Surrogate)	RS1	SE260407.050	%	60 - 130%	102
d8-toluene (Surrogate)	RS1	SE260407.050	%	40 - 130%	98

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB303885.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB303929.001	Mercury	mg/kg	0.05	<0.05
LB304116.001	Mercury	mg/kg	0.05	<0.05
LB304117.001	Mercury	mg/kg	0.05	<0.05

Metals in TCLP Extract by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result
LB304067.001	Lead, Pb	mg/L	0.02	<0.02

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result
LB303874.001	Arsenic, As	mg/L	0.02	<0.02
	Cadmium, Cd	mg/L	0.001	<0.001
	Chromium, Cr	mg/L	0.005	<0.005
	Copper, Cu	mg/L	0.005	<0.005
	Lead, Pb	mg/L	0.02	<0.02
	Nickel, Ni	mg/L	0.005	<0.005
	Zinc, Zn	mg/L	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB304108.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	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
		Alpha Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.05	<0.05
		Endrin	mg/kg	0.1	<0.1
		Beta Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	119
LB304110.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	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

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB304110.001		Alpha Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.05	<0.05
		Endrin	mg/kg	0.1	<0.1
		Beta Endosulfan	mg/kg	0.1	<0.1
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	93

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB304099.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	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	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.1	<0.1
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	94
		2-fluorobiphenyl (Surrogate)	%	-	86
		d14-p-terphenyl (Surrogate)	%	-	89
LB304111.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	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	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.1	<0.1
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	89
		2-fluorobiphenyl (Surrogate)	%	-	85
		d14-p-terphenyl (Surrogate)	%	-	89

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB304168.001		Naphthalene	µg/L	0.1	<0.1
		2-methylnaphthalene	µg/L	0.1	<0.1
		1-methylnaphthalene	µg/L	0.1	<0.1
		Acenaphthylene	µg/L	0.1	<0.1
		Acenaphthene	µg/L	0.1	<0.1
		Fluorene	µg/L	0.1	<0.1
		Phenanthrene	µg/L	0.1	<0.1
		Anthracene	µg/L	0.1	<0.1
		Fluoranthene	µg/L	0.1	<0.1
		Pyrene	µg/L	0.1	<0.1
		Benzo(a)anthracene	µg/L	0.1	<0.1
		Chrysene	µg/L	0.1	<0.1
		Benzo(a)pyrene	µg/L	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
		Dibenzo(ah)anthracene	µg/L	0.1	<0.1
		Benzo(ghi)perylene	µg/L	0.1	<0.1
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	122
		2-fluorobiphenyl (Surrogate)	%	-	114
		d14-p-terphenyl (Surrogate)	%	-	120

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB304108.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1.0
	Surrogates	TCMX (Surrogate)	%	-	116
LB304110.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1.0
	Surrogates	TCMX (Surrogate)	%	-	90

Total Phenolics in Soil

Method: ME-(AU)-[ENV]AN295

Sample Number	Parameter	Units	LOR	Result
LB304069.001	Total Phenols	mg/kg	5	<5.0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB303856.001	Copper, Cu	mg/kg	0.5	<0.5
LB303928.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2
LB304114.001	Arsenic, As	mg/kg	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB304114.001	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2
LB304115.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB304099.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
LB304111.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB304168.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB303921.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	97
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	102
	Totals	Total BTEX*	mg/kg	0.3	<0.3
LB304112.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	73
		d8-toluene (Surrogate)	%	-	82
		Bromofluorobenzene (Surrogate)	%	-	77
	Totals	Total BTEX*	mg/kg	0.3	<0.3

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB304070.001	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB304070.001	Monocyclic Aromatic	o-xylene	µg/L	0.5	<0.5
	Polycyclic VOCs	Naphthalene (VOC)*	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	97
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	105

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB303921.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	97
LB304112.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	73

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB304070.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	97
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	105

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260442.004	LB303885.014	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0
SE260470.004	LB303885.023	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	40

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.010	LB303929.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE260407.019	LB303929.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE260407.035	LB304116.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE260407.044	LB304116.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE260525.006	LB304117.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE260526.007	LB304117.021	Mercury	mg/kg	0.05	0.10	0.09	84	11

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.010	LB303923.011	% Moisture	%w/w	1	6.6	6.4	45	2
SE260407.019	LB303923.021	% Moisture	%w/w	1	11.1	10.6	39	4
SE260407.035	LB303924.011	% Moisture	%w/w	1	46.4	46.4	32	0
SE260407.038	LB303924.015	% Moisture	%w/w	1	29.4	31.9	33	8
SE260407.048	LB304113.011	% Moisture	%w/w	1	11.2	10.2	39	9
SE260407.049	LB303858.007	% Moisture	%w/w	1	14.0	13.6	37	3
SE260526.007	LB304113.024	% Moisture	%w/w	1	11.6	11.9	39	2

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.010	LB304108.014		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.05	<0.05	<0.05	200	0
			Endrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
			Total Other OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.19	30	4
SE260407.019	LB304108.024		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OC Pesticides in Soil (continued) — **Method: ME-(AU)-[ENV]AN420**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.019	LB304108.024		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.05	<0.05	<0.05	200	0
			Endrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
			Total Other OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.17	30	2
SE260407.035	LB304110.014		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.05	<0.05	<0.05	200	0
			Endrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
			Total Other OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.14	30	8
SE260407.048	LB304110.028		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.048	LB304110.028		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.05	<0.05	<0.05	200	0
			Endrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
			Total Other OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	30	10

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.019	LB304099.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.53	0.53	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.48	0.50	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.49	0.50	30	1
SE260407.038	LB304099.025		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — **Method: ME-(AU)-[ENV]AN420**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.038	LB304099.025		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.54	0.60	30	10
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.50	0.54	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.50	0.54	30	8
SE260525.003	LB304111.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.54	0.54	30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.49	0.49	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.51	0.51	30	1
SE260526.007	LB304111.024		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	191	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	0.5	0.5	51	12
			Anthracene	mg/kg	0.1	0.1	0.1	120	16
			Fluoranthene	mg/kg	0.1	1.2	1.1	39	10
			Pyrene	mg/kg	0.1	1.1	1.0	40	9
			Benzo(a)anthracene	mg/kg	0.1	0.4	0.4	55	8
			Chrysene	mg/kg	0.1	0.5	0.4	51	8
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.6	0.6	46	9
			Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.2	73	1
			Benzo(b&j&k)fluoranthene	mg/kg	0.2	0.9	0.8	54	7

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260526.007	LB304111.024		Benzo(a)pyrene	mg/kg	0.1	0.5	0.5	49	6
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.4	0.4	56	6
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	195	0
			Benzo(ghi)perylene	mg/kg	0.1	0.4	0.3	58	4
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0.7	0.7	39	7
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.8	0.7	37	6
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.8	0.8	48	6
			Total PAH (18)	mg/kg	0.1	6.0	5.5	32	8
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.58	0.64	30	10
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.52	0.58	30	12
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.54	0.59	30	8

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260472.015	LB304168.028		Naphthalene	µg/L	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	200	0
			Acenaphthylene	µg/L	0.1	<0.1	<0.1	200	0
			Acenaphthene	µg/L	0.1	<0.1	<0.1	200	0
			Fluorene	µg/L	0.1	<0.1	<0.1	200	0
			Phenanthrene	µg/L	0.1	<0.1	<0.1	200	0
			Anthracene	µg/L	0.1	<0.1	<0.1	200	0
			Fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
			Pyrene	µg/L	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	200	0
			Chrysene	µg/L	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.4	0.4	30	4
			2-fluorobiphenyl (Surrogate)	µg/L	-	0.4	0.4	30	6
			d14-p-terphenyl (Surrogate)	µg/L	-	0.5	0.5	30	5

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.010	LB304108.014		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.17	0.18	30	3
SE260407.019	LB304108.024		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.17	0.17	30	3
SE260407.035	LB304110.014		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.035	LB304110.014		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.15	0.14	30	8
SE260407.048	LB304110.028		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.13	0.15	30	11

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.010	LB304076.014	pH	pH Units	0.1	5.6	5.5	32	1
SE260407.019	LB304076.024	pH	pH Units	0.1	5.7	5.8	32	0
SE260407.030	LB304078.014	pH	pH Units	0.1	5.9	5.9	32	0
SE260407.046	LB304078.024	pH	pH Units	0.1	5.7	5.7	32	0

Total Phenolics in Soil

Method: ME-(AU)-[ENV]AN295

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.020	LB304069.013	Total Phenols	mg/kg	5	<5.0	<5.0	200	0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.010	LB303928.014	Arsenic, As	mg/kg	1	3	4	61	27
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	9.1	12	35	29
		Copper, Cu	mg/kg	0.5	1.1	0.8	81	34
		Nickel, Ni	mg/kg	0.5	1.0	1.3	74	28
		Lead, Pb	mg/kg	1	9	11	40	19
		Zinc, Zn	mg/kg	2	4	6	68	31
SE260407.019	LB303928.024	Arsenic, As	mg/kg	1	3	3	64	14
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	13	13	34	2
		Copper, Cu	mg/kg	0.5	<0.5	<0.5	200	0
		Nickel, Ni	mg/kg	0.5	0.8	0.8	95	4
		Lead, Pb	mg/kg	1	8	8	42	4
		Zinc, Zn	mg/kg	2	3	2	108	10
SE260407.035	LB304114.014	Arsenic, As	mg/kg	1	5	5	50	3
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	19	20	33	6
		Copper, Cu	mg/kg	0.5	6.4	5.8	38	10
		Nickel, Ni	mg/kg	0.5	18	19	33	4
		Lead, Pb	mg/kg	1	13	13	38	0
		Zinc, Zn	mg/kg	2	39	37	35	7
SE260407.044	LB304114.024	Arsenic, As	mg/kg	1	4	2	66	49
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	6.8	4.4	39	44 ②
		Copper, Cu	mg/kg	0.5	3.7	2.6	46	36
		Nickel, Ni	mg/kg	0.5	2.1	1.2	60	56

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.044	LB304114.024	Lead, Pb	mg/kg	1	12	13	38	4
		Zinc, Zn	mg/kg	2	14	15	44	10
SE260407.049	LB303856.010	Copper, Cu	mg/kg	0.5	15	13	34	13
SE260525.006	LB304115.014	Arsenic, As	mg/kg	1	2	2	82	2
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	6.1	6.5	38	5
		Copper, Cu	mg/kg	0.5	2.7	2.6	49	4
		Nickel, Ni	mg/kg	0.5	1.2	1.3	71	4
		Lead, Pb	mg/kg	1	6	6	46	13
		Zinc, Zn	mg/kg	2	13	15	44	10
SE260526.007	LB304115.021	Arsenic, As	mg/kg	1	3	4	59	6
		Cadmium, Cd	mg/kg	0.3	0.7	0.9	69	23
		Chromium, Cr	mg/kg	0.5	6.9	7.4	37	7
		Copper, Cu	mg/kg	0.5	74	84	31	13
		Nickel, Ni	mg/kg	0.5	7.5	8.4	36	11
		Lead, Pb	mg/kg	1	400	290	30	32 ②
		Zinc, Zn	mg/kg	2	470	550	30	14

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.019	LB304099.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE260407.038	LB304099.025		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	61	52	110	15
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	172	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE260525.003	LB304111.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE260526.007	LB304111.024		TRH C10-C14	mg/kg	20	<20	<20	176	0
			TRH C15-C28	mg/kg	45	100	93	76	11
			TRH C29-C36	mg/kg	45	51	<45	126	13
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	160	<110	118	34
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	192	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	169	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	140	120	100	10
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260472.015	LB304168.028		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.019	LB303921.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	9.7	50	0
			d8-toluene (Surrogate)	mg/kg	-	9.3	11	50	17
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	50	5
		Totals	Total BTEX*	mg/kg	0.3	<0.3	<0.3	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE260407.038	LB303921.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.3	50	3
			d8-toluene (Surrogate)	mg/kg	-	9.1	7.9	50	15
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	7.9	50	9
		Totals	Total BTEX*	mg/kg	0.3	<0.3	<0.3	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE260525.002	LB304112.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11	9.8	50	8
			d8-toluene (Surrogate)	mg/kg	-	12	11	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	10	9.2	50	9
		Totals	Total BTEX*	mg/kg	0.3	<0.3	<0.3	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE260526.007	LB304112.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.6	8.9	50	7
			d8-toluene (Surrogate)	mg/kg	-	9.4	9.9	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	8.5	50	3
		Totals	Total BTEX*	mg/kg	0.3	<0.3	<0.3	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260319.012	LB304070.023	Monocyclic	Benzene	µg/L	0.5	<0.5	<0.5	200	0
		Aromatic	Toluene	µg/L	0.5	<0.5	<0.5	200	0
			Ethylbenzene	µg/L	0.5	<0.5	<0.5	200	0
			m/p-xylene	µg/L	1	<1	<1	200	0
			o-xylene	µg/L	0.5	<0.5	<0.5	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.9	9.3	30	16
			d8-toluene (Surrogate)	µg/L	-	10.3	11.4	30	10
			Bromofluorobenzene (Surrogate)	µg/L	-	10.2	9.6	30	6
		Totals	Total BTEX	µg/L	3	<3	<3	200	0
SE260366.004	LB304070.024	Monocyclic	Benzene	µg/L	0.5	9.7	4.8	37	68 ⑨
		Aromatic	Toluene	µg/L	0.5	31	16	32	66 ⑨
			Ethylbenzene	µg/L	0.5	1.1	<0.5	98	74
			m/p-xylene	µg/L	1	9	4	46	73 ⑨
			o-xylene	µg/L	0.5	4.3	2.0	46	76 ④
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	0.7	<0.5	141	33
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.6	9.0	30	34 ①
			d8-toluene (Surrogate)	µg/L	-	9.6	12.0	30	22
			Bromofluorobenzene (Surrogate)	µg/L	-	13.0	10.9	30	18
		Totals	Total BTEX	µg/L	3	55	27	37	70 ④

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260407.019	LB303921.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	9.7	50	0
			d8-toluene (Surrogate)	mg/kg	-	9.3	11	50	17
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	10	50	5
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE260407.038	LB303921.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.6	8.3	50	3
			d8-toluene (Surrogate)	mg/kg	-	9.1	7.9	50	15
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	7.9	50	9
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE260525.002	LB304112.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11	9.8	50	8
			d8-toluene (Surrogate)	mg/kg	-	12	11	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	10	9.2	50	9
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE260526.007	LB304112.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.6	8.9	50	7
			d8-toluene (Surrogate)	mg/kg	-	9.4	9.9	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	8.5	50	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260319.012	LB304070.023		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.9	9.3	30	16
			d8-toluene (Surrogate)	µg/L	-	10.3	11.4	30	10
			Bromofluorobenzene (Surrogate)	µg/L	-	10.2	9.6	30	6
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
SE260366.004	LB304070.024		TRH C6-C10	µg/L	50	150	150	64	2

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Volatile Petroleum Hydrocarbons in Water (continued) — **Method: ME-(AU)-[ENV]AN433**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE260366.004	LB304070.024		TRH C6-C9	µg/L	40	130	140	59	7
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.6	9.0	30	34 ①
			d8-toluene (Surrogate)	µg/L	-	9.6	12.0	30	22
			Bromofluorobenzene (Surrogate)	µg/L	-	13.0	10.9	30	18
		VPH F Bands	Benzene (F0)	µg/L	0.5	9.7	4.8	37	68 ⑨
			TRH C6-C10 minus BTEX (F1)	µg/L	50	92	120	76	29

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303929.002	Mercury	mg/kg	0.05	0.20	0.2	80 - 120	99
LB304116.002	Mercury	mg/kg	0.05	0.21	0.2	80 - 120	106
LB304117.002	Mercury	mg/kg	0.05	0.19	0.2	80 - 120	96

Metals in TCLP Extract by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304067.002	Lead, Pb	mg/L	0.02	0.50	0.5	80 - 120	101

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303874.002	Arsenic, As	mg/L	0.02	0.50	0.5	80 - 120	100
	Cadmium, Cd	mg/L	0.001	0.48	0.5	80 - 120	96
	Chromium, Cr	mg/L	0.005	0.49	0.5	80 - 120	98
	Copper, Cu	mg/L	0.005	0.50	0.5	80 - 120	99
	Lead, Pb	mg/L	0.02	0.49	0.5	80 - 120	98
	Nickel, Ni	mg/L	0.005	0.48	0.5	80 - 120	97
	Zinc, Zn	mg/L	0.01	0.48	0.5	80 - 120	96

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304108.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	81
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	79
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	80
		Dieldrin	mg/kg	0.05	0.16	0.2	60 - 140	80
		Endrin	mg/kg	0.1	0.2	0.2	60 - 140	76
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	83
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.15	40 - 130	117
LB304110.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	80
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	84
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	86
		Dieldrin	mg/kg	0.05	0.16	0.2	60 - 140	81
		Endrin	mg/kg	0.1	0.2	0.2	60 - 140	79
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	76
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	85

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304099.002		Naphthalene	mg/kg	0.1	3.9	4	60 - 140	97
		Acenaphthylene	mg/kg	0.1	3.8	4	60 - 140	94
		Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	100
		Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	99
		Anthracene	mg/kg	0.1	4.1	4	60 - 140	101
		Fluoranthene	mg/kg	0.1	4.0	4	60 - 140	100
		Pyrene	mg/kg	0.1	3.9	4	60 - 140	97
		Benzo(a)pyrene	mg/kg	0.1	4.0	4	60 - 140	101
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.52	0.5	40 - 130	104
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.49	0.5	40 - 130	98
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.51	0.5	40 - 130	102
LB304111.002		Naphthalene	mg/kg	0.1	4.0	4	60 - 140	99
		Acenaphthylene	mg/kg	0.1	3.8	4	60 - 140	94
		Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	100
		Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	101
		Anthracene	mg/kg	0.1	4.1	4	60 - 140	102
		Fluoranthene	mg/kg	0.1	4.0	4	60 - 140	101
		Pyrene	mg/kg	0.1	3.9	4	60 - 140	99
		Benzo(a)pyrene	mg/kg	0.1	4.0	4	60 - 140	100
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.53	0.5	40 - 130	106
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.50	0.5	40 - 130	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.51	0.5	40 - 130	103

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304168.002		Naphthalene	µg/L	0.1	48	40	60 - 140	120
		Acenaphthylene	µg/L	0.1	56	40	60 - 140	139
		Acenaphthene	µg/L	0.1	54	40	60 - 140	135
		Phenanthrene	µg/L	0.1	50	40	60 - 140	124
		Anthracene	µg/L	0.1	47	40	60 - 140	118
		Fluoranthene	µg/L	0.1	48	40	60 - 140	120
		Pyrene	µg/L	0.1	43	40	60 - 140	107
		Benzo(a)pyrene	µg/L	0.1	52	40	60 - 140	131
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.5	0.5	40 - 130	104
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.6	0.5	40 - 130	126
		d14-p-terphenyl (Surrogate)	µg/L	-	0.5	0.5	40 - 130	90

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304108.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	118
LB304110.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	87

pH in soil (1:5)

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304076.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100
LB304078.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

Total Phenolics in Soil

Method: ME-(AU)-[ENV]AN295

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304069.002	Total Phenols	mg/kg	5	19	20	80 - 120	95

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303856.002	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
LB303928.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	106
	Cadmium, Cd	mg/kg	0.3	4.6	4.81	70 - 130	96
	Chromium, Cr	mg/kg	0.5	42	38.31	80 - 120	108
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	107
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	92	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	280	273	80 - 120	102
LB304114.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	4.6	4.81	70 - 130	95
	Chromium, Cr	mg/kg	0.5	41	38.31	80 - 120	106
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	108
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	91	89.9	80 - 120	101
	Zinc, Zn	mg/kg	2	270	273	80 - 120	100
LB304115.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	102
	Cadmium, Cd	mg/kg	0.3	4.2	4.81	70 - 130	88
	Chromium, Cr	mg/kg	0.5	39	38.31	80 - 120	101
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	104
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	96
	Lead, Pb	mg/kg	1	84	89.9	80 - 120	94
	Zinc, Zn	mg/kg	2	270	273	80 - 120	99

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304099.002		TRH C10-C14	mg/kg	20	47	40	60 - 140	117
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	91
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	76
	TRH F Bands	TRH >C10-C16	mg/kg	25	45	40	60 - 140	113
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	79
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	69

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304111.002		TRH C10-C14	mg/kg	20	47	40	60 - 140	117
		TRH C15-C28	mg/kg	45	45	40	60 - 140	113
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	82
	TRH F Bands	TRH >C10-C16	mg/kg	25	47	40	60 - 140	119
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	97
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	82

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304168.002		TRH C10-C14	µg/L	50	1100	1200	60 - 140	90
		TRH C15-C28	µg/L	200	1300	1200	60 - 140	107
		TRH C29-C36	µg/L	200	1300	1200	60 - 140	107
	TRH F Bands	TRH >C10-C16	µg/L	60	1200	1200	60 - 140	102
		TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	104
		TRH >C34-C40 (F4)	µg/L	500	680	600	60 - 140	113

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303921.002	Monocyclic	Benzene	mg/kg	0.1	4.4	5	60 - 140	88
	Aromatic	Toluene	mg/kg	0.1	4.8	5	60 - 140	96
		Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	89
		m/p-xylene	mg/kg	0.2	8.8	10	60 - 140	88
		o-xylene	mg/kg	0.1	4.5	5	60 - 140	89
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10	10	70 - 130	102
		d8-toluene (Surrogate)	mg/kg	-	11	10	70 - 130	110
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10	70 - 130	97
LB304112.002	Monocyclic	Benzene	mg/kg	0.1	5.0	5	60 - 140	100
	Aromatic	Toluene	mg/kg	0.1	5.2	5	60 - 140	103
		Ethylbenzene	mg/kg	0.1	5.0	5	60 - 140	100
		m/p-xylene	mg/kg	0.2	10	10	60 - 140	100
		o-xylene	mg/kg	0.1	5.1	5	60 - 140	103
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10	10	70 - 130	103
		d8-toluene (Surrogate)	mg/kg	-	10	10	70 - 130	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	10	10	70 - 130	105

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304070.002	Monocyclic	Benzene	µg/L	0.5	49	45.45	60 - 140	108
	Aromatic	Toluene	µg/L	0.5	55	45.45	60 - 140	121
		Ethylbenzene	µg/L	0.5	46	45.45	60 - 140	101
		m/p-xylene	µg/L	1	92	90.9	60 - 140	102
		o-xylene	µg/L	0.5	46	45.45	60 - 140	102
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	10	60 - 140	99
		d8-toluene (Surrogate)	µg/L	-	9.7	10	70 - 130	97
		Bromofluorobenzene (Surrogate)	µg/L	-	9.8	10	70 - 130	98

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB303921.002		TRH C6-C10	mg/kg	25	79	92.5	60 - 140	85
		TRH C6-C9	mg/kg	20	70	80	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10	10	70 - 130	102
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10	70 - 130	97
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	52	62.5	60 - 140	83
LB304112.002		TRH C6-C10	mg/kg	25	78	92.5	60 - 140	84
		TRH C6-C9	mg/kg	20	71	80	60 - 140	88
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10	10	70 - 130	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	10	10	70 - 130	105
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	47	62.5	60 - 140	76

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Volatile Petroleum Hydrocarbons in Water (continued) — **Method: ME-(AU)-[ENV]AN433**

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB304070.002		TRH C6-C10	µg/L	50	730	946.63	60 - 140	77
		TRH C6-C9	µg/L	40	690	818.71	60 - 140	85
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9	10	60 - 140	99
		d8-toluene (Surrogate)	µg/L	-	9.7	10	70 - 130	97
		Bromofluorobenzene (Surrogate)	µg/L	-	9.8	10	70 - 130	98
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	440	639.67	60 - 140	68

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260363.017	LB303885.004	Mercury	mg/L	0.0001	0.0020	<0.0001	0.008	98

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.001	LB303929.004	Mercury	mg/kg	0.05	0.18	<0.05	0.2	87
SE260407.020	LB304116.004	Mercury	mg/kg	0.05	0.19	<0.05	0.2	90
SE260407.045	LB304117.004	Mercury	mg/kg	0.05	0.17	<0.05	0.2	80

Metals in Water (Dissolved) by ICPOES

Method: ME-(AU)-[ENV]AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.050	LB303874.004	Arsenic, As	mg/L	0.02	0.50	<0.02	0.5	100
		Cadmium, Cd	mg/L	0.001	0.48	<0.001	0.5	97
		Chromium, Cr	mg/L	0.005	0.49	<0.005	0.5	98
		Copper, Cu	mg/L	0.005	0.49	<0.005	0.5	98
		Lead, Pb	mg/L	0.02	0.50	<0.02	0.5	100
		Nickel, Ni	mg/L	0.005	0.49	<0.005	0.5	98
		Zinc, Zn	mg/L	0.01	0.49	<0.01	0.5	97

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.001	LB304108.004		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	81
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	77
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	79
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.05	0.16	<0.05	0.2	79
			Endrin	mg/kg	0.1	0.2	<0.1	0.2	81
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	78
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	<1	<1	-	-
			Total OC VIC EPA	mg/kg	1	<1	<1	-	-
			Total Other OC VIC EPA	mg/kg	1	<1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.17	-	114
SE260407.020	LB304110.004		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	78
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	87
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	89
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.020	LB304110.004		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	0.2	<0.1	-	-
			Dieldrin	mg/kg	0.05	0.17	<0.05	0.2	83
			Endrin	mg/kg	0.1	0.2	<0.1	0.2	82
			Beta Endosulfan	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	78
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
			Total OC VIC EPA	mg/kg	1	1	<1	-	-
			Total Other OC VIC EPA	mg/kg	1	<1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.13	-	87

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.003	LB304099.004		Naphthalene	mg/kg	0.1	4.0	<0.1	4	100
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	3.9	<0.1	4	98
			Acenaphthene	mg/kg	0.1	4.1	<0.1	4	102
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.1	0.1	4	100
			Anthracene	mg/kg	0.1	4.2	<0.1	4	104
			Fluoranthene	mg/kg	0.1	4.0	<0.1	4	101
			Pyrene	mg/kg	0.1	4.0	<0.1	4	99
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.1	<0.1	4	101
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	4.1	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	4.1	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	4.2	<0.3	-	-
			Total PAH (18)	mg/kg	0.1	32	0.1	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.53	0.55	-	105
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.50	0.51	-	99
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.51	0.51	-	101
SE260407.039	LB304111.004		Naphthalene	mg/kg	0.1	4.1	<0.1	4	103
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.0	<0.1	4	100
			Acenaphthene	mg/kg	0.1	4.1	<0.1	4	103
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.1	<0.1	4	103
			Anthracene	mg/kg	0.1	4.1	<0.1	4	101
			Fluoranthene	mg/kg	0.1	4.1	<0.1	4	103
			Pyrene	mg/kg	0.1	3.9	<0.1	4	98

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.039	LB304111.004		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.2	<0.1	4	104
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	4.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	4.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	4.3	<0.3	-	-
			Total PAH (18)	mg/kg	0.1	33	<0.1	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.53	0.54	-	106
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.51	0.51	-	102
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.51	0.55	-	102

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.020	LB304110.004		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1260	mg/kg	0.2	0.3	<0.2	0.4	86
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1.0	<1.0	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0.13	0.13	-	85

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.001	LB303928.004	Arsenic, As	mg/kg	1	52	8	50	89
		Cadmium, Cd	mg/kg	0.3	45	<0.3	50	91
		Chromium, Cr	mg/kg	0.5	67	19	50	95
		Copper, Cu	mg/kg	0.5	53	5.2	50	95
		Nickel, Ni	mg/kg	0.5	50	3.4	50	92
		Lead, Pb	mg/kg	1	66	20	50	93
		Zinc, Zn	mg/kg	2	69	25	50	88
SE260407.020	LB304114.004	Arsenic, As	mg/kg	1	44	3	50	81
		Cadmium, Cd	mg/kg	0.3	42	<0.3	50	84
		Chromium, Cr	mg/kg	0.5	65	13	50	105
		Copper, Cu	mg/kg	0.5	46	<0.5	50	92
		Nickel, Ni	mg/kg	0.5	45	0.8	50	88
		Lead, Pb	mg/kg	1	49	6	50	86
		Zinc, Zn	mg/kg	2	49	5	50	88
SE260407.045	LB304115.004	Arsenic, As	mg/kg	1	54	3	50	102
		Cadmium, Cd	mg/kg	0.3	47	<0.3	50	94
		Chromium, Cr	mg/kg	0.5	58	6.4	50	103
		Copper, Cu	mg/kg	0.5	56	3.5	50	104
		Nickel, Ni	mg/kg	0.5	51	1.5	50	99
		Lead, Pb	mg/kg	1	61	14	50	93
		Zinc, Zn	mg/kg	2	68	18	50	100

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.003	LB304099.004	TRH C10-C14	mg/kg	20	49	<20	40	124
		TRH C15-C28	mg/kg	45	51	<45	40	128
		TRH C29-C36	mg/kg	45	<45	<45	40	97
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.003	LB304099.004		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	52	<25	40	130
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	52	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	124
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
SE260407.039	LB304111.004		TRH C10-C14	mg/kg	20	88	22	40	164 ④
			TRH C15-C28	mg/kg	45	140	75	40	162 ④
			TRH C29-C36	mg/kg	45	200	160	40	94
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	430	260	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	340	230	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	99	32	40	168 ④
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	99	32	-	-
			TRH >C16-C34 (F3)	mg/kg	90	240	200	40	110
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.003	LB303921.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.8	<0.1	5	95
			Toluene	mg/kg	0.1	5.0	<0.1	5	100
			Ethylbenzene	mg/kg	0.1	5.0	<0.1	5	101
			m/p-xylene	mg/kg	0.2	10	<0.2	10	100
			o-xylene	mg/kg	0.1	5.1	<0.1	5	102
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	9.7	10	97
			d8-toluene (Surrogate)	mg/kg	-	10	9.5	10	100
			Bromofluorobenzene (Surrogate)	mg/kg	-	10	10	10	100
		Totals	Total BTEX*	mg/kg	0.3	30	<0.3	-	-
			Total Xylenes*	mg/kg	0.3	15	<0.3	-	-
SE260407.039	LB304112.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.8	<0.1	5	95
			Toluene	mg/kg	0.1	6.1	<0.1	5	121
			Ethylbenzene	mg/kg	0.1	4.9	<0.1	5	97
			m/p-xylene	mg/kg	0.2	9.8	<0.2	10	98
			o-xylene	mg/kg	0.1	5.0	<0.1	5	99
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11	8.4	10	108
			d8-toluene (Surrogate)	mg/kg	-	12	9.6	10	124
			Bromofluorobenzene (Surrogate)	mg/kg	-	11	9.4	10	106
		Totals	Total BTEX*	mg/kg	0.3	30	<0.3	-	-
			Total Xylenes*	mg/kg	0.3	15	<0.3	-	-

VOCs in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260502.008	LB304070.025	Monocyclic Aromatic	Benzene	µg/L	0.5	53	0	45.45	116
			Toluene	µg/L	0.5	57	0.10586568006	45.45	124
			Ethylbenzene	µg/L	0.5	53	0.01404380890	45.45	116
			m/p-xylene	µg/L	1	110	0.03517707750	90.9	117
			o-xylene	µg/L	0.5	53	0.01270559326	45.45	118
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	48	0	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.0	10.07413851177	-	100
			d8-toluene (Surrogate)	µg/L	-	11.0	9.77114717921	-	110
			Bromofluorobenzene (Surrogate)	µg/L	-	10.9	10.39477223341	-	109
		Totals	Total BTEX	µg/L	3	320	0	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.003	LB303921.004		TRH C6-C10	mg/kg	25	88	<25	92.5	94
			TRH C6-C9	mg/kg	20	78	<20	80	97
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.7	9.7	10	97
			d8-toluene (Surrogate)	mg/kg	-	10	9.5	10	100
			Bromofluorobenzene (Surrogate)	mg/kg	-	10	10	-	100
		VPH F	Benzene (F0)	mg/kg	0.1	4.8	<0.1	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260407.003	LB303921.004	VPH F	TRH C6-C10 minus BTEX (F1)	mg/kg	25	58	<25	62.5	92
SE260407.039	LB304112.004		TRH C6-C10	mg/kg	25	83	<25	92.5	84
			TRH C6-C9	mg/kg	20	74	<20	80	86
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11	8.4	10	108
			d8-toluene (Surrogate)	mg/kg	-	12	9.6	10	124
			Bromofluorobenzene (Surrogate)	mg/kg	-	11	9.4	-	106
		VPH F	Benzene (F0)	mg/kg	0.1	4.8	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	53	<25	62.5	75

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE260502.008	LB304070.025		TRH C6-C10	µg/L	50	1100	0	946.63	119
			TRH C6-C9	µg/L	40	1100	0	818.71	133
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.0	10.07413851177	-	100
			d8-toluene (Surrogate)	µg/L	-	11.0	9.77114717921	-	110
			Bromofluorobenzene (Surrogate)	µg/L	-	10.9	10.39477223341	-	109
		VPH F	Benzene (F0)	µg/L	0.5		0	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	800	0	639.67	125

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

SGS EHS Sydney COC

SE260407

CHAIN OF CUSTODY

Results Required By: Normal Turnaround **Date:** Monday, 19 February 2024

Except pH Results Required By 3 days **Date:** Thursday, 15 February 2024

Your Reference No.: [redacted]

TO: SGS
UNIT 16, 33 MADDOX STREET
ALEXANDRIA NSW 2015

Sampled By: JH/KB Ref No: 14985/3 Project Manager: ANWAR BARBHUYIA

Location: Castle Hill

	Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Cu	BTEX	TRH & BTEX	PAH	OCP	PCB	OCP & PCB	OPP&PCB	OCP,OPP & PCB	Cyanide	VOC	Phenol	PFAS	TCLP LEAD	TCLP	Metals (Retest)
1	B1	0.0-0.1	8/02/2024	G		Clay	✔	✔	✔									✔												
2	B1	0.15-0.25	8/02/2024	G		Clay	✔	✔	✔									✔												
3	B2	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																		
4	B2	0.15-0.25	8/02/2024	G		Clay	✔	✔	✔									✔												
5	B3	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																		
6	B3	0.15-0.25	8/02/2024	G		Clay	✔	✔	✔									✔												
7	B4	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																		
8	B5	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																		
9	B5	0.15-0.25	8/02/2024	G		Clay	✔	✔	✔									✔												
10	B6	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																		
11	B6	0.15-0.25	8/02/2024	G		Clay	✔	✔	✔									✔												
12	B7	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																		
	B7	0.15-0.25	8/02/2024	G		Clay																								
13	B8	0.1-0.2	8/02/2024	G		Clay		✔	✔			✔																		
14	B8	0.25-0.35	8/02/2024	G		Clay	✔	✔	✔									✔												
15	B9	0.0-0.1	8/02/2024	G		Clay	✔	✔	✔									✔												
	B9	0.15-0.25	8/02/2024	G		Clay																								
16	B10	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔														✔				
17	B10	0.35-0.45	8/02/2024	G		Clay	✔	✔	✔									✔												
18	B11	0.0-0.1	8/02/2024	G		Clay		✔	✔		✔														✔					

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CHAIN OF CUSTODY

Results Required By: Normal Turnaround **Date: Monday, 19 February 2024**

Except pH Results Required By 3 days **Date: Thursday, 15 February 2024**

Your Reference No.: [redacted]

TO: SGS
UNIT 16, 33 MADDOX STREET
ALEXANDRIA NSW 2015

Sampled By: JH/KB Ref No: 14985/3 Project Manager: **ANWAR BARBHUYIA**

Location: Castle Hill

	Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Cu	BTEX	TRH & BTEX	PAH	OCP	PCB	OCP & PCB	OPP&PCB	OCP,OPP & PCB	Cyanide	VOC	Phenol	PFAS	TCLP LEAD	TCLP	Metals (Retest)
	B11	0.45-0.55	8/02/2024	G		Clay																							
19	B12	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔													✔				
	B12	0.35-0.45	8/02/2024	G		Clay																							
20	B13	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔													✔				
21	B13	0.35-0.45	8/02/2024	G		Clay	✔	✔	✔									✔											
22	B14	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																	
	B14	0.15-0.25	8/02/2024	G		Clay																							
23	B15	0.0-0.1	8/02/2024	G		Clay	✔	✔	✔									✔											
24	B15	0.15-0.25	8/02/2024	G		Clay	✔	✔	✔									✔											
25	B16	0.0-0.1	8/02/2024	G		Clay		✔	✔			✔																	
	B16	0.15-0.25	8/02/2024	G		Clay																							
26	TP23a	0.0-0.1	8/02/2024	G		Clay																					✔		
27	TP23a	0.15-0.25	8/02/2024	G		Clay		✔	✔					✔															
28	TP23-1	0.0-0.1	8/02/2024	G		Clay		✔	✔					✔															
	TP23-1	0.15-0.25	8/02/2024	G		Clay																							
29	TP23-2	0.0-0.1	8/02/2024	G		Clay		✔	✔					✔															
	TP23-2	0.15-0.25	8/02/2024	G		Clay																							
30	TP23-3	0.0-0.1	8/02/2024	G		Clay		✔	✔					✔															
	TP23-3	0.15-0.25	8/02/2024	G		Clay																							
31	TP23-4	0.0-0.1	8/02/2024	G		Clay		✔	✔					✔															

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

CHAIN OF CUSTODY

Results Required By: Normal Turnaround **Date: Monday, 19 February 2024**

Except pH Results Required By 3 days **Date: Thursday, 15 February 2024**

Your Reference No.: [redacted]

TO: SGS
UNIT 16, 33 MADDOX STREET
ALEXANDRIA NSW 2015

Sampled By: JH/KB Ref No: 14985/3 Project Manager: **ANWAR BARBHUYIA**

Location: Castle Hill

	Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Cu	BTEX	TRH & BTEX	PAH	OCP	PCB	OCP & PCB	OPP&PCB	OCP,OPP & PCB	Cyanide	VOC	Phenol	PFAS	TCLP LEAD	TCLP	Metals (Retest)
	TP23-4	0.15-0.25	8/02/2024	G		Clay																							
	TP23-5	0.0-0.1	8/02/2024	G		Clay																							
	TP23-6	0.0-0.1	8/02/2024	G		Clay																							
	TP23-7	0.0-0.1	8/02/2024	G		Clay																							
	TP23-8	0.0-0.1	8/02/2024	G		Clay																							
32	SD1	0.0-0.15	8/02/2024	G		Clay		✔	✔			✔																	
33	SD2	0.0-0.15	8/02/2024	G		Clay						✔																	
34	SD3	0.0-0.15	8/02/2024	G		Clay		✔	✔			✔																	
35	SD4	0.0-0.15	8/02/2024	G		Clay						✔																	
36	SD5	0.0-0.15	8/02/2024	G		Clay		✔	✔			✔																	
37	SD6	0.0-0.15	8/02/2024	G		Clay						✔																	
38	SD7	0.0-0.15	8/02/2024	G		Clay		✔	✔			✔																	
39	SD8	0.0-0.15	8/02/2024	G		Clay						✔																	
40	TPDW1	0.0-0.15	8/02/2024	G		Sand		✔	✔			✔																	
41	TPDW1	0.5-0.8	8/02/2024	G		Sand	✔											✔											
42	TPDW2	0.0-0.15	8/02/2024	G		Sand		✔	✔			✔																	
43	TPDW2	0.5-0.8	8/02/2024	G		Sand	✔											✔											
44	TPDW3	0.0-0.15	8/02/2024	G		Sand		✔	✔			✔																	
45	TPDW3	0.5-0.8	8/02/2024	G		Sand	✔											✔											
46	TPDW4	0.0-0.15	8/02/2024	G		Sand		✔	✔			✔																	

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

CHAIN OF CUSTODY

Results Required By: Normal Turnaround **Date: Monday, 19 February 2024**

Except pH Results Required By 3 days **Date: Thursday, 15 February 2024**

Your Reference No.: [redacted]

TO: SGS
UNIT 16, 33 MADDOX STREET
ALEXANDRIA NSW 2015

Sampled By: JH/KB Ref No: 14985/3 Project Manager: **ANWAR BARBHUYIA**

Location: Castle Hill

	Location	Depth (m)	Date	Soil	Water	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	pH	CEC	CL8 TRH BTEX PAH	CL10 Metals* TRH BTEX PAH	CL16 Metals* TRH BTEX PAH OC PCB	Be B Co Mn Se	Cu	BTEX	TRH & BTEX	PAH	OCP	PCB	OCP & PCB	OPP&PCB	OCP,OPP & PCB	Cyanide	VOC	Phenol	PFAS	TCLP LEAD	TCLP	Metals (Retest)
	TPDW4	0.5-0.8	8/02/2024	G		Sand	✔											✔												
47	DDS1		8/02/2024	G		Clay						✔																		
48	DDS2		8/02/2024	G		Clay						✔																		
49	DDS3		8/02/2024	G		Clay								✔																
50	RS1		8/02/2024		Vial+WG						✔																			
51	TS1		8/02/2024	Vial											✔															

Relinquished by			Received by		
Name	Signature	Date	Name	Signature	Date
ANWAR BARBHUYIA	A.B	12/02/2024	[illegible]	[illegible]	12/2 @ 3.40p

WG: Water sample (glass bottle) G Soil sample (glass jar) FCP Fibro Cement Piece (plastic bag)
WP: Water sample (plastic bottle) P Soil sample (plastic bag) ✔ Test required

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Contact	Anwar Barbhuyia
Client	Geotechnique
Address	P.O. Box 880 PENRITH NSW 2751
Telephone	02 4722 2700
Facsimile	02 4722 6161
Email	anwar@geotech.com.au
Project	**14985/3 Castle Hill**
Order Number	**14985/3**
Samples	51

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Mon 12/2/2024
Report Due	Mon 19/2/2024
SGS Reference	**SE260407**

SUBMISSION DETAILS

This is to confirm that 51 samples were received on Monday 12/2/2024. Results are expected to be ready by COB Monday 19/2/2024. Please quote SGS reference SE260407 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	50 Clay/Soil/Sand, 1 Water	Type of documentation received	COC
Date documentation received	12/2/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	10.0°C
Sample container provider	SGS	Turnaround time requested	Three Days/Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Phenolics in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	B1 0.0-0.1	31	-	-	-	-	-	-
002	B1 0.15-0.25	31	-	-	-	-	-	-
003	B2 0.0-0.1	30	27	11	-	10	11	7
004	B2 0.15-0.25	31	-	-	-	-	-	-
005	B3 0.0-0.1	30	27	11	-	10	11	7
006	B3 0.15-0.25	31	-	-	-	-	-	-
007	B4 0.0-0.1	30	27	11	-	10	11	7
008	B5 0.0-0.1	30	27	11	-	10	11	7
009	B5 0.15-0.25	31	-	-	-	-	-	-
010	B6 0.0-0.1	30	27	11	-	10	11	7
011	B6 0.15-0.25	31	-	-	-	-	-	-
012	B7 0.0-0.1	30	27	11	-	10	11	7
013	B8 0.1-0.2	30	27	11	-	10	11	7
014	B8 0.25-0.35	31	-	-	-	-	-	-
015	B9 0.0-0.1	31	-	-	-	-	-	-
016	B10 0.0-0.1	30	27	11	1	10	11	7
017	B10 0.35-0.45	31	-	-	-	-	-	-
018	B11 0.0-0.1	-	27	-	1	10	11	7
019	B12 0.0-0.1	30	27	11	1	10	11	7
020	B13 0.0-0.1	30	27	11	1	10	11	7
021	B13 0.35-0.45	31	-	-	-	-	-	-
022	B14 0.0-0.1	30	27	11	-	10	11	7
023	B15 0.0-0.1	31	-	-	-	-	-	-
024	B15 0.15-0.25	31	-	-	-	-	-	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	B16 0.0-0.1	30	27	11	10	11	7
032	SD1 0.0-0.15	30	27	11	10	11	7
033	SD2 0.0-0.15	30	27	11	10	11	7
034	SD3 0.0-0.15	30	27	11	10	11	7
035	SD4 0.0-0.15	30	27	11	10	11	7
036	SD5 0.0-0.15	30	27	11	10	11	7
037	SD6 0.0-0.15	30	27	11	10	11	7
038	SD7 0.0-0.15	30	27	11	10	11	7
039	SD8 0.0-0.15	30	27	11	10	11	7
040	TPDW1 0.0-0.15	30	27	11	10	11	7
041	TPDW1 0.5-0.8	31	-	-	-	-	-
042	TPDW2 0.0-0.15	30	27	11	10	11	7
043	TPDW2 0.5-0.8	31	-	-	-	-	-
044	TPDW3 0.0-0.15	30	27	11	10	11	7
045	TPDW3 0.5-0.8	31	-	-	-	-	-
046	TPDW4 0.0-0.15	30	27	11	10	11	7
047	DDS1	30	27	11	10	11	7
048	DDS2	30	27	11	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
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SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	VOC's in Soil
051	TS1	11

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
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SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	Mercury in Soil	Moisture Content	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste
001	B1 0.0-0.1	9	1	1	1	7
002	B1 0.15-0.25	9	1	1	1	7
003	B2 0.0-0.1	9	1	1	1	7
004	B2 0.15-0.25	9	1	1	1	7
005	B3 0.0-0.1	9	1	1	1	7
006	B3 0.15-0.25	9	1	1	1	7
007	B4 0.0-0.1	9	1	1	1	7
008	B5 0.0-0.1	9	1	1	1	7
009	B5 0.15-0.25	9	1	1	1	7
010	B6 0.0-0.1	9	1	1	1	7
011	B6 0.15-0.25	9	1	1	1	7
012	B7 0.0-0.1	9	1	1	1	7
013	B8 0.1-0.2	9	1	1	1	7
014	B8 0.25-0.35	9	1	1	1	7
015	B9 0.0-0.1	9	1	1	1	7
016	B10 0.0-0.1	9	1	1	1	7
017	B10 0.35-0.45	9	1	1	1	7
018	B11 0.0-0.1	9	1	1	1	7
019	B12 0.0-0.1	9	1	1	1	7
020	B13 0.0-0.1	9	1	1	1	7
021	B13 0.35-0.45	9	1	1	1	7
022	B14 0.0-0.1	9	1	1	1	7
023	B15 0.0-0.1	9	1	1	1	7
024	B15 0.15-0.25	9	1	1	1	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
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Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	Mercury in Soil	Moisture Content	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste
025	B16 0.0-0.1	9	1	1	1	7
027	TP23a 0.15-0.25	9	-	1	1	1
028	TP23-1 0.0-0.1	9	-	1	1	1
029	TP23-2 0.0-0.1	9	-	1	1	1
030	TP23-3 0.0-0.1	9	-	1	1	1
031	TP23-4 0.0-0.1	9	-	1	1	1
032	SD1 0.0-0.15	9	1	1	1	7
033	SD2 0.0-0.15	-	1	1	-	7
034	SD3 0.0-0.15	9	1	1	1	7
035	SD4 0.0-0.15	-	1	1	-	7
036	SD5 0.0-0.15	9	1	1	1	7
037	SD6 0.0-0.15	-	1	1	-	7
038	SD7 0.0-0.15	9	1	1	1	7
039	SD8 0.0-0.15	-	1	1	-	7
040	TPDW1 0.0-0.15	9	1	1	1	7
041	TPDW1 0.5-0.8	-	1	1	-	7
042	TPDW2 0.0-0.15	9	1	1	1	7
043	TPDW2 0.5-0.8	-	1	1	-	7
044	TPDW3 0.0-0.15	9	1	1	1	7
045	TPDW3 0.5-0.8	-	1	1	-	7
046	TPDW4 0.0-0.15	9	1	1	1	7
047	DDS1	-	1	1	-	7
048	DDS2	-	1	1	-	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content	Total Recoverable Elements in Soil/Waste
049	DDS3	1	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
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Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Metals in TCLP Extract by ICPOES	TCLP (Toxicity Characteristic Leaching
026	TP23a 0.0-0.1	1	6

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
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Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Metals in Water (Dissolved) by ICPOES	PAH (Polynuclear Aromatic Hydrocarbons) in Water	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
050	RS1	7	22	9	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE260407

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water
050	RS1	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

ANALYTICAL REPORT

CLIENT DETAILS

Contact	Anwar Barbhuyia
Client	Geotechnique
Address	P.O. Box 880 PENRITH NSW 2751
Telephone	02 4722 2700
Facsimile	02 4722 6161
Email	anwar@geotech.com.au
Project	**14985/3 Castle Hill**
Order Number	**14985/3**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE260316 R0**
Date Received	9/2/2024
Date Reported	14/2/2024

COMMENTS

Whilst SGS laboratories conform to ISO:17025 standards, results of analysis in this report fall outside of the current scope of NATA accreditation .

SIGNATORIES

Sample Subcontracted [] Tested: 14/2/2024

PARAMETER	UOM	LOR	SD1 SEDIMENT 0.0-0.15 8/2/2024 SE260316.001	SD2 SEDIMENT 0.0-0.15 8/2/2024 SE260316.002	SD3 SEDIMENT 0.0-0.15 8/2/2024 SE260316.003	SD4 SEDIMENT 0.0-0.15 8/2/2024 SE260316.004	SD5 SEDIMENT 0.0-0.15 8/2/2024 SE260316.005
Sample Subcontracted*	No unit	-	Subcontracted	Subcontracted	Subcontracted	Subcontracted	Subcontracted

PARAMETER	UOM	LOR	SD6 SEDIMENT 0.0-0.15 8/2/2024 SE260316.006	SD7 SEDIMENT 0.0-0.15 8/2/2024 SE260316.007	SD8 SEDIMENT 0.0-0.15 8/2/2024 SE260316.008
Sample Subcontracted*	No unit	-	Subcontracted	Subcontracted	Subcontracted

METHOD	METHODOLOGY SUMMARY

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
***	Indicates that both * and ** apply.	LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

STATEMENT OF QA/QC PERFORMANCE

SE260316 R0

CLIENT DETAILS

Contact	Anwar Barbhuyia
Client	Geotechnique
Address	P.O. Box 880 PENRITH NSW 2751
Telephone	02 4722 2700
Facsimile	02 4722 6161
Email	anwar@geotech.com.au
Project	**14985/3 Castle Hill**
Order Number	**14985/3**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE260316 R0**
Date Received	09 Feb 2024
Date Reported	14 Feb 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

SAMPLE SUMMARY

Sample counts by matrix	8 Sediment	Type of documentation received	COC
Date documentation received	9/2/2024	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	10°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE260316 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

No holding time data is available for this job.

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No surrogates were required for this job.

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No method blanks were required for this job.

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

No duplicates were required for this job.

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No laboratory control standards were required for this job.

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

MATRIX SPIKE DUPLICATES

SE260316 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

GEOTECHNIQUE PTY LTD

Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

Tel: (02) 4722 2700

P O Box 880
PENRITH NSW 2751

TO: SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

PH: 02 8594 0400

ATTN: MS EMILY YIN

Sampling By: JH

Ref No: 14985/3

Project Manager: AB

Location: Castle Hill

Results required by: Normal Turnaround Time Friday, 16 Februay 2024

Sampling details				Sample type										
Location	Depth (m)	Date	Time	Soil	Water	Faecal coliforms MPN per gram (dry wt)	E.coli MPN per gram (dry wt)	Salmonella sp						
SD1	0.0-0.15	8/02/2024		G		✔	✔	✔						
SD2	0.0-0.15	8/02/2024		G		✔	✔	✔						
SD3	0.0-0.15	8/02/2024		G		✔	✔	✔						
SD4	0.0-0.15	8/02/2024		G		✔	✔	✔						
SD5	0.0-0.15	8/02/2024		G		✔	✔	✔						
SD6	0.0-0.15	8/02/2024		G		✔	✔	✔						
SD7	0.0-0.15	8/02/2024		G		✔	✔	✔						
SD8	0.0-0.15	8/02/2024		G		✔	✔	✔						

SGS EHS Sydney COC
SE260316

Relinquished by			Received by		
Name	Signature	Date	Name	Signature	Date
ANWAR BARBHUYIA	A.B	9/02/2024			9/2/24 @ 12:45 pm

Legend:

WP Water sample (steriled plastic bottle) G Soil sample (glass jar) ✓ Test required

Form No 4.7F3-11 SGS

Symbio LABORATORIES

CERTIFICATE OF ANALYSIS

Certificate Number	S1467629 [R00]	**Page**	1/3
Client	SGS Environmental Services - Sydney	**Registering Laboratory**	Sydney
Contact	Tim Meeyan	**Contact**	Customer Service Team
Address	16/33 Maddox St Alexandria NSW 2015	**Address**	2 Sirius Rd, Lane Cove West, NSW 2066
		Email	admin@symbiolabs.com.au
Telephone	02 8594 0400	**Telephone**	1300 703 166
Order Number	50574582	**Date Samples Received**	09/02/2024 13:00
Project ID	Soil SE260316	**Date Analysis Commenced**	09/02/2024
Sampler	Customer	**Issue Date**	14/02/2024
Client Job Reference	SE260316	**Receipt Temperature (°C)**	8
No. of Samples Registered	8 | Sampler: Customer	**Storage Temperature (°C)**	4
Priority	Normal	**Quote Number**	---

Symbio LABORATORIES
quality solutions assured
ABN: 82 079 645 015

NATA
Accreditation No: 2455
Accredited for compliance with ISO/IEC 17025 - Testing

 If samples were provided by the customer, results apply only to the samples 'as received' and responsibility for representative sampling rests with the customer. Water results are reported on an 'as is' basis. Soil and sediment results are reported on a 'dry weight' basis. For other matrices the basis of reporting will be confirmed in the 'Report Comments' section. Measurement Uncertainty is available upon request. If the laboratory was authorised to conduct testing on samples received outside of the specified conditions, all test results may be impacted. Details of samples received outside of the specified conditions are mentioned in the sample description section of this test report.

Definitions

| <: Less Than | >: Greater Than | RP: Result Pending | MPN: Most Probable Number | CFU: Colony Forming Units | ---: Not Received/Not Requested | NA: Not Applicable | ND: Not Detected | LOR: Limit of Reporting | [NT]: Not Tested |

| ~: Estimated | ^ Subcontracted Analysis | TBA: To Be Advised | + Client Specified Limit | ** Potential Holding Time Concern | * Test not covered by NATA scope of accreditation | # Result derived from a calculation and includes results equal to or greater than the LOR |

Authorised By

Name	Position	Accreditation Category
Melissa Gan	Microbiology Laboratory Manager, Sydney	Environmental and Food Microbiology

Sample Information - *Client/Sampler Supplied*

Sample ID	S1467629/1	S1467629/2	S1467629/3	S1467629/4	S1467629/5
Sample Description	SE260316.001 SD1-1 0.0-0.15	SE260316.002 SD2-1 0.0-0.15	SE260316.003 SD3-1 0.0-0.15	SE260316.004 SD4-1 0.0-0.15	SE260316.005 SD5-1 0.0-0.15
Sample Date/Time	2024-02-08 00:00	2024-02-08 00:00	2024-02-08 00:00	2024-02-08 00:00	2024-02-08 00:00

Sample ID	S1467629/6	S1467629/7	S1467629/8
Sample Description	SE260316.006 SD6-1 0.0-0.15	SE260316.007 SD7-1 0.0-0.15	SE260316.008 SD8-1 0.0-0.15
Sample Date/Time	2024-02-08 00:00	2024-02-08 00:00	2024-02-08 00:00

Client	SGS Environmental Services - Sydney	**Project ID**	Soil SE260316
Certificate Number	S1467629 [R00]	**Sampler**	Customer
Page	2/3	**Order Number**	50574582

Symbio LABORATORIES
quality solutions assured

Analytical Results

Compound/Analyte	LOR	Limit Range+	Units	SE260316.001 SD1-1 0.0-0.15	SE260316.002 SD2-1 0.0-0.15	SE260316.003 SD3-1 0.0-0.15	SE260316.004 SD4-1 0.0-0.15	SE260316.005 SD5-1 0.0-0.15
Client Sample Description								
Client Sampling date/time				08/02/2024 00:00	08/02/2024 00:00	08/02/2024 00:00	08/02/2024 00:00	08/02/2024 00:00
				S1467629/1	S1467629/2	S1467629/3	S1467629/4	S1467629/5
				Results	Results	Results	Results	Results
M16.1 - Salmonella (AS 5013.10 - 2004)								
AS 5013.10								
Salmonella spp.	ND	<DETECTED	/25g	ND	ND	ND	ND	ND
M8.3 - Enumeration of Coliforms/TT Coliforms/E.coli by MPN (AS 5013.3-15)								
AS 5013.3 & AS 5013.15								
Thermotolerant Coliforms	3	---	MPN/g	15	9.2	11	<3	15
Escherichia coli	3	---	MPN/g	15	9.2	11	<3	15

Client	SGS Environmental Services - Sydney	**Project ID**	Soil SE260316
Certificate Number	S1467629 [R00]	**Sampler**	Customer
Page	3/3	**Order Number**	50574582

Analytical Results

				SE260316.006 SD6-1 0.0-0.15	SE260316.007 SD7-1 0.0-0.15	SE260316.008 SD8-1 0.0-0.15
			Client Sample Description			
			Client Sampling date/time	08/02/2024 00:00	08/02/2024 00:00	08/02/2024 00:00
Compound/Analyte	**LOR**	**Limit Range+**	**Units**	**S1467629/6**	**S1467629/7**	**S1467629/8**
				Results	**Results**	**Results**
M16.1 - Salmonella (AS 5013.10 - 2004)						
AS 5013.10						
Salmonella spp.	ND	<DETECTED	/25g	ND	ND	ND
M8.3 - Enumeration of Coliforms/TT Coliforms/E.coli by MPN (AS 5013.3-15)						
AS 5013.3 & AS 5013.15						
Thermotolerant Coliforms	3	---	MPN/g	240	<3	9.2
Escherichia coli	3	---	MPN/g	240	<3	9.2

Analysis Location

All in-house analysis was completed by Symbio Laboratories - Sydney.

HPC Holdings Pty Ltd trading as Symbio Alliance ABN 93 621 286 928
52 Brandl St (PO Box 4312) Email : admin@symbioalliance.com.au
Eight Mile Plains Qld 4113 ☎ 07 32190333 www.symbioalliance.com.au

Symbio ALLIANCE

CHAIN OF CUSTODY FORM

Customer:	SGS Sydney email:	Report Email:	au.environmental.sydney@sgs.com ph:
Address:	Unit 16, 33 Maddox St, Alexandria 2015	Send Invoice to: (if different from customer addrss:	
Contact:	Anwar Barbhuyia		
Project Id:	14985/3 Castle Hill		
Purchase Order:	50574582		
Sampled By:			
Phone No.			
Freight Co/Con Note			
Esky Condition:			
Sample Temp:			

Analyses Required / Comments

Sample Site		Date	Time	No. Jars	Total Coliforms	E coli MPN per gram	HPC M2.1W	Faecal Coliforms MPN per gram	Salmonella sp	Staphylococcus M18.6	Listeria M13.2						Comments
SE260316.001	SD1-1 0.0-0.15	8/02/2024		1		X		X	X								
SE260316.002	SD2-1 0.0-0.15	8/02/2024		1		X		X	X								
SE260316.003	SD3-1 0.0-0.15	8/02/2024		1		X		X	X								
SE260316.004	SD4-1 0.0-0.15	8/02/2024		1		X		X	X								
SE260316.005	SD5-1 0.0-0.15	8/02/2024		1		X		X	X								
SE260316.006	SD6-1 0.0-0.15	8/02/2024		1		X		X	X								
SE260316.007	SD7-1 0.0-0.15	8/02/2024		1		X		X	X								
SE260316.008	SD8-1 0.0-0.15	8/02/2024		1		X		X	X								

SGS Alexandria Environmental
SE260316 SUBCON
Received: 09 – Feb – 2024

Special Instructions:________________ Results required 16/2/2024

Geotechnique Pty Ltd
Lemko Place
Penrith NSW 2750

Relinquished By:	Date	Signa	Received By:	Date	Signature
Emily Yin	9/02/2024				
Relinquished By:	Date	Signa	Received By:	Date	Signature

Bottle Codes: B:Blue = unpreserved G:Green = Nitric Acidified Red:R = Sulfuric Acid P:Purple = Hydrochloric Acid White W = Sodium Hydroxic Page 1 of 1

9-2

82

SGS_SYDNEY
S1467629

SAMPLE RECEIPT ADVICE

SE260316

CLIENT DETAILS

Contact	Anwar Barbhuyia
Client	Geotechnique
Address	P.O. Box 880 PENRITH NSW 2751
Telephone	02 4722 2700
Facsimile	02 4722 6161
Email	anwar@geotech.com.au
Project	**14985/3 Castle Hill**
Order Number	**14985/3**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 9/2/2024
Report Due	Fri 16/2/2024
SGS Reference	**SE260316**

SUBMISSION DETAILS

This is to confirm that 8 samples were received on Friday 9/2/2024. Results are expected to be ready by COB Friday 16/2/2024. Please quote SGS reference SE260316 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	8 Sediment	Type of documentation received	COC
Date documentation received	9/2/2024	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	10°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

Analysis subcontracted to Symbio Laboratories, 2 Sirius Road, Lane Cove West NSW 2066, NATA Accreditation Number 2455.

SAMPLE RECEIPT ADVICE

SE260316

CLIENT DETAILS

Client Geotechnique

Project 14985/3 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Sample Subcontracted
001	SD1 0.0-0.15	1
002	SD2 0.0-0.15	1
003	SD3 0.0-0.15	1
004	SD4 0.0-0.15	1
005	SD5 0.0-0.15	1
006	SD6 0.0-0.15	1
007	SD7 0.0-0.15	1
008	SD8 0.0-0.15	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

HPC Holdings Pty Ltd trading as Symbio Alliance ABN 93 621 286 928
52 Brandl St (PO Box 4312) Email : admin@symbioalliance.com.au
Eight Mile Plains Qld 4113 07 32190333 *www.symbioalliance.com.au*

Symbio ALLIANCE

CHAIN OF CUSTODY FORM

Customer:	SGS Sydney email:	Report Email:	au.environmental.sydney@sgs.com ph:
Address:	Unit 16, 33 Maddox St, Alexandria 2015	Send Invoice to: (if different from customer addrss:	
Contact:	Anwar Barbhuyia		
Project Id:	14985/3 Castle Hill		
Purchase Order:	50574582	Analyses Required	Comments
Sampled By:			
Phone No.			
Freight Co/Con Note			
Esky Condition:			
Sample Temp:			

Sample Site		Date	Time	No. Jars	Total Coliforms	E.coli MPN per gram	HPC M2.1W	Faecal Coliforms MPN per gram	Salmonella sp	Staphylococcus M18.6	Listeria M13.2
SE260316.001	SD1-1 0.0-0.15	8/02/2024		1		X		X	X		
SE260316.002	SD2-1 0.0-0.15	8/02/2024		1		X		X	X		
SE260316.003	SD3-1 0.0-0.15	8/02/2024		1		X		X	X		
SE260316.004	SD4-1 0.0-0.15	8/02/2024		1		X		X	X		
SE260316.005	SD5-1 0.0-0.15	8/02/2024		1		X		X	X		
SE260316.006	SD6-1 0.0-0.15	8/02/2024		1		X		X	X		
SE260316.007	SD7-1 0.0-0.15	8/02/2024		1		X		X	X		
SE260316.008	SD8-1 0.0-0.15	8/02/2024		1		X		X	X		

SGS Alexandria Environmental
SE260316 SUBCON
Received: 09 – Feb – 2024

Special Instructions:_____ Results required 16/2/2024

Relinquished By:	Date	Signa	Received By:	Date	Signature
Emily Yin	9/02/2024				
Relinquished By:	Date	Signa	Received By:	Date	Signature

Geotechnique Pty Ltd
Lemko Place
Penrith NSW 2750

Bottle Codes: B:Blue = unpreserved G:Green = Nitric Acidified Red:R = Sulfuric Acid P:Purple = Hydrochloric Acid White W = Sodium Hydroxic Page __ of __

source:SE_Autoscan.pdf page:1 SGS Ref: SE260316_SUBCON

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET115550 / 118730 / 1 - 28
Your ref : 14985/3 - Pony Club Gilbert Road Castle Hill
NATA Accreditation No: 14484

15 February 2024

Geotechnique Pty Ltd
PO Box 880
Penrith NSW 2751

Accredited for compliance with ISO/IEC 17025 - Testing.

Attn: Mr Anwar Barbhuyia

Dear Anwar

Asbestos Identification
This report presents the results of twenty eight samples out of fourty eight samples, forwarded by Geotechnique Pty Ltd on 13 February 2024, for analysis for asbestos.

1.Introduction: Twenty eight samples out of fourty eight samples forwarded were examined and analysed for the presence of asbestos on 14 February 2024 and 15 February 2024.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the NEPM Guidelines).

3. Results :

Sample No. 1. ASET115550 / 118730 / 1. B1 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.5 cm
Approximate total dry weight of soil = 950.0g.
The sample consisted of a mixture of sandy soil, organic fibres, stones, fragments of clay, metal, sandstone and plant matter.
No asbestos detected.

Sample No. 2. ASET115550 / 118730 / 2. B2 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 14.4 cm
Approximate total dry weight of soil = 1444.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of glass, sandstone and plant matter.
No asbestos detected.

Sample No. 3. ASET115550 / 118730 / 3. B3 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.6 cm
Approximate total dry weight of soil = 1060.0g.
The sample consisted of a mixture of sandy soil, organic fibres, stones, sandstone and plant matter.
No asbestos detected.

Sample No. 4. ASET115550 / 118730 / 4. B5 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 11.0 cm
Approximate total dry weight of soil = 1095.0g.
The sample consisted of a mixture of sandy soil, organic fibres, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 5. ASET115550 / 118730 / 5. B6 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 11.0 cm
Approximate total dry weight of soil = 1104.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 6. ASET115550 / 118730 / 6. B7 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.6 cm
Approximate total dry weight of soil = 959.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of cement like material, sandstone and plant matter.
No asbestos detected.

Sample No. 7. ASET115550 / 118730 / 7. B8 - 0.1-0.2.
Approx dimensions 10.0 cm x 10.0 cm x 11.2 cm
Approximate total dry weight of soil = 1121.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 8. ASET115550 / 118730 / 8. B9 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.9 cm
Approximate total dry weight of soil = 1088.0g.
The sample consisted of a mixture of clayish sandy soil, stones, sandstone and plant matter.
No asbestos detected.

Sample No. 9. ASET115550 / 118730 / 9. B10 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 13.9 cm
The sample consisted of a mixture of sandy soil, stones, fragments of clay, fibre cement* (ACM), sandstone and plant matter.
Chrysotile* (Approximate estimated weight = 0.14g) asbestos, Amosite* (Approximate estimated weight = 0.03g) asbestos and Crocidolite* (Approximate estimated weight = 0.06g) asbestos detected.
Approximate total dry weight of ACM = 1.12g.
Approximate total dry weight of soil = 1391.0g.
Approximate estimated weight of asbestos in soil in the form of ACM = 0.23g. Approximate w/w percentage of asbestos in soil in the form of ACM = 0.02%.

Sample No. 10. ASET115550 / 118730 / 10. B12 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 11.2 cm
Approximate total dry weight of soil = 1116.0g.
The sample consisted of a mixture of sandy soil, stones, clay, sandstone and plant matter.
No asbestos detected.

Sample No. 11. ASET115550 / 118730 / 11. B13 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 11.7 cm
Approximate total dry weight of soil = 1169.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 12. ASET115550 / 118730 / 12. TP23a - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.6 cm
Approximate total dry weight of soil = 960.0g.
The sample consisted of a mixture of clayish sandy soil, stones, fragments of glass, plastic, sandstone and plant matter.
No asbestos detected.

Sample No. 13. ASET115550 / 118730 / 13. TP23-1 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.4 cm
Approximate total dry weight of soil = 939.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 14. ASET115550 / 118730 / 14. TP23-2 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.5 cm
Approximate total dry weight of soil = 950.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of cement like material, clay, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 15. ASET115550 / 118730 / 15. TP23-3 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.1 cm
Approximate total dry weight of soil = 1011.0g.
The sample consisted of a mixture of sandy soil, stones, clay, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 16. ASET115550 / 118730 / 16. TP23-4 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.8 cm
Approximate total dry weight of soil = 1080.0g.
The sample consisted of a mixture of sandy soil, organic fibres, stones, fragments of glass, sandstone and plant matter.
No asbestos detected.

Sample No. 17. ASET115550 / 118730 / 17. TP23-5 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.0 cm
Approximate total dry weight of soil = 997.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 18. ASET115550 / 118730 / 18. TP23-6 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.9 cm
Approximate total dry weight of soil = 1087.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone and plant matter.
No asbestos detected.

Sample No. 19. ASET115550 / 118730 / 19. TP23-7 – 0.0 – 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.1 cm
Approximate total dry weight of soil = 813.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of glass, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 20. ASET115550 / 118730 / 20. TP23-8 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 11.8 cm
The sample consisted of a mixture of sandy soil, stones, fragments of fibre cement* (ACM), glass, sandstone and plant matter.
Chrysotile* (Approximate estimated weight = 0.04g) asbestos, Amosite* (Approximate estimated weight = 0.01g) asbestos and Crocidolite* (Approximate estimated weight = 0.02g) asbestos detected.
Approximate total dry weight of ACM = 0.34g.
Approximate total dry weight of soil = 1182.0g.
Approximate estimated weight of asbestos in soil in the form of ACM = 0.07g.
Approximate w/w percentage of asbestos in soil in the form of ACM = 0.01%.

Sample No. 21. ASET115550 / 118730 / 21. TP23-9 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.4 cm
The sample consisted of a mixture of sandy soil, stones, fragments of fibre cement* (ACM), sandstone, wood chips and plant matter.
Chrysotile* (Approximate estimated weight = 0.09g) asbestos, Amosite* (Approximate estimated weight = 0.02g) asbestos and Crocidolite* (Approximate estimated weight = 0.04g) asbestos detected.
Approximate estimated weight as ACM = 0.72g.
Approximate total dry weight of soil = 1042.0g.
Approximate estimated weight of asbestos in soil in the form of ACM = 0.15g.
Approximate w/w percentage of asbestos in soil in the form of ACM = 0.01%.

Sample No. 22. ASET115550 / 118730 / 22. TP23-10 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.5 cm
Approximate total dry weight of soil = 1047.0g.
The sample consisted of a mixture of sandy soil, organic fibres, stones, fragments of cement like material, glass, wood chips and plant matter.
No asbestos detected.

Sample No. 23. ASET115550 / 118730 / 23. TP23-11 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 11.6 cm
Approximate total dry weight of soil = 1160.0g.
The sample consisted of a mixture of sandy soil, organic fibres, stones, sandstone and plant matter.
No asbestos detected.

Sample No. 24. ASET115550 / 118730 / 24. TP23-12 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 14.0 cm
Approximate total dry weight of soil = 1397.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 25. ASET115550 / 118730 / 25. TP26a - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.8 cm
Approximate total dry weight of soil = 1083.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone and plant matter.
No asbestos detected.

Sample No. 26. ASET115550 / 118730 / 26. TP26-1 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.1 cm
Approximate total dry weight of soil = 907.0g.
The sample consisted of a mixture of sandy soil, stones, clay, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 27. ASET115550 / 118730 / 27. TP26-2 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.5 cm
Approximate total dry weight of soil = 849.0g.
The sample consisted of a mixture of sandy soil, organic fibres, stones, sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 28. ASET115550 / 118730 / 28. TP26-3 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.1 cm
Approximate total dry weight of soil = 912.0g.
The sample consisted of a mixture of sandy soil, stones, sandstone and plant matter.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA

Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster, fragments of ACM smaller than 7mm which are considered as friable and / or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET115550 / 118730 / 29 – 48 out of 48
Your ref : 14985/3 – Pony Club Gilbert Road, Castle Hill
NATA Accreditation No: 14484

15 February 2024

Geotechnique Pty Ltd
1 Lemko Place
Penrith NSW 2750

Accredited for compliance with ISO/IEC 17025 - Testing.

Attn: Mr Anwar Barbhuyia

Dear Anwar

Asbestos Identification
This report presents the results of twenty samples out of forty eight samples, forwarded by Geotechnique Pty Ltd on 13 February 2024, for analysis for asbestos.

1.Introduction: Twenty samples out of forty eight samples forwarded were examined and analysed for the presence of asbestos on 14 February 2024.

2. Methods: The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the NEPM Guidelines.

3. Results :

Sample No. 29. ASET115550 / 118730 / 29. TP26-4 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.8 cm
Approximate total dry weight of soil = 705.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, woodchips, plant matter and organic fibres.
No asbestos detected.

Sample No. 30. ASET115550 / 118730 / 30. SD1 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 7.7 cm
Approximate total dry weight of soil = 930.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 31. ASET115550 / 118730 / 31. SD2 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 5.5 cm
Approximate total dry weight of soil = 653.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 32. ASET115550 / 118730 / 32. SD3 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 6.6 cm
Approximate total dry weight of soil = 784.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, woodchips, plant matter, animal matter and organic fibres.
No asbestos detected.

Sample No. 33. ASET115550 / 118730 / 33. SD4 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 6.7 cm
Approximate total dry weight of soil = 802.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Ω Sample No. 34. ASET115550 / 118730 / 34. SD5 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 4.0 cm
Approximate total dry weight of soil = 441.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 35. ASET115550 / 118730 / 35. SD6 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 5.3 cm
Approximate total dry weight of soil = 590.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter, animal matter and organic fibres.
No asbestos detected.

Sample No. 36. ASET115550 / 118730 / 36. SD7 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 562.0 g.
The sample consisted of a mixture of clayish soil, stone, sandstone, woodchips, plant matter, animal matter and organic fibres.
No asbestos detected.

Sample No. 37. ASET115550 / 118730 / 37. SD8 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 5.0 cm
Approximate total dry weight of soil = 562.0 g.
The sample consisted of a mixture of clayish soil, stone, sandstone, woodchips, plant matter, and organic fibres.
No asbestos detected.

Sample No. 38. ASET115550 / 118730 / 38. TPDW1 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 9.8 cm
Approximate total dry weight of soil = 1215.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 39. ASET115550 / 118730 / 39. TPDW1 - 0.5 - 0.8.
Approx dimensions 10.0 cm x 10.0 cm x 5.4 cm
Approximate total dry weight of soil = 642.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, woodchips, plant matter and organic fibres.
No asbestos detected.

Sample No. 40. ASET115550 / 118730 / 40. TPDW2 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 1019.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter, animal matter and organic fibres.
No asbestos detected.

Sample No. 41. ASET115550 / 118730 / 41. TPDW2 - 0.5 - 0.8.
Approx dimensions 10.0 cm x 10.0 cm x 7.2 cm
Approximate total dry weight of soil = 862.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, a piece of rubber-like material, plant matter and organic fibres.
No asbestos detected.

Sample No. 42. ASET115550 / 118730 / 42. TPDW3 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 7.1 cm
Approximate total dry weight of soil = 844.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, woodchips, a piece of glass, plant matter, animal matter and organic fibres.
No asbestos detected.

Sample No. 43. ASET115550 / 118730 / 43. TPDW3 - 0.5 - 0.8.
Approx dimensions 10.0 cm x 10.0 cm x 7.9 cm
Approximate total dry weight of soil = 952.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 44. ASET115550 / 118730 / 44. TPDW4 - 0.0 - 0.15.
Approx dimensions 10.0 cm x 10.0 cm x 9.7 cm
Approximate total dry weight of soil = 1206.0g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 45. ASET115550 / 118730 / 45. TPDW4 - 0.5 - 0.8.
Approx dimensions 10.0 cm x 10.0 cm x 8.6 cm
Approximate total dry weight of soil = 1113.0 g.
The sample consisted of a mixture of sandy soil, stone, sandstone, plant matter, animal matter and organic fibres.
No asbestos detected.

λ Sample No. 46. ASET115550 / 118730 / 46. FCPTP23a - 0.0 - 0.1.
Approx dimensions 4.0 cm x 3.3 cm x 0.4 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos detected.
Approximate total weight of fibre cement = 4.8 g

λ Sample No. 47. ASET115550 / 118730 / 47. FCPTP23-5 - 0.0 - 0.1.
Approx dimensions 6.4 cm x 5.5 cm x 0.4 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos, Amosite asbestos and Crocidolite asbestos detected.
Approximate total weight of fibre cement = 16.5 g

λ Sample No. 48. ASET115550 / 118730 / 48. FCPTP23-6 - 0.0 - 0.1.
Approx dimensions 12.0 cm x 8.0 cm x 0.5 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos and Amosite asbestos detected.
Approximate total weight of fibre cement = 66.0 g

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

NATA
WORLD RECOGNISED
ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster, fragments of ACM smaller than 7mm which are considered as friable and / or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
SUITE 710 / 90 GEORGE STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY WESTFIELD NSW 1635
PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: info@ausset.com.au

CHAIN OF CUSTODY RECORD

ASET JOB NO: ASET115550/118730/1-48				Contact Name:	ANWAR BARBHUYIA	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis
Name/ Company Name: Geotechnique				Job No:	14985/3							
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill							
				Purchase Order:								
Contact Ph: 0247222700				Email Results to:								
	Sample ID	Date	Type	Container	Sample Depth (m)							
1	B1	8/02/2024	Soil	P	0.0-0.1			V				
2	B2	8/02/2024	Soil	P	0.0-0.1			V				
3	B3	8/02/2024	Soil	P	0.0-0.1			V				
4	B5	8/02/2024	Soil	P	0.0-0.1			V				
5	B6	8/02/2024	Soil	P	0.0-0.1			V				
6	B7	8/02/2024	Soil	P	0.0-0.1			V				
7	B8	8/02/2024	Soil	P	0.1-0.2			V				
8	B9	8/02/2024	Soil	P	0.0-0.1			V				
9	B10	8/02/2024	Soil	P	0.0-0.1			V				
10	B12	8/02/2024	Soil	P	0.0-0.1			V				

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BY: AD

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PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: info@ausset.com.au

CHAIN OF CUSTODY RECORD

ASET JOB NO:				Contact Name:	ANWAR BARBHUYIA	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis
Name/ Company Name: Geotechnique				Job No:	14985/3							
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill							
				Purchase Order:								
Contact Ph: 0247222700				Email Results to:								
	Sample ID	Date	Type	Container	Sample Depth (m)							
11	B13	8/02/2024	Soil	P	0.0-0.1			√				
12	TP23a	8/02/2024	Soil	P	0.0-0.1			√				
13	TP23-1	8/02/2024	Soil	P	0.0-0.1			√				
14	TP23-2	8/02/2024	Soil	P	0.0-0.1			√				
15	TP23-3	8/02/2024	Soil	P	0.0-0.1			√				
16	TP23-4	8/02/2024	Soil	P	0.0-0.1			√				
17	TP23-5	8/02/2024	Soil	P	0.0-0.1			√				
18	TP23-6	8/02/2024	Soil	P	0.0-0.1			√				
19	TP23-7	8/02/2024	Soil	P	0.0-0.1			√				

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PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: info@ausset.com.au

CHAIN OF CUSTODY RECORD

ASET JOB NO:				Contact Name:	ANWAR BARBHUYIA	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis
Name/ Company Name: Geotechnique				Job No:	14985/3							
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill							
				Purchase Order:								
Contact Ph: 0247222700				Email Results to:								
	Sample ID	Date	Type	Container	Sample Depth (m)							
20	TP23-8	8/02/2024	Soil	P	0.0-0.1			√				
21	TP23-9	8/02/2024	Soil	P	0.0-0.1			√				
22	TP23-10	8/02/2024	Soil	P	0.0-0.1			√				
23	TP23-11	8/02/2024	Soil	P	0.0-0.1			√				
24	TP23-12	8/02/2024	Soil	P	0.0-0.1			√				
25	TP26a	8/02/2024	Soil	P	0.0-0.1			√				
26	TP26-1	8/02/2024	Soil	P	0.0-0.1			√				
27	TP26-2	8/02/2024	Soil	P	0.0-0.1			√				
28	TP26-3	8/02/2024	Soil	P	0.0-0.1			√				

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PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: info@ausset.com.au

CHAIN OF CUSTODY RECORD

ASET JOB NO:				Contact Name:	ANWAR BARBHUYIA	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis
Name/ Company Name: Geotechnique				Job No:	14985/3							
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill							
				Purchase Order:								
Contact Ph: 0247222700				Email Results to:								
	Sample ID	Date	Type	Container	Sample Depth (m)							
29	TP26-4	8/02/2024	Soil	P	0.0-0.1			√				
30	SD1	8/02/2024	Soil	P	0.0-0.15			√				
31	SD2	8/02/2024	Soil	P	0.0-0.15			√				
32	SD3	8/02/2024	Soil	P	0.0-0.15			√				
33	SD4	8/02/2024	Soil	P	0.0-0.15			√				
34	SD5	8/02/2024	Soil	P	0.0-0.15			√				
35	SD6	8/02/2024	Soil	P	0.0-0.15			√				
36	SD7	8/02/2024	Soil	P	0.0-0.15			√				
37	SD8	8/02/2024	Soil	P	0.0-0.15			√				

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CHAIN OF CUSTODY RECORD

ASET JOB NO:				Contact Name:	ANWAR BARBHUYIA	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis
Name/ Company Name: Geotechnique				Job No:	14985/3							
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill							
				Purchase Order:								
Contact Ph: 0247222700				Email Results to:								
	Sample ID	Date	Type	Container	Sample Depth (m)							
38	TPDW1	8/02/2024	Soil	P	0.0-0.15			√				
39	TPDW1	8/02/2024	Soil	P	0.5-0.8			√				
40	TPDW2	8/02/2024	Soil	P	0.0-0.15			√				
41	TPDW2	8/02/2024	Soil	P	0.5-0.8			√				
42	TPDW3	8/02/2024	Soil	P	0.0-0.15			√				
43	TPDW3	8/02/2024	Soil	P	0.5-0.8			√				
44	TPDW4	8/02/2024	Soil	P	0.0-0.15			√				
45	TPDW4	8/02/2024	Soil	P	0.5-0.8			√				
46	FCPTP23a	8/02/2024	Material	P	0.0-0.1	√						

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BY: AD

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
SUITE 710 / 90 GEORGE STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY WESTFIELD NSW 1635
PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: info@ausset.com.au

CHAIN OF CUSTODY RECORD

ASET JOB NO:				Contact Name:	ANWAR BARBHUYIA	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis
Name/ Company Name: Geotechnique				Job No:	14985/3							
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill							
				Purchase Order:								
Contact Ph: 0247222700				Email Results to:								
	Sample ID	Date	Type	Container	Sample Depth (m)							
47	FCPTP23-5	8/02/2024	Material	P	0.0-0.1	√						
48	FCPTP23-6	8/02/2024	Material	P	0.0-0.1	√						

Relinquished By:	ANWAR BARBHUYIA	Received By:	ANJALIKA .	Turn around time					Shipment Method
Date & Time:	13/02/2024	Date & Time:	2.40	Same Day	24 hrs	48 hrs	3 Days	5 days	
Signature: A.B		Signature:						√	

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BY: AD

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET116098 / 119278 / 1 – 11
Your ref : 14985/3 – Pony Club,Gilbert Road Castle Hill
NATA Accreditation No: 14484

6 March 2024

Geotechnique Pty Ltd
1 Lemko Place
Penrith NSW 2750

Accredited for compliance with ISO/IEC 17025 - Testing.

Attn: Mr Anwar Barbhuyia

Dear Anwar

Asbestos Identification
This report presents the results of eleven samples, forwarded by Geotechnique Pty Ltd on 1 March 2024, for analysis for asbestos.

1.Introduction: Eleven samples forwarded were examined and analysed for the presence of asbestos on 6 March 2024.

2. Methods: The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the NEPM Guidelines.

3. Results : **Sample No. 1. ASET116098 / 119278 / 1. B10 a - 0.0 - 0.1.**
Approx dimensions 10.0 cm x 10.0 cm x 6.9 cm
Approximate total dry weight of soil = 830.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 2. ASET116098 / 119278 / 2. B10 - 1 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 10.0 cm
Approximate total dry weight of soil = 1437.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, bitumen-like material, plant matter, animal matter and organic fibres.
No asbestos detected.

Sample No. 3. ASET116098 / 119278 / 3. B10 - 2 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.3 cm
Approximate total dry weight of soil = 1004.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 4. ASET116098 / 119278 / 4. B10 - 3 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.4 cm
Approximate total dry weight of soil = 1262.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, bitumen-like material, plant matter and organic fibres.
No asbestos detected.

Sample No. 5. ASET116098 / 119278 / 5. B10 - 4 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.9 cm
Approximate total dry weight of soil = 1316.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, plant matter, animal matter and organic fibres.
No asbestos detected.

Sample No. 6. ASET116098 / 119278 / 6. B17 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.3 cm
Approximate total dry weight of soil = 1137.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, a piece of glass, plant matter and organic fibres.
No asbestos detected.

Sample No. 7. ASET116098 / 119278 / 7. B17 - 1 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.1 cm
Approximate total dry weight of soil = 1107.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 8. ASET116098 / 119278 / 8. B17 - 2 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.8 cm
Approximate total dry weight of soil = 1306.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, glass pieces, paint flakes, plant matter and organic fibres.
No asbestos detected.

Sample No. 9. ASET116098 / 119278 / 9. B17 - 3 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 8.4 cm
Approximate total dry weight of soil = 1024.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, plant matter and organic fibres.
No asbestos detected.

Sample No. 10. ASET116098 / 119278 / 10. B17 - 4 - 0.0 - 0.1.
Approx dimensions 10.0 cm x 10.0 cm x 9.1 cm
Approximate total dry weight of soil = 1103.0 g.
The sample consisted of a mixture of clayish sandy soil, stone, sandstone, plant matter, animal matter and organic fibres.
No asbestos detected.

λ Sample No. 11. ASET116098 / 119278 / 11. FCP - B17 - Surface.
Approx dimensions 6.5 cm x 4.2 cm x 0.4 cm
The sample consisted of a fragment of a fibre cement material.
Chrysotile asbestos detected.
Approximate total weight of fibre cement = 19.3 g.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster, fragments of ACM smaller than 7mm which are considered as friable and / or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001% for friable AF and FA portions detected and 0.01 % for ACM detected unless the approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
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PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: info@ausset.com.au

CHAIN OF CUSTODY RECORD

ASET JOB NO: ASET116098/119278/1-11				Contact Name:	ANWAR BARBHUYIA	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis
Name/ Company Name: Geotechnique				Job No:	14985/3							
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill							
				Purchase Order:								
Contact Ph: 0247222700				Email Results to:								
	Sample ID	Date	Type	Container	Sample Depth (m)							
1	B10a	27/02/2024	Soil	P	0.0-0.1			√				
2	B10-1	27/02/2024	Soil	P	0.0-0.1			√				
3	B10-2	27/02/2024	Soil	P	0.0-0.1			√				
4	B10-3	27/02/2024	Soil	P	0.0-0.1			√				
5	B10-4	27/02/2024	Soil	P	0.0-0.1			√				
6	B17	27/02/2024	Soil	P	0.0-0.1			√				
7	B17-1	27/02/2024	Soil	P	0.0-0.1			√				
8	B17-2	27/02/2024	Soil	P	0.0-0.1			√				
9	B17-3	27/02/2024	Soil	P	0.0-0.1			√				

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BY: AD

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CHAIN OF CUSTODY RECORD

ASET JOB NO:				Contact Name:	ANWAR BARBHUYIA								
Name/ Company Name: Geotechnique				Job No:	14985/3								
Address: 1 Lemko Place Penrith				Project Address:	Pony Club, Gilbert Road, Castle Hill								
				Purchase Order:									
Contact Ph: 0247222700				Email Results to:									
	Sample ID	Date	Type	Container	Sample Depth (m)	Asbestos in Material	Asbestos in Soil (+/-)	Asbestos WA/ NEPM 500mL	Asbestos Fibre Count	Asbestos in Water	Asbestos in Dust	Lead Analysis	
10	B17-4	27/02/2024	Soil	P	0.0-0.1			√					
11	FCP-B17	27/02/2024	Material	P	Surface	√							
Relinquished By:		ANWAR BARBHUYIA			Received By:	Turn around time						Shipment Method	
Date & Time:		28/02/2024			Date & Time:	Same Day	24 hrs	48 hrs	3 Days	5 days			
Signature: A.B					Signature:					√			

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01 MAR 2024
BY: AD

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
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www.envirolab.com.au

CERTIFICATE OF ANALYSIS 343701

Client Details

Client	Geotechnique Pty Ltd
Attention	Anwar Barbhuyia
Address	PO Box 880, Penrith, NSW, 2751

Sample Details

Your Reference	**14985/3, Castle Hill**
Number of Samples	5 Soil
Date samples received	12/02/2024
Date completed instructions received	12/02/2024

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	19/02/2024
Date of Issue	19/02/2024

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

Results Approved By
Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Steven Luong, Senior Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		343701-1	343701-2
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		08/02/2024	08/02/2024
Type of sample		Soil	Soil
Date extracted	-	14/02/2024	14/02/2024
Date analysed	-	19/02/2024	19/02/2024
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	%	85	81

svTRH (C10-C40) in Soil			
Our Reference		343701-1	343701-2
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		08/02/2024	08/02/2024
Type of sample		Soil	Soil
Date extracted	-	14/02/2024	14/02/2024
Date analysed	-	16/02/2024	16/02/2024
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	%	74	71

PAHs in Soil			
Our Reference		343701-1	343701-2
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		08/02/2024	08/02/2024
Type of sample		Soil	Soil
Date extracted	-	14/02/2024	14/02/2024
Date analysed	-	15/02/2024	15/02/2024
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	%	88	89

Organochlorine Pesticides in soil			
Our Reference		343701-1	343701-2
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		08/02/2024	08/02/2024
Type of sample		Soil	Soil
Date extracted	-	14/02/2024	14/02/2024
Date analysed	-	15/02/2024	15/02/2024
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	%	90	92

Organophosphorus Pesticides in Soil		
Our Reference		343701-2
Your Reference	UNITS	DSS2
Depth		-
Date Sampled		08/02/2024
Type of sample		Soil
Date extracted	-	14/02/2024
Date analysed	-	15/02/2024
Dichlorvos	mg/kg	<0.1
Mevinphos	mg/kg	<0.1
Phorate	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Disulfoton	mg/kg	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1
Parathion-Methyl	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Fenthion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Methidathion	mg/kg	<0.1
Fenamiphos	mg/kg	<0.1
Ethion	mg/kg	<0.1
Phosalone	mg/kg	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1
Coumaphos	mg/kg	<0.1
Surrogate 4-Chloro-3-NBTF	%	92

PCBs in Soil			
Our Reference		343701-1	343701-2
Your Reference	UNITS	DSS1	DSS2
Depth		-	-
Date Sampled		08/02/2024	08/02/2024
Type of sample		Soil	Soil
Date extracted	-	14/02/2024	14/02/2024
Date analysed	-	15/02/2024	15/02/2024
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	%	88	88

Acid Extractable metals in soil				
Our Reference		343701-1	343701-2	343701-3
Your Reference	UNITS	DSS1	DSS2	DSS3
Depth		-	-	-
Date Sampled		08/02/2024	08/02/2024	08/02/2024
Type of sample		Soil	Soil	Soil
Date prepared	-	15/02/2024	15/02/2024	15/02/2024
Date analysed	-	18/02/2024	18/02/2024	18/02/2024
Arsenic	mg/kg	8	9	[NA]
Cadmium	mg/kg	<0.4	<0.4	[NA]
Chromium	mg/kg	27	24	[NA]
Copper	mg/kg	4	<1	34
Lead	mg/kg	17	13	[NA]
Mercury	mg/kg	<0.1	<0.1	[NA]
Nickel	mg/kg	3	2	[NA]
Zinc	mg/kg	7	20	[NA]

Moisture				
Our Reference		343701-1	343701-2	343701-3
Your Reference	UNITS	DSS1	DSS2	DSS3
Depth		-	-	-
Date Sampled		08/02/2024	08/02/2024	08/02/2024
Type of sample		Soil	Soil	Soil
Date prepared	-	14/02/2024	14/02/2024	14/02/2024
Date analysed	-	15/02/2024	15/02/2024	15/02/2024
Moisture	%	13	9.7	10

Coal Tar			
Our Reference		343701-4	343701-5
Your Reference	UNITS	B5	B8
Depth		0.0-0.1	0.0-0.1
Date Sampled		08/02/2024	08/02/2024
Type of sample		Soil	Soil
Date prepared	-	13/02/2024	13/02/2024
Date analysed	-	13/02/2024	13/02/2024
Presence of Coal Tar*	-	Absent	Absent

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-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.
RTA T542	Determination of Phenol in core samples as per RTA test method T542. This procedure gives and indication of whether a sample of asphalt has been made with coal tar. The coal tar method gives an approximate result with a high degree of uncertainty.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			14/02/2024	[NT]	[NT]	[NT]	[NT]	14/02/2024	[NT]
Date analysed	-			19/02/2024	[NT]	[NT]	[NT]	[NT]	19/02/2024	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	93	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	93	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	94	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	93	[NT]	[NT]	[NT]	[NT]	89	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			14/02/2024	[NT]	[NT]	[NT]	[NT]	14/02/2024	[NT]
Date analysed	-			16/02/2024	[NT]	[NT]	[NT]	[NT]	16/02/2024	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	101	[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]	101	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	79	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			14/02/2024	[NT]	[NT]	[NT]	[NT]	14/02/2024	[NT]
Date analysed	-			15/02/2024	[NT]	[NT]	[NT]	[NT]	15/02/2024	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	[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]	118	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[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]	126	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	[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]	96	[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]	108	[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	99	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			14/02/2024	[NT]	[NT]	[NT]	[NT]	14/02/2024	[NT]
Date analysed	-			15/02/2024	[NT]	[NT]	[NT]	[NT]	15/02/2024	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	112	[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]	114	[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]	112	[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]	94	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	112	[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]	120	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	126	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	116	[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]	108	[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]	110	[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	100	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			14/02/2024	[NT]	[NT]	[NT]	[NT]	14/02/2024	[NT]
Date analysed	-			15/02/2024	[NT]	[NT]	[NT]	[NT]	15/02/2024	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	138	[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]	118	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Malathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	[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]	114	[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]	100	[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	100	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			14/02/2024	[NT]	[NT]	[NT]	[NT]	14/02/2024	[NT]
Date analysed	-			15/02/2024	[NT]	[NT]	[NT]	[NT]	15/02/2024	[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]	117	[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	98	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date prepared	-			15/02/2024	[NT]	[NT]	[NT]	[NT]	15/02/2024	[NT]
Date analysed	-			18/02/2024	[NT]	[NT]	[NT]	[NT]	18/02/2024	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	115	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	114	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	117	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	121	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	114	[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.

COC updated: 13/02/24, 1016

#343701

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

CHAIN OF CUSTODY

Results Required By: Normal Turnaround **Date: Tuesday, 20 February 2024**

Except pH Results Required By [redacted] **Date:**

Your Reference No.:

TO: ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067

Sampled By: JH/KB
Project Manager: ANWAR BARBHUYIA

Ref No: 14985/3
Location: Castle Hill

Location	Depth (m)	Date	Soil	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	TRH & BTEX	PAH	OCP	OP	PCB	COPPER	CYANIDE	COMBO NO	PFAS (extended)	TCLP PFAS (water–routine level, short) (PFOS+PFHxS, PFOA)	COAL TAR (RTA Test Method T542)2
DSS1		8/02/2024	G		✓	✓	✓	✓		✓			5			
DSS2		8/02/2024	G		✓	✓	✓	✓	✓	✓			6			
DSS3		8/02/2024	G								✓					
B5	0.0-0.1	8/02/2024		P												✓
B8	0.0-0.1	8/02/2024		P												✓

Relinquished by			Received by			
Name	Signature	Date	Name	Signature	Date	
ANWAR BARBHUYIA	A.B	12/02/2024	Sarah P	Sa	12/02/24	

G Soil sample (glass jar) FCP Fibro Cement Piece (plastic bag) PFASC PFAS Container *: As,Cd,Cr,Cu,Pb,Hg,Ni & Zn (8 metals)

P Bitumen sample (plastic bag) ✓ Test required

updated COC. 12/2/24, 1628

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 343701

Date Received: 12/2/24
Time Received: 1620
Received By: JN
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

GEOTECHNIQUE PTY LTD

1 LEMKO PLACE PENRITH NSW 2750

CHAIN OF CUSTODY

Results Required By: Normal Turnaround **Date:** **Monday, 19 February 2024**
Except pH Results Required By [redacted] **Date:**
Your Reference No.:

TO: ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067

Sampled By: JH/KB
Project Manager: ANWAR BARBHUYIA

Ref No: 14985/3
Location: Castle Hill

	Location	Depth (m)	Date	Soil	Material	Metals As Cd Cr Cu Pb Hg Ni Zn	TRH & BTEX	PAH	OCP	OP	PCB	COPPER	CYANIDE	COMBO NO	PFAS (extended)	TCLP PFAS (water–routine level, short) (PFOS+PFHxS, PFOA)	COAL TAR (RTA Test Method T542)2
1	DSS1		8/02/2024	G		✓	✓	✓	✓		✓			5			
2	DSS2		8/02/2024	G		✓	✓	✓	✓	✓	✓			6			
3	DSS3		8/02/2024	G								✓					
4	B5	0.0-0.1	8/02/2024		P												✓

Relinquished by			Received by			
Name	Signature	Date	Name	Signature	Date	
ANWAR BARBHUYIA	A.B	12/02/2024	JENNA		12/2/24	

G	Soil sample (glass jar)	FCP	Fibro Cement Piece (plastic bag)	PFASC	PFAS Container	*: As,Cd,Cr,Cu,Pb,Hg,Ni & Zn (8 metals)
P	Bitumen sample (plastic bag)	✓	Test required			

5 B8 (extra sample)

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	Geotechnique Pty Ltd
Attention	Anwar Barbhuyia

Sample Login Details

Your reference	14985/3, Castle Hill
Envirolab Reference	343701
Date Sample Received	12/02/2024
Date Instructions Received	12/02/2024
Date Results Expected to be Reported	19/02/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	11
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Sample #5- B8: received extra.

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	Coal Tar
DSS1	✓	✓	✓	✓		✓	✓	
DSS2	✓	✓	✓	✓	✓	✓	✓	
DSS3							✓	
B5-0.0-0.1								✓
B8-0.0-0.1								✓

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

Additional Info

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

APPENDIX C

UNEXPECTED FINDS MANAGEMENT PROTOCOL

GEOTECHNIQUE® PTY LTD

ABN 64 002 841 063

UNEXPECTED FINDS MANAGEMENT PROTOCOL

Lot 224 in DP752020
GILBERT ROAD, CASTLE HILL

In the event that unexpected finds and/or suspect materials (identified by unusual staining, odour, discolouration or inclusions such as building rubble, asbestos sheeting/pieces/pipes, ash material, imported fill, etc.) are encountered during future earthworks/site preparation or in between sampling locations, the following actions are to be undertaken.

Management of unexpected finds and/or suspect materials
If unexpected finds and/or suspect materials are encountered:

- Works are to be ceased.
- An environmental consultant is to be engaged to take appropriate sampling and testing of contaminants of potential concern at a nominated rate in accordance with current NSW EPA guidelines.
- If contamination is identified, the contaminated materials must be disposed of at an EPA licensed landfill facility with an appropriate waste classification.

Management of bonded asbestos containing material (ACM)
If ACM is encountered, the following measures are to be implemented:

- Engage a Class B licensed bonded asbestos contractor.
- Removal of the asbestos waste must be carried out in accordance with the requirements of the regulators, such as SafeWork NSW and NSW EPA.
- Competent personnel or a SafeWork NSW Licensed Asbestos Assessor or a Professional Hygienist should be engaged to provide a clearance certificate.

Management of friable asbestos within the soil
It is recommended that the following measures are implemented if friable asbestos is encountered:

- Engage a Class A licensed contractor for friable asbestos
- Removal of the asbestos waste must be carried out in accordance with the requirements of the regulators, such as SafeWork NSW and NSW EPA
- A SafeWork NSW Licensed Asbestos Assessor or a Professional Hygienist must be engaged to provide a clearance certificate

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APPENDIX D

ENVIRONMENTAL NOTES

IMPORTANT INFORMATION REGARDING YOUR ENVIRONMENTAL SITE ASSESSMENT

These notes have been prepared by Geotechnique Pty Ltd, using guidelines prepared by the ASFE (Associated Soil and Foundation Engineers). The notes are offered to assist in the interpretation of your environmental site assessment report.

REASONS FOR AN ENVIRONMENTAL ASSESSMENT

Environmental site assessments are typically, though not exclusively, performed in the following circumstances:

- As a pre-acquisition assessment on behalf of either a purchaser or a vendor, when a property is to be sold
- As a pre-development assessment, when a property or area of land is to be redeveloped, or the land use has changed e.g. from a factory to a residential subdivision
- As a pre-development assessment of greenfield sites, to establish baseline conditions and assess environmental, geological and hydrological constraints to the development of e.g. a landfill
- As an audit of the environmental effects of previous and present site usage

Each circumstance requires a specific approach to the assessment of soil and groundwater contamination. In all cases the objective is to identify and if possible quantify the risks that unrecognised contamination poses to the ongoing proposed activity. Such risks may be both financial (clean-up costs or limitations in site use) and physical (health risks to site users or the public).

ENVIRONMENTAL SITE ASSESSMENT LIMITATIONS

Although information provided by an environmental site assessment can reduce exposure to the risk of the presence of contamination, no environmental site assessment can eliminate the risk. Even a rigorous professional assessment may not detect all contamination within a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which did not show signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant that may occur; only the most likely contaminants are screened.

AN ENVIRONMENTAL SITE ASSESSMENT REPORT IS BASED ON A UNIQUE SET OF PROJECT SPECIFIC FACTORS

In the following events and in order to avoid cost problems, you should ask your consultant to assess any changes in the conclusion and recommendations made in the assessment:

- When the nature of the proposed development is changed e.g. if a residential development is proposed, rather than a commercial development
- When the size or configuration of the proposed development is altered e.g. if a basement is added
- When the location or orientation of the proposed structure is modified
- When there is a change of land ownership, or
- For application to an adjacent site

ENVIRONMENTAL SITE ASSESSMENT FINDINGS ARE PROFESSIONAL ESTIMATES

Site assessment identifies actual sub-surface conditions only at those points where samples are taken, when they are taken. Data obtained from the sampling and subsequent laboratory analyses are interpreted by geologists, engineers or scientists and opinions are drawn about the overall sub-surface conditions, the nature and extent of contamination, the likely impact on any proposed development and appropriate remediation measures. Actual conditions may differ from those inferred, because no professional, no matter how qualified and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, however, steps can be taken to help minimise the impact. For this reason site owners should retain the services of their consultants throughout the development stages of the project in order to identify variances, conduct additional tests that may be necessary and to recommend solutions to problems encountered on site.

Soil and groundwater contamination is a field in which legislation and interpretation of legislation by government departments is changing rapidly. Whilst every attempt is made by Geotechnique Pty Ltd to be familiar with current policy, our interpretation of the investigation findings should not be taken to be that of the relevant authority. When approval from a statutory authority is required for a project, approval should be directly sought.

STABILITY OF SUB-SURFACE CONDITIONS

Sub-surface conditions can change by natural processes and site activities. As an environmental site assessment is based on conditions existing at the time of the investigation, project decisions should not be based on environmental site assessment data that may have been affected by time. The consultant should be requested to advise if additional tests are required.

ENVIRONMENTAL SITE ASSESSMENTS ARE PERFORMED FOR SPECIFIC PURPOSES AND CLIENTS

Environmental site assessments are prepared in response to a specific scope of work required to meet the specific needs of specific individuals e.g. an assessment prepared for a consulting civil engineer may not be adequate to a construction contractor or another consulting civil engineer.

An assessment should not be used by other persons for any purpose or by the client for a different purpose. No individual, other than the client, should apply an assessment, even for its intended purpose, without first conferring with the consultant. No person should apply an assessment for any purpose other than that originally contemplated, without first conferring with the consultant.

MISINTERPRETATION OF ENVIRONMENTAL SITE ASSESSMENTS

Costly problems can occur when design professionals develop plans based on misinterpretation of an environmental site assessment. In order to minimise problems, the environmental consultant should be retained to work with appropriate design professionals, to explain relevant findings and to review the adequacy of plans and specifications relative to contamination issues.

LOGS SHOULD NOT BE SEPARATED FROM THE REPORT

Borehole and test pit logs are prepared by environmental scientists, engineers or geologists, based upon interpretation of field conditions and laboratory evaluation of field samples. Logs are normally provided in our reports and these would not be redrawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problem, however, contractors can still misinterpret the logs during bid preparation if separated from the text of the assessment. Should this occur, delays and disputes, or unanticipated costs may result.

To reduce the likelihood of borehole and test pit log misinterpretation, the complete assessment should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of sub-surface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations, such as contractors.

READ RESPONSIBILITY CLAUSES CLOSELY

An environmental site assessment is based extensively on judgement and opinion; therefore, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. In order to aid in prevention of this problem, model clauses have been developed for use in written transmittals. These are definitive clauses, designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site assessment and you are encouraged to read them closely. Your consultant will be happy to give full and frank answers to any questions you may have.