Dirt Doctors

DETAILED SITE INVESTIGATION

46-66 & 46a O'CONNELL STREET,

CADDENS NSW

PREPARED FOR SIT FAMILY PACIFIC DEVELOPMENTS

DD DOCUMENT REFERENCE: DDE-759_1

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[redacted]

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DOCUMENT CONTROL

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Revision Register

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1	23/02/2021	Stage 2 Detailed Site Investigation: DDE-759_1

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Description

List of Abbreviations

A list of the common abbreviations used throughout this report is provided below.

ACM Asbestos Containing Material
AEC Area of Environmental Concern
AGST Above Ground Storage Tank
AHD Australian Height Datum
BGL Below ground level
CSM Conceptual site model
BTEX Benzene, toluene, ethylbenzene and xylenes
B(a)P Benzo(a)pyrene
CCA Copper Chromate Arsenate
COPC Contaminants of Potential Concern
DD Dirt Doctors Geotechnical Testing Services Pty Ltd
DEC NSW Department of Environment and Conservation
DECCW NSW Department of Environment, Climate Change and Water
DQI Data quality indicator
DQOs Data Quality Objectives
DWE NSW Department of Water and Energy
EPA NSW Environment Protection Authority
ESA Environmental Site Assessment
ha Hectare
HIL Health based investigation level
LOR Limit of Reporting
OEH Office of Environment and Heritage
PAHs Polycyclic aromatic hydrocarbons
PID Photo-ionisation Detector
PCB Polychlorinated Biphenyl
PQL Practical Quantitation Limit
QA/QC Quality Assurance/Quality Control
RPD Relative Percentage Difference
SAQP Sampling, Analysis and Quality Plan
TRH Total Recoverable Hydrocarbons (previously Total Petroleum Hydrocarbons)
TSS Total Suspended Solids
UST Underground Storage Tank
VOC Volatile Organic Compound

Executive Summary

This executive summary presents a synopsis of a Stage 2 Detailed Site Investigation (DSI), for 46-66 & 46a O'Connell Street, Kingswood NSW (the site). The site is currently vacant land. Multiple cleared areas were identified within site boundaries, formally onsite structure footprints.

The site is legally defined as Lot 2 in Deposited Plan 1217434, Lot 3 in Deposited Plan 1103503 and Lot 6 in Deposited Plan 593628 and is bounded by a TAFE campus to the north, vacant land to the east, commercial development and car park to the south and O'Connell Street followed by Western Sydney University Campus to the west. The site encompasses a total area of approximately 14,925m^2.

The object of the Detailed Site Investigation was to ascertain whether the site presents a risk to human health and/or the environment arising from any past/present activities at the site or neighboring properties from soil and groundwater contamination. Laboratory testing was undertaken to re-inforce the results of the desktop study. The scope of work included a documentary review, a site investigation, chemical analyses of twenty-five (25) soil samples excavated to a maximum of 1.0m below existing surface level, together with preparation of this report.

This investigation was requested by SIT Family Pacific Developments Pty Ltd to determine if the site is suitable for the proposed residential development in a 'standard residential with garden/accessible soil' ('A') setting.

The site historical review prepared by Dirt Doctors indicated the following areas of potential environmental concern:

- Potential importation of uncontrolled fill that may contain various contaminants; and
- Asbestos within potential imported fill material.

An intrusive soil investigation was conducted on the site, excavated at selected locations, with samples collected from the in-situ material in a systematic/judgmental based sampling method.

Twenty-five (25) soil samples were recovered from excavated test pit locations, and were sent to a NATA accredited laboratory for analysis. Test results revealed levels of heavy metals are below the adopted assessment criteria (HILs (A), EIL). Total Petroleum Hydrocarbons (TPH), Polycyclic Aromatic Hydrocarbons (PAH) recorded levels were below the acceptable criteria (ESL).

The results of the chemical analyses indicate that the site does not present a risk to human health or the environment in a 'standard residential' setting.

This report is a Detailed Site Contamination Investigation with laboratory testing undertaken. Whilst the samples collected indicated the site does not contain contamination at sampling locations above the adopted investigation criteria, it is possible that contaminated soils may be present between sampling locations.

The data quality objectives of the report have been fulfilled. Therefore, the findings of this report, and the results of the chemical analyses indicate the site is suitable for a 'standard residential with garden/accessible soil' ('A') setting, which is considered suitable for Residential properties with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools, and does not require any remediation works.

1.0 INTRODUCTION

1.1 Overview

Dirt Doctors Geotechnical Testing Services Pty Ltd (DD) have undertaken a Stage 2 Detailed Site Investigation (DSI) with laboratory testing and analysis as requested by SIT Family Pacific Developments Pty Ltd for the property; 46-66 & 46a O'Connell Street, Caddens NSW (the site).

Site works include assessment of current site conditions for proposed residential development, including laboratory analysis and intrusive investigations works.

The Investigation was requested by the client to determine the suitability of the site for proposed development and current land use, in accordance with the National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013.

1.2 Previous Investigations

DD were made aware that previous site investigations have been undertaken to identify the presence and extent of contaminants at the site and underlying soil/groundwater conditions. The aim of the investigations was to identify any potential contamination and, if identified, assess the potential impact on the environment, site inhabitants and surrounding area. The investigations undertaken are as follows:

- *A Preliminary Site Investigation* was prepared by APP Corporation (dated December 2019);
- *A Detailed Site investigation* was prepared by ERM (Ref No. S010439, dated 14th May 2020);
- *An Asbestos Clearance Certificate* was prepared by Dirt Doctors Pty Ltd (Ref No. DDE-759, dated 14th September 2020);

Review of previous site investigations determined the recommendations for contamination assessment are as follows:

- Removal of asbestos impacted stockpile SP6; and
- Assessment of soil within onsite structures, post-demolition of structures.

2.0 SCOPE OF WORK

The following scope of work was conducted by DD:

- Desktop study to assist in identification of potential contamination issues.
- Site Inspection by a representative from DD to ascertain current activities, and any visible signs of contamination.
- Excavation of test pits to determine the subsurface profile.
- Collection of soil samples and assessment of material collected.
- Chemical analysis of samples by a NATA accredited laboratory.
- Assessment of the results of the chemical analysis against the appropriate guidelines.
- Preparation of a Detailed Site Investigation Report detailing findings and recommendations in general accordance with:
  - The National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013 (NEMP ASC 2013); and
  - NSW Office of Environment and Heritage Guidelines for Consultants Reporting on Contaminated Sites (OEH 2011).

2.1 Objectives of the Investigation

The objectives of the investigation are as follows:

- To determine whether in-situ material meets National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013 criteria;
- If the samples obtained during the investigation or visible signs of contamination fail to meet the assessment criteria, provide guidance for remediation of impacted soils and groundwater.

This Detailed Site Investigation Report has been prepared to address the above objectives, with the following scope of work undertaken:

- Review of historical and previous investigation information relating to the site and surrounding area;
- Preparation of a CSM for the onsite material and subsequent material assessment;
- Identification of data gaps and data quality issues;
- Collection of soil samples to identify contamination, if present, and provide comment to the extent of the contamination;
- Preparation of the DQO and QA/QC documentation in accordance with NEPM (NEPC 2013) as required; and
- Design of a suitable investigation programme for the site assessment in accordance with NEPM (NEPC 2013).

3.0 SITE DESCRIPTION

The site is legally defined as Lot 2 in Deposited Plan 1217434, Lot 3 in Deposited Plan 1103503 and Lot 6 in Deposited Plan 593628 and is bounded by a TAFE campus to the north, vacant land to the east, commercial development and car park to the south and O'Connell Street followed by Western Sydney University Campus to the west. The site encompasses a total area of approximately 14,925m^2.

At the time of the site inspection, the following observations were made:

- The main access to the properties was along O'Connell Street;
- Exposed surface material assessed predominantly comprised vegetated clayey silt with some sand and gravel and silty sandy clay (fill).
- No staining, odours or signs of contamination of expose surface material was observed; and
- No potential Asbestos Containing Material (ACM) was observed.

3.1 Topography

The site area of investigation has an approximate average height of 61m above Australian Height Datum (AHD) and grades south west towards O'Connell Street.

3.2 Geology

The 1:100,000 scale Geological Series Map of the Penrith region indicates that the subject site is underlain by Triassic aged Bringelly Shale of the Wianamatta Group comprising of shale, carbonaceous claystone, claystone, laminate, fine to medium grained lithic sandstone, rare coal and tuff.

3.2.1 Subsurface Conditions

The underlying soil profile observed in test pit excavations predominantly comprised:

- 0.0m to 0.3m – gravelly clayey sand, fill
- 0.3m to 1.3m – silty clay with some gravel, brown (residual)

3.3 Hydrogeology

A review of Water NSW records for groundwater monitoring wells indicate no monitoring bores within the immediate vicinity of the site (500m). No groundwater monitoring was undertaken as part of this investigation. The direction of groundwater flow is expected to follow the surface topography and flow south west.

3.4 Surface Water Flows

Based on site topography, surface water flows would be expected to flow south west towards O'Connell Street.

3.5 Acid Sulfate Soils

NSW Office of Environment and Heritage eSPADE tool Acid sulfate soil risk maps indicate that the subject site is situated in a region with no known occurrence of acid sulfate soils. Due to the distance from areas suspected of ASS and the elevation of the site (>5m AHD) the subject site is not likely to be affected by ASS. Additionally, pH analysis confirms the absence of actual acid sulfate soils in material analysed and there were no visual signs of acid sulfate affected soils.

4.0 SITE HISTORY

In order to ascertain the site history, a documentary review of past and present land use at the subject site and the surrounding area has been undertaken. Review indicates that the site has been predominantly used for agricultural purposes and for rural residential use. Detailed site history information is presented in Appendix D, ERM DSI section 3.3.

4.1 Search of Contaminated Land Management Register (NSW EPA)

A search of the NSW EPA Contaminated Land Management record of notices for the Caddens area indicated no notices have been issued to the subject site. Furthermore, the listed sites on the register are situated at such a distance (greater than 200m), that they are not believed to have provided a potential contamination risk to the subject property.

4.2 Search of Protection of the Environment Operations Public Register (POEO) of Licensed and Delicensed Premises

A search of the POEO public register of licensed and delicensed premises (DECC) indicated the site is not listed and no licensed premises are within the immediate surrounding area of the site (within 200m). Furthermore, the listed sites on the register are situated at such a distance (greater than 200m), that they are not believed to have provided a potential contamination risk to the subject property.

4.3 Past Industrial Use

Historical review has indicated that the site and surrounding area has had minimal change, being early agricultural use and; following that, predominantly residential.

5.0 PRELIMINARY CONCEPTUAL SITE MODEL

5.1 Potential Sources of Contamination

Due to historical review of past use of the site, any potential contamination is likely to be within the top 1.0m of surface/fill material and within demolished structure footprints. Therefore, all samples are to be analysed in accordance with section 5.1.1 below.

Onsite Sources of Contamination:

- Potential soil contamination due to unidentified contaminants within the overlying soil and structure footprints.

5.1.1 Contaminants of Potential Concern (CoPC)

Contaminants of Potential Concern (CoPC) associated with the site are:

Heavy Metals, TPH, BTEX, PAH, OCPs, OPPs, PCBs, and Asbestos.

5.2 Potential Pathways

The pathways through which contaminants may reach receptors are in part dependent by the nature and behavior of the contaminant. Considering the potential contamination sources and the likely subsurface conditions to be encountered, the following potential pathways have been identified, taking into account the development plan:

- Direct dermal contact;
- Incidental ingestion;
- Inhalation of particulate matter (dust);
- Inhalation of vapours;
- Dissolution or suspension (leaching) from soils to groundwater;
- Ecological exposure to impacted soil and groundwater; and
- Ingestion of impacted biota (terrestrial or aquatic).

5.3 Receptors

The potential receptors for the contaminants of concern are:

- Site workers and visitors (acute / short term risks);
- Future site users (including residential and construction);
- Residents and land users near the site;
- Recipients receiving material transported from site;
- Groundwater;
- Surface water;
- Terrestrial ecology; and
- Aquatic ecology.

5.4 Preliminary Conceptual Model

The identified potential contaminant sources, pathways and receptors have been assessed to establish plausible pollutant linkages:

- Dermal contact with impacted soils from excavated material recipients;
- Dermal contact with impacted soils during construction by site workers;
- Dermal contact with impacted groundwater/surface water during construction by site workers;
- Incidental ingestion of impacted soils during construction by site workers;
- Incidental ingestion of impacted groundwater/surface water during construction by site workers;
- Inhalation of particulate matter (asbestos or contaminated soil) by future site users and from exported material recipients;
- Inhalation of particulate matter (asbestos or contaminated soil) during construction by site workers;
- Inhalation of volatile contaminant from soil/groundwater by future site users (indoor and outdoor) and from exported material recipients;
- Inhalation of volatile contaminant from soil/groundwater by site workers during construction (indoor and outdoor);
- Pollution of surface water and subsequent receiving water bodies could occur as a result of leachable contaminants impacting generated surface water. Based on site topography, surface water flows would be expected to flow in a north westerly direction.

In summary, a number of potential pollutant linkages are present, which require further assessment.

6.0 DATA GAP ANALYSIS

DD were not able to determine the source of the imported fill material, however; as the material is assessed as part of this investigation, the source of the material does not require additional investigation.

Previous Data Gaps raised include:

- Material beneath demolished structures- Material was assessed s part of this investigation and does not require additional investigation.
- ACM impacted SP6 stockpile- this material was removed from site and a clearance certificate provided confirming the successful removal.

7.0 DATA QUALITY OBJECTIVES

Data Quality Objectives (DQO) are qualitative and quantitative criteria that:

(a) Clarify study objectives.

(b) Define appropriate types of data to collect.

(c) Specify the tolerable levels of potential decision making errors.

The purpose of the DQO process is to ensure that the data collection activities are focused on:

(a) collecting the information needed to make decisions; and

(b) answering the relevant questions leading up to such decisions.

7.1 DQO Process

The DQO process is a seven-step iterative planning approach that is used to define the type, quantity and quality of data needed to inform decisions relating to the environmental condition of a site.

Step 1 – State The Problem

Step 1 comprises a summary new environmental data required and identifies the resources required resolve onsite contamination where encountered. From historical review, the problem at the site and the reason for the investigation, is the potential contamination as a results of past site use.

Additionally, as is the goal of the investigation, the analysis of sampled material is to determine if existing onsite material is suitable for the current land use and proposed development works.

Step 2 – Identify The Decision

This step comprises the identification of decisions that need to be made about the impact and the new environmental data required to make them.

- Has the site been adequately assessed, with sufficient information obtained from areas of potential contamination to make a decision of site suitability for the proposed land use;
- Does the onsite material contain levels of contaminants below the adopted assessment criteria;
- If contaminants are present in soil above the relevant guideline criteria does a complete source – exposure pathway – receptor link exist; and
- What further investigation or remediation works should be carried out to remove/manage the identified complete source – exposure pathway – receptor linkages?

Step 3 – Identify Inputs into The Decision

This step involves the identification of the information required to support any decision and whether any new environmental data will be required. Relevant inputs include:

- Relevant existing soil data from site assessments and investigations;
- New soil laboratory analytical data collected, field observations and measurements made during field work;
- Potential receptors impacted onsite and by offsite contamination migration;
- Exposure pathways for onsite and offsite contamination as a result of proposed site works;
- The contaminants of concern are as follows:
    - Petroleum Hydrocarbons (analysed as TRH);
    - Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX);
    - Polycyclic Aromatic Hydrocarbons (PAHs);
    - OCPs/OPPs (Pesticides);
    - Polychlorinated Biphenyls;
    - Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc; and
    - Asbestos.
- Adopted assessment criteria presented in the National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013 criteria relevant for the proposed site works are presented in Section 11.

Step 4 – Define the Study Boundaries

This step involves the spatial and temporal aspects of the environmental media that the data must represent to support the decision(s).

- Lateral – the physical site area of investigation boundaries at 46-66 & 46a O'Connell Street, Kingswood NSW (the site). The site is legally defined as Lot 2 in Deposited Plan 1217434, Lot 3 in Deposited Plan 1103503 and Lot 6 in Deposited Plan 59362846 NSW. The site is legally defined as Lot 2 in Deposited Plan 1087796 as shown on Figure 1.
- Vertical – based on the depth of excavations at the site (1.3mBGL), or as determined based upon visual/olfactory assessment of material;
- Temporal – The proposed assessment works involves the collection of discrete sampling at systematic/judgmentally based locations. As a result, it will be representative of a single moment in time and as such, will be subject to climatic and anthropogenic activities at the particular sampling location(s).

Step 5 – Develop The Decision Rule

This step comprises defining relevant parameters, specifying appropriate actions/methodology to be taken during site works and reporting procedures, and material analysis relating to material conformance.

A decision on the acceptance of the analytical data will be made on the basis of:

- Accuracy of analytical data obtained during onsite sampling;
- Accurate description of material sampled, including sample location and sample number identified within reports;
- That data is representative of material analysed;
- Inclusion of chain of custody documents and laboratory data from NATA accredited laboratories;
- Confirmation that test report and analytical data from samples obtained comply with test methods, requirements and sampling procedures; and
- Completeness of the amount of useable data from data collection activity.

To conclude the decision, the assessment decision rules must be met. The results of sampling and analysis of soil must meet the following criteria:

- National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013
- The calculated 95% Upper Confidence Level value (95%UCL) for material analysed do not identify concentrations in excess of the adopted assessment criteria;

Step 6 – Specify Limits on Decision Errors

This step involves specifying the decision-maker's acceptable limits on decision errors.

The acceptable limits on decision errors to be applied in the investigation have been developed based on Data Quality Indicators of precision, accuracy, representativeness, comparability and completeness in accordance with the National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013.

In determining if data supplied has met the requirements of section 9.0, the following will be assessed:

- Document completeness in accordance with section 9.0;
- Samples are collected in accordance with relevant procedures and by appropriately qualified personnel;
- The calculated 95% Upper Confidence Level value (95%UCL) for COPCs concentrations in analysed samples to remain onsite, should not exceed the adopted assessment criteria;
- No single analytical result for a COPC in material to remain onsite should exceed the adopted assessment criteria;
- Dataset standard deviation is to be less than half adopted assessment criteria value;
- Test reports are to comply with test methods, requirements and sampling procedures defined in NEPM.
- Review of laboratory QA/QC data to confirm suitability of analytical data supplied; and
- Inconsistencies and/or non-conformances with approved test methods, including but not limited to material preparation and sampling, sample handling and holding times or any other input that may affect the outcome conformance with the site contamination assessment is to be documented and the processor notified, with corrective action taken as appropriate.

Step 7 – Optimize the Field Project Design

The optimized program for the fieldwork for obtaining suitable data to meet the DQO is achieved by the following:

- Only competent experienced environmental consultants are to undertake field investigations and validation assessment;
- Only NATA accredited laboratories are to be used in obtaining data from samples collected;
- Evaluation of laboratory Data Quality Indicators to assess reliability of data;
- Appropriate QA/QC samples collected in accordance with the National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013;
- Recommend a RAP be prepared in the event of unexpected finds or new contaminants are identified.

8.0 FIELDWORK PROGRAMME

8.1 Pre-Approved Planning

Staff attending site are to be familiar with relevant assessment criteria to provide guidance on correct procedures relating to the assessment, analysis and classification of onsite material as part of investigation works.

8.2 Site Inspection

A site walkover inspection of the entire site where available was undertaken as part of the fieldwork programme. The walkover assessment was to identify:

- Any evidence of contamination identified from past site use;
- Any asbestos containing materials which may be present on surface/exposed material, as a result of contaminated fill material; and
- Any other non-conformance which will prevent the site conforming with the National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013.

8.3 SOIL SAMPLING PROGRAMME

8.3.1 Sample Requirements

Sampling was carried out in accordance with AS4482.1-2005 Guide to the Sampling and Investigation of Potentially Contaminated Soil. Hand equipment was used for sample excavation within the overlying surface material and an excavator and hand equipment to collect samples at lower depths, with excavated material assessed by the environmental consultant in accordance with section 8.3.5 below.

8.3.2 Sample Pattern

Sample locations were selected on a systematic/judgmental based sampling pattern to ensure representative assessment of the in-situ material. If contamination, whether by staining, odours or visual indicators was observed, samples were to be targeted in the identified area to adequately document any contaminants above the adopted assessment criteria.

8.3.3 Sample Depth

Samples were collected 0.2m from surface sample points and 0.5m from underlying material, assuming the in-situ material was homogeneous. If the material was not homogeneous, additional samples were to be collected as determined by the sampling environmental consultant.

8.3.4 Field Screening

Field screening of samples was carried out by a combination of olfactory and visual contamination indications such as odours, staining or the presence of asbestos etc. A representative amount of each soil sample was placed into a zip lock plastic bag and the headspace analysed using a photo-ionisation detector (PID) to detect the presence of volatile organic compounds (VOCs BTEX).

8.3.5 Method of Sample Collection

Samples were collected in accordance with AS4482.1-2005 Guide to the Sampling and Investigation of Potentially Contaminated Soil. Care was taken to ensure that representative samples were obtained and that the integrity was maintained, particularly when dealing with potentially volatile or semi-volatile compounds. Specific sampling procedures for each method of collection are provided below in following sections.

8.3.6 Sample Collection

Samples were collected using either a decontaminated stainless steel trowel or by using new nitrile gloves for each sample and placing the soil directly into laboratory supplied containers.

8.3.7 Decontamination Procedures

Sampling equipment, such as trowels, was decontaminated between sampling events using the following procedure:

1) Soil is removed from the trowel by scrubbing with a brush
2) The trowel is washed with phosphate free detergent in a bucket
3) The trowel is then rinsed in distilled water in another bucket
4) Steps 2 and 3 are to be repeated
5) The trowel is then dried with a clean disposable towel

8.3.8 Sample Containers

Soil sample containers comprised glass jars with Teflon lined lids, supplied by the laboratory, with asbestos samples placed into asbestos grade zip-lock bags. The containers were labelled with the unique project job number and unique sample number.

8.3.9 Method of Sample Storage and Handling

The samples were immediately placed in a cooler to keep the samples below a temperature of approximately 4^0C. At the end of each day, the samples in the cooler were transported to the laboratory. If sampling times didn't allow immediate transport to the laboratory, samples were transferred into a designated fridge to maintain the desired sample temperature.

8.3.10 Sample Logging and QA/QC Data

A log and description of samples collected was completed during fieldwork by a qualified environmental consultant. The log recorded the following data:

- Sample number and location;
- Sample conformance in accordance with NEPM;
- Time and date of sampling; and
- Sampler details.

All samples were classified in the field based on soil/groundwater. Characteristics and obvious signs of contamination, such as discolouration or odour were documented on the sample log where applicable.

All samples were transported to the laboratory under Chain-of Custody (COC) procedures and maintained in an ice-filled cooler. The following details were recorded on the COC form:

- Site identification;
- The sampler;
- Nature of the sample;
- Collection time and date; and
- Analyses to be performed;

9 QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM (QA/QC)

The field sampling is to be undertaken by a suitably qualified environmental consultant, familiar with the National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013.

Quality Assurance and Quality Control methodology is detailed in:

- Australian Standard AS4482.1:2005 – Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil. Part 1: Non-volatile and Semi-Volatile Compounds;
- Australian Standard AS4482.2:1999 – Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances.

9.1 FIELD QA/QC PROGRAMME

Field QA/QC consists of the application of documented quality work procedures and the associated receipt of submitted samples.

9.1.1 Field Sampling

The environmental samples collected for the investigation programme are representative samples of soil collected for analysis. Environmental samples are the original samples taken from a particular location. Field QA/QC samples were collected as part of the sampling plan in accordance with NEPM.

9.2 Reporting Requirements and Record Keeping

The site owner must:

- Keep a record of site investigations;
- Keep all test results supplied, whether conforming or non-conforming to the relevant assessment criteria;
- Document details of where potential excavated and exported material was supplied, such as the name and address of the person supplied to or registration details of vehicles transporting the material.

9.3 LABORATORY QA / QC PROGRAMME

The reliability of test results from the analytical laboratories will be monitored according to the QA/QC procedures used by the NATA accredited laboratory. The QA/QC programme employed by the NATA registered laboratories specifies sample tracking procedures, methods of extraction, analysis, practical quantitation limit (PQLs) and Limit of Reporting (LOR) for results. Laboratory QA/QC procedures adopted by the laboratories used in this investigation are summarised below.

9.3.1 Laboratory Duplicate Samples

Internal laboratory duplicates provide data on analytical precision for supplied samples. This is done in order to ensure reliability of data obtained and to provide comment on suitability of analytical data supplied and subsequent material classification.

9.3.2 Laboratory Control Samples

Laboratory control samples consist of a clean matrix (de-ionised water or clean sand) spiked with a known concentration of the analyte being measured. These samples monitor method recovery in clean samples and can also be used to evaluate matrix interference by comparison with matrix spikes. Laboratory control samples may be certified reference materials.

9.3.3 Surrogates

For organic analyses, a surrogate is added to environmental samples at the extraction stage in order to verify method effectiveness. The surrogate is then analysed with the batch of samples. Percent recovery is calculated.

9.3.4 Matrix Spike

A matrix spikes consist of samples spiked with a known concentration of the analyte being measured, in order to identify properties of the matrix that may hinder method effectiveness. Samples are spiked with concentrations equivalent to 5 to 10 times the PQL. Percent recovery is calculated.

Table 2 – RPDs

Laboratory	QC Type	QC Outliners Occur	QC Acceptance Criteria
SGS	Laboratory Blanks	No	Achieved
SGS	Laboratory Duplicates	No	Achieved
SGS	Matrix Spikes	No	Achieved
SGS	Surrogate Spikes	No	Achieved

If RPDs are in excess of 30%, the higher concentration is adopted as a conservative measure to identify any contamination present onsite.

9.3.5 Laboratory Accreditation

SGS Australia Pty Ltd are accredited by the National Association of Testing Authorities (NATA) for the analysis carried out and are also accredited for compliance with ISO/IEC 17025.

9.3.6 Sample Holding Times

The holding times for samples at SGS presented in the table below, along with the allowable holding time, detailed in Schedule B (3) of the National Environment Protection (Assessment of Site Contamination) Measure (NEPM, 2013). Holding times are summarised as follows:

- Heavy Metals- 6 months
- TPH, PAH, BTEX- 14 days
- Mercury- 28 days
- VOCs- 14 days

Table 3 – Holding Times

Laboratory	Analyte	Date Sampled	Date Received	Date of Extraction/ Analysis	Holding Time	Allowable Holding Time
SGS	Metals	05-02-21	08-02-21	09-02-21	4 days	6 months*
SGS	Total Petroleum Hydrocarbons (TPH), PAH, BTEX	05-02-21	08-02-21	09-02-21	4 days	14 days

Note 1: (*) Metals excludes Mercury which has a holding time of 28 days.
Note 2: The soil sample analyses were conducted within the relevant allowable holding time.

9.3.7 Analytical Methods Used and Practical Quantitation Limits

The analytical methods and practical quantitation limits (PQL)/level of reporting (LOR) used by SGS are indicated on the test certificates located in Appendix B.

10.0 QUALITY ASSESSMENT AND QUALITY CONTROL DATA EVALUATION

Quality Assessment and Quality Control have been achieved through the following procedures.

10.1 Document Completeness

- Preparation of chain of custody records
- Laboratory confirmation of receipt of intact samples and relevant chain of custody
- Laboratory provision of NATA accredited results certificates

10.2 Data Completeness

- Analysis of contaminants of concern
- Duplicate and split samples within RPD recommended by NEPM

10.3 Data Representativeness

This is achieved by the following:

- Representative sampling of potential contaminants based on the site history and site activities
- Adequate laboratory internal QA and QC methods complying with NEPM

10.4 Data Comparability

- Use of consistent sampling personnel and methodologies
- Use of NATA accredited laboratories
- Use of consistent test methods between selected laboratories
- Use of consistent test methods between samples
- Acceptable RPD between original samples and duplicate and split sample results.

10.5 Data Precision and Accuracy

- The use of NATA accredited laboratories – a requirement of which is adequately trained and experienced staff.
- The use of appropriate and validated laboratory test methods.
- Acceptable laboratory performance based on results of blank, matrix spike, control, duplicate and surrogate samples.

10.6 Data Evaluation

Field spike and blank samples were not analysed due to laboratory constraints, however; based on the above information regarding quality assurance and quality control, it is considered that the quality objectives for field procedures and laboratory results are reliable for this assessment.

Table 4 – Data Evaluation Summary

Data Quality Objectives	Field Considerations	Laboratory Considerations	QC Acceptance Criteria
Completeness	Achieved	Achieved	Achieved
Comparability	Achieved	Achieved	Achieved
Representativeness	Achieved	Achieved	Achieved
Precision	Achieved	Achieved	Achieved
Accuracy	Achieved	Achieved	Achieved

11.0 BASIS FOR ASSESSMENT CRITERIA

Site assessment criteria has been derived from The National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013 and CRC Care Technical Report 39. Additionally, Schedule B1 of NEPM documents the acceptance criteria for asbestos in soil (section 4.7 and 4.8).

The HIL and HSL have been adopted in accordance with NEPM, and are:

- HIL-A – residential with garden accessible soil;
- HSL- A – residential with garden accessible soil;
- Management Limits for TPH; and
- EIL- urban/residential

Table 5 – Basis of Assessment

Contaminant	Assessment Criteria (mg/kg)				Guidelines
	Health Based Investigation Level (HIL'A')	Ecological Investigation Levels (EIL's)	Ecological Screening Levels (ESL) mg/kg	Groundwater Investigation Levels (GIL) µg/L	
Inorganics					
(Heavy Metals)					
Arsenic (total)	100	100		13	NEPM (2013)
Cadmium	20	3		0.2	NEPM (2013)
Chromium (VI)	100	410		1	NEPM (2013)
Copper	6000	130		1.3	NEPM (2013)
Lead	300	1100		4.4	NEPM (2013)
Mercury	40	-		0.06	NEPM (2013)
Nickel	400	80		7	NEPM (2013)
Zinc	7400	280		15	NEPM (2013)
Organics					
TPH					
C^6-C^{10}/C^{10}-C^{16}	180/130		120/1300		NSW EPA, DECC
Benzene	0.5		65		2009 & NEPM
Toulene	160		105		(2013)
Ethylbenzene	55		125		NEPM (2013)
Xylene	40		45		NEPM (2013)
Phenol	3000				NEPM (2013)
PAH	300				NEPM (2013)
OCP					NEPM (2013)
Aldrin +					NEPM (2013)
Dieldrin	6				NEPM (2013)
Chlordane	50				NEPM (2013)
Heptachlor	6				
DDD+DDE+DDT	240				
OPP					See Note (a)
Diazinon	-				See Note (a)
Ethion	-				See Note (a)
Fenitrothion	-				
PCB	1				
Asbestos	0.001%	-	-		NEPM (2013)
Cyanide	250				NEPM (2013)

11.1 Classification for Offsite Disposal

All wastes, if required, will be assessed in accordance with the POEO Act (1997). Material being disposed offsite at a landfill facility will be assessed in accordance with EPA Waste Classification Guidelines 2014.

Materials for re-use offsite, will be assessed against either:

- Resource recovery orders issued by EPA under the *Protection of the Environment Operations (Waste) Regulation* 2014; and/or
- Guidance on assessment of virgin excavated natural material (VENM), as per the POEO Act, EPA (2014) and the NSW EPA web site.

12.0 LABORATORY TEST RESULTS

Test results are tabulated and presented below (Tables 6, and 7) along with the relevant assessment criteria. Laboratory test certificates are located in Appendix B

Table 6 – Analysis Solid Samples collected

Contaminant	Maximum Concentration mg/kg	Health Based Investigation Levels HIL 'A' mg/kg	Ecological Investigation/ Screening Levels mg/kg	Absolute Maximum Analyte Criteria ENM Order 2014 mg/kg	95% Upper Confidence Limit (UCL)
Arsenic	19	100	100	40	7.37
Cadmium	<0.3	20	3	1	<0.3
Chromium	30	100	410	150	21.17
Lead	31	300	1100	100	17.48
Mercury	2.8	40	-	1	0.35
Nickel	34	400	80	60	25.56
Zinc	97	7400	280	300	66.14
Copper	33	6000	130	200	28.48
Benzene	<0.1	0.5	-	0.5	<0.1
Toluene	<0.1	160	-	65	<0.1
Xylenes (total)	<0.3	55	-	NA	<0.3
Benzo(a) Pyrene	<0.1	3	33	1	<0.1
Polynuclear Aromatic Hydrocarbons (PAH's)	<0.8	300	-	40	<0.8
Petroleum Hydrocarbon Components – C6-10	<25	180	-	NA	<25
Petroleum Hydrocarbon Components – C10-16	<25	130	-	500	<25
Pentachlorophenol	<2	100	-	-	<2
Total Cresol	<1.5	400	-	-	<1.5
Aldrin + Dieldrin	<0.2	6	-	-	<0.2
Chlordane	<0.1	50	-	-	<0.1
Heptachlor	<0.1	6	-	-	<0.1
DDD+DDE+DDT	<0.1	240	-	-	<0.1

Table 7: Asbestos Test Results

Sample ID/Location	Asbestos Detected	Type of Asbestos
E1-E25	No	NA

12.1 Heavy Metals

Heavy metal concentrations for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc are presented in Table 6. The soil concentrations of all metals were compared to the relevant assessment criteria (HILs A). Metal concentrations were within the HILs A and site assessment criteria, hence heavy metal levels on site are considered acceptable at the adopted exposure settings.

12.2 Total Petroleum Hydrocarbons (TPH), Polycyclic Aromatic Hydrocarbons (PAH) and BTEX

The TPH, PAH and BTEX concentrations, presented in Table 6, recorded levels below the acceptable relevant assessment criteria adopted. Therefore, the TPH, PAH and BTEX concentrations, present in the soil layers are not considered likely to pose a risk to human health or the environment at the adopted exposure setting.

12.3 Asbestos Test Results

The Asbestos test results are presented in Table 7. No asbestos was detected within samples obtained from site, hence indicating the site is not contaminated with asbestos.

13.0 SITE CHARACTERISATION

As can be seen in the previous Section 12.0 (Laboratory Test Results), the samples analyzed revealed levels below the adopted acceptance criteria and indicates the site poses no threat to human health and/or the environment and is suitable for the proposed development.

14.0 ONGOING SITE MONITORING

DD investigation did not identify contamination or potential contaminating activities that require additional ongoing site monitoring,

15.0 CONCLUSION AND RECOMMENDATIONS

The conclusion of this Stage 2 Detailed Site Investigation is as follows:

- Objectives in section 2.0 have been achieved.
- The results of the chemical analyses for the soils on site have indicated no contamination is present.
- The data quality objectives of the report have been fulfilled.

Based on the scope of works undertaken, Dirt Doctors are of the opinion that the contaminants identified within areas assessed at the site pose no risk to human health and/or the environment for the exposure setting; 'standard residential with garden/accessible soil' ('A') which is considered suitable for Residential properties with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools.

This report was carried out in accordance with current NSW EPA guidelines, however, it is possible that contaminated soils may be present between sampling locations.

16.0 Limitations

DD has performed its services for this project in accordance with current industry codes and practices. When assessing the nature and extent of contamination, this type of investigation (as per our commission) is not designed or capable of locating all ground conditions, (which can vary even over short distances).

The advice given in this report is based on the assumption that the test results are representative of the overall ground conditions. However, it should be noted that actual conditions in some parts of the site might differ from those found. If excavations reveal ground conditions significantly different from those shown in our findings, DD must be consulted.

The actual presence of contaminated material at the site may potentially differ from that referred to or inferred herein, since no sampling program, no matter how complete, can reveal all anomalies and hot spots that may be present. Furthermore, our opinions and judgments expressed herein, which are based on our analysis of current industry codes and practices, should not be interpreted as legal opinions.

The scope and the period of DD services are described in the report and are subject to restrictions and limitations. DD did not perform a complete assessment of all possible conditions or circumstances that may exist at the Site. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by DD in regards to it. Where data has been supplied by the client or a third party, it is assumed that the information is correct unless otherwise stated. No responsibility is accepted by DD for incomplete or inaccurate data supplied by others.

Any drawings or figures presented in this report should be considered only as pictorial evidence of our work. Therefore, unless otherwise stated, any dimensions should not be used for accurate calculations or dimensioning.

Should you have any queries, please do not hesitate to contact the undersigned.

For and on behalf of
Dirt Doctors Pty Ltd

M.Tofler
Principal
LAA001351

References

Contaminated Sites – Guidelines for Assessing Service Stations. NSW Environment Protection Authority (EPA) 1994

Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites. NSW Environment Protection Authority (EPA) 2011.

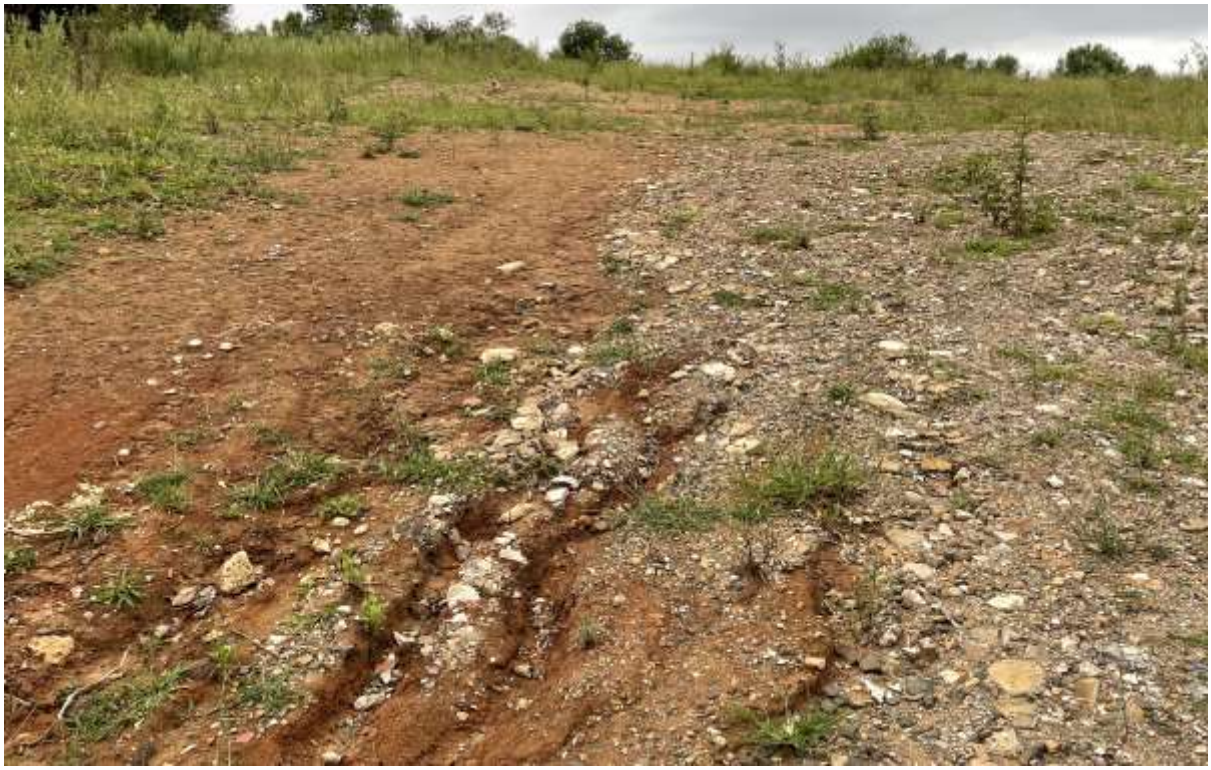
Contaminated Sites – Sampling Design Guidelines. NSW Environment Protection Authority (EPA) 1995

National Environment Protection (Assessment of Site Contamination) Measure – National Environmental Protection Council 2013.

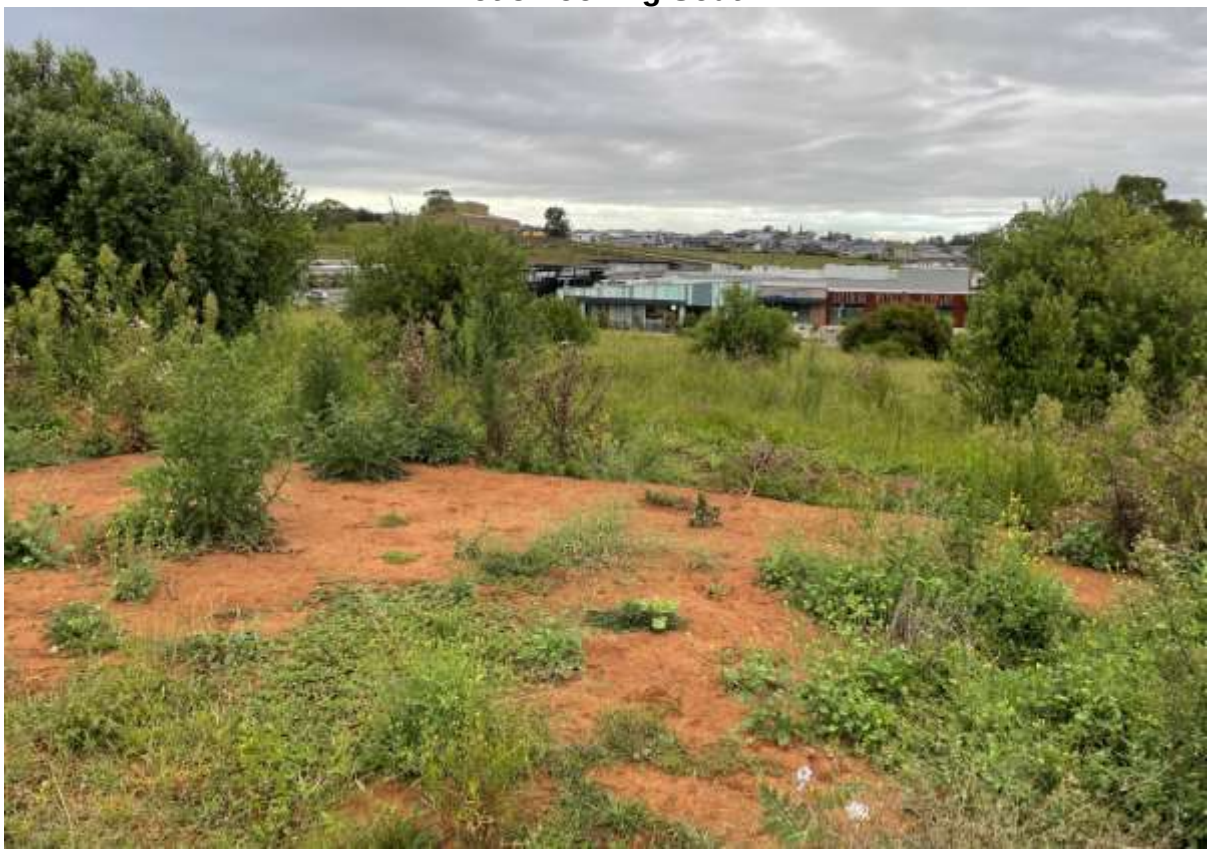
A Guide to Regional Groundwater Flow in Fractured Rock Aquifers published by CSIRO 2003.

AS4482.1-2005 Guide to the Sampling and Investigation of Potentially Contaminated Soil Part 1

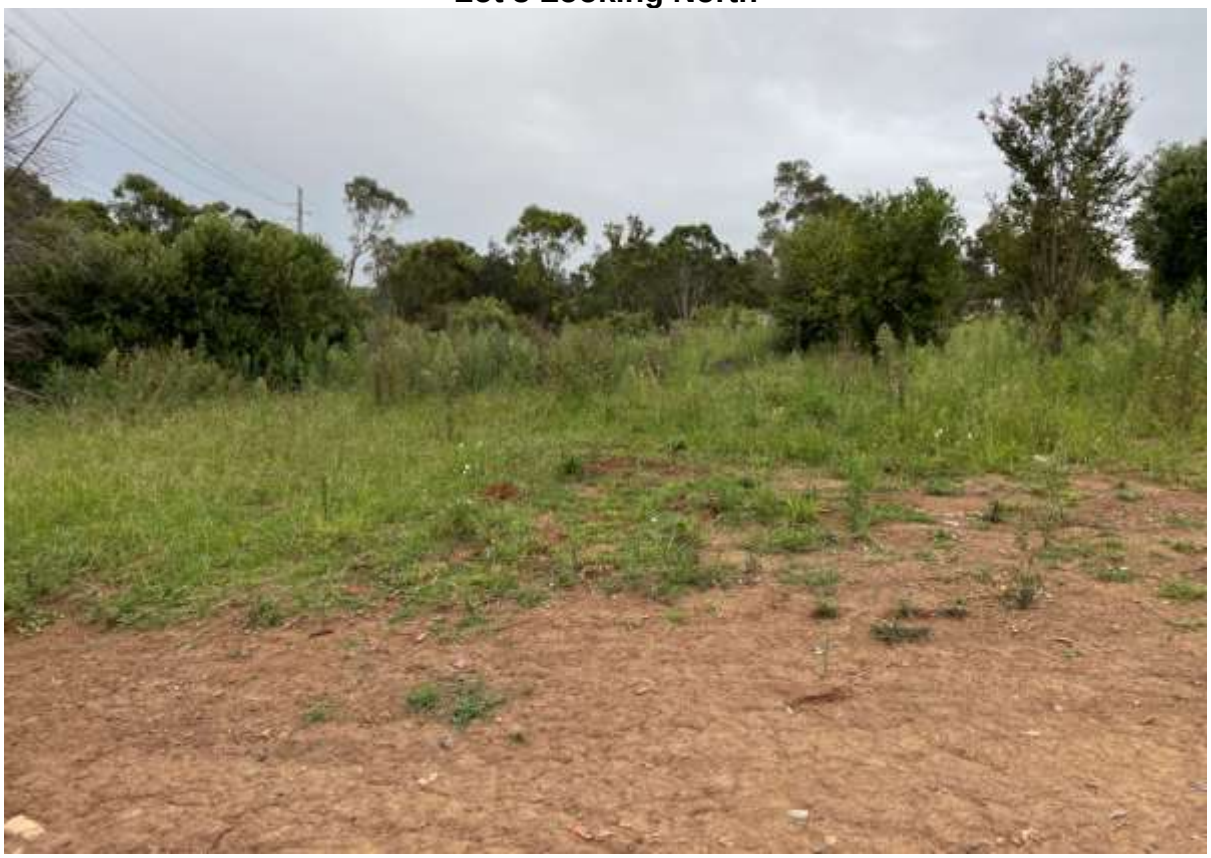
Lot 3 Viewed from O'Connell Street



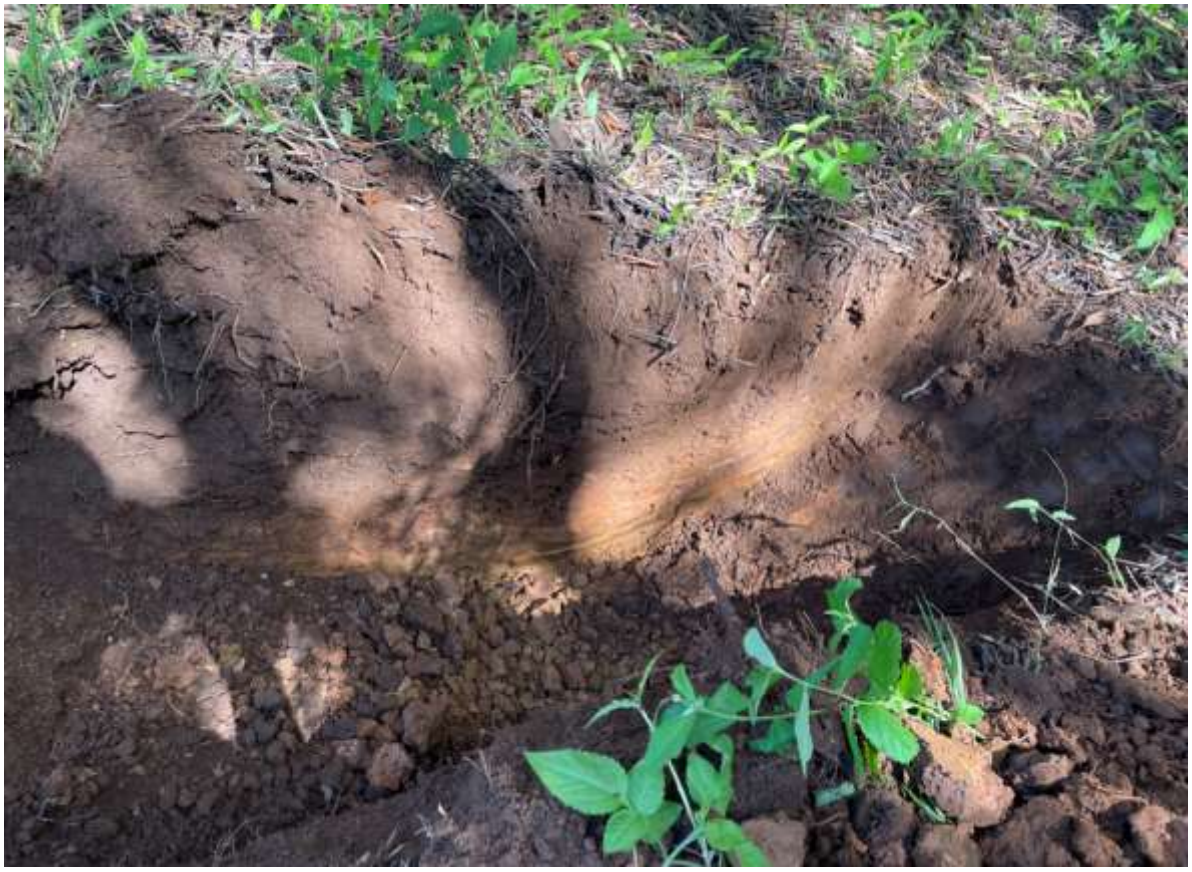
Lot 3 Looking South



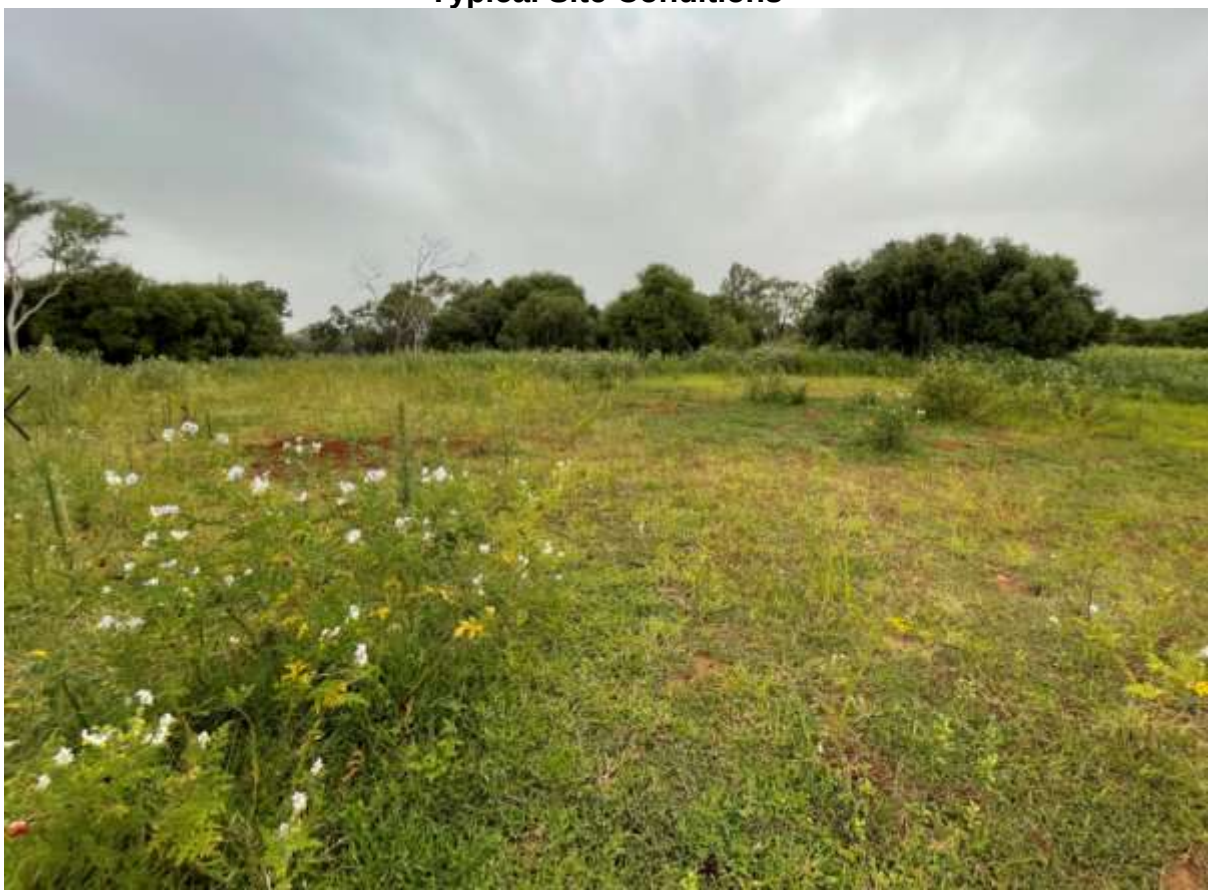
Lot 3 Looking North

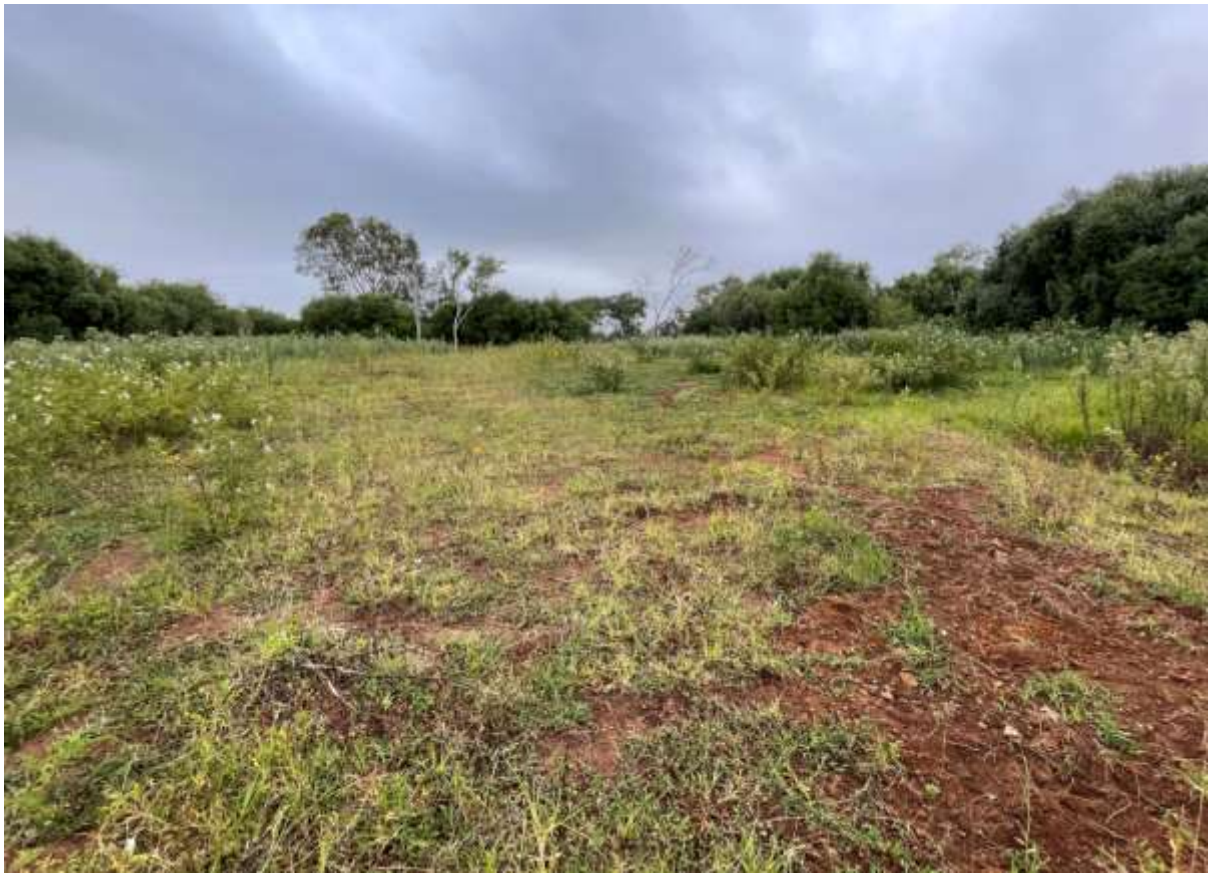


Typical Soil Profile



Typical Site Conditions

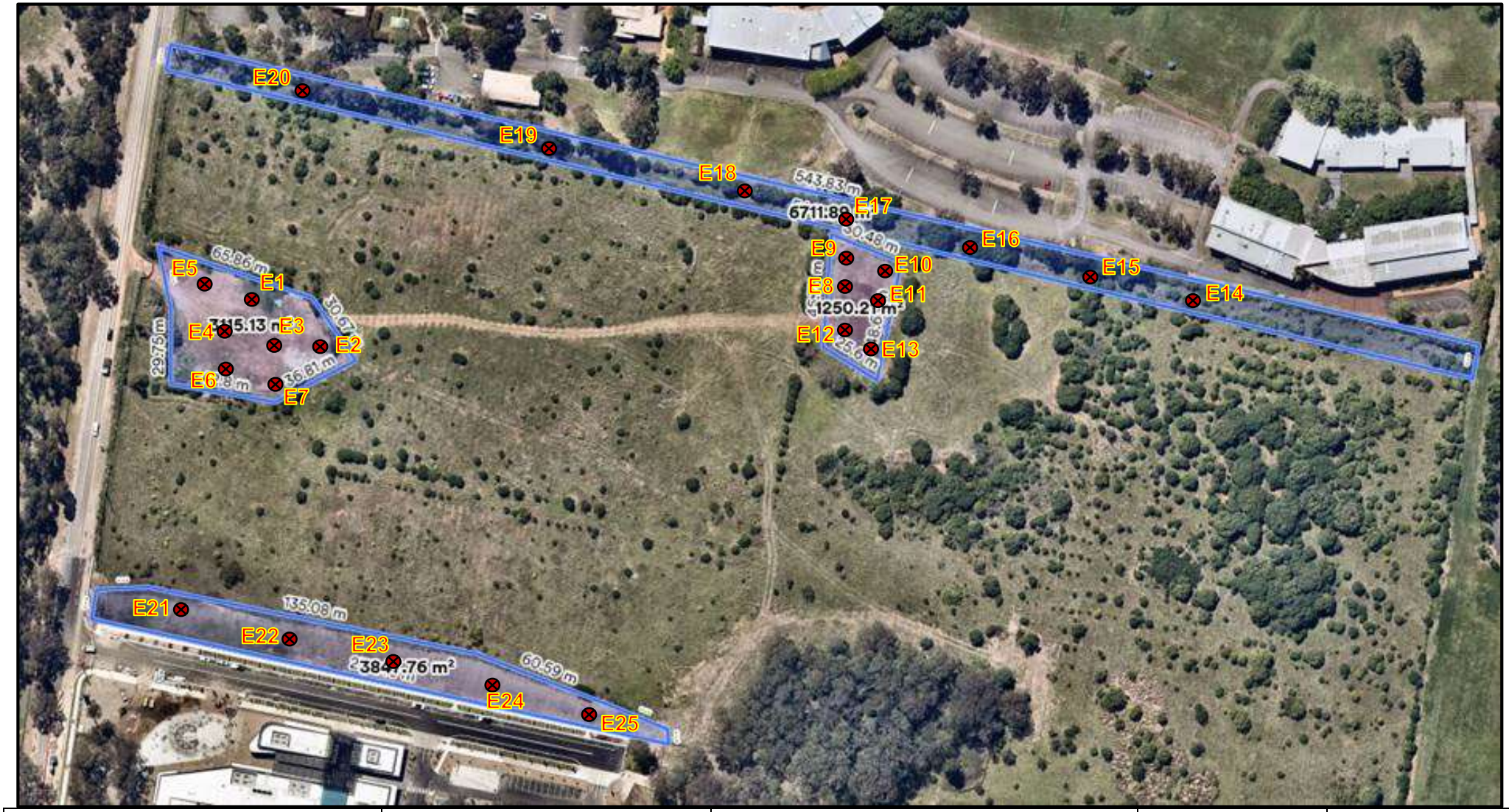




APPENDIX A

FIGURES

Bore Hole Locations and Drawings



DIRT DOCTORS GEOTECHNICAL TESTING SERVICES	Sample Area Sample Location	LA Design and Construct Pty Ltd 46-66 O'Connell St, Caddens NSW		Job No.	DDE – 759
				Drawing No.	DDE – 759_3
		Drawn By	JL	Ref No.	ENV02
		Approved By	MT	Scale	N.T.S.

APPENDIX B

LABORATORY TEST CERTIFICATES

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PT
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	14

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	**SE216258 R0**
Date Received	8/2/2021
Date Reported	12/2/2021

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Shane MCDERMOTT
Inorganic/Metals Chemist

VOC's in Soil [AN433] Tested: 9/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
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	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	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
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	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	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012	Trip Blank SOIL - 5/2/2021 SE216258.013	Trip Spike SOIL - 5/2/2021 SE216258.014
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	[80%]
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	[86%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	[82%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	[82%]
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	[82%]
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	-
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 9/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
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	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
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	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
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: 9/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
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	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
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	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
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: 9/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
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	**0.2**	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	**0.2**	<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(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	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
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(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	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/2/2021 (continued)

PARAMETER	UOM	LOR	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
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(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	TEQ (mg/kg)	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 9/2/2021

PARAMETER	UOM	LOR	E2 SOIL - 5/2/2021 SE216258.002	E4 SOIL - 5/2/2021 SE216258.004	E6 SOIL - 5/2/2021 SE216258.006	E8 SOIL - 5/2/2021 SE216258.008	E10 SOIL - 5/2/2021 SE216258.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	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
Beta 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 epoxide	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
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
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
trans-Nonachlor	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
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
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
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
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
Endosulfan sulphate	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
Methoxychlor	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
Isodrin	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

OC Pesticides in Soil [AN420] Tested: 9/2/2021 (continued)

PARAMETER	UOM	LOR	E12 SOIL - 5/2/2021 SE216258.012
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1

OP Pesticides in Soil [AN420] Tested: 9/2/2021

PARAMETER	UOM	LOR	E2 SOIL - 5/2/2021 SE216258.002	E4 SOIL - 5/2/2021 SE216258.004	E6 SOIL - 5/2/2021 SE216258.006	E8 SOIL - 5/2/2021 SE216258.008	E10 SOIL - 5/2/2021 SE216258.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	E12 SOIL - 5/2/2021 SE216258.012
Dichlorvos	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Malathion	mg/kg	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7

PCBs in Soil [AN420] Tested: 9/2/2021

PARAMETER	UOM	LOR	E2 SOIL - 5/2/2021 SE216258.002	E4 SOIL - 5/2/2021 SE216258.004	E6 SOIL - 5/2/2021 SE216258.006	E8 SOIL - 5/2/2021 SE216258.008	E10 SOIL - 5/2/2021 SE216258.010
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	<1	<1	<1	<1

PARAMETER	UOM	LOR	E12 SOIL - 5/2/2021 SE216258.012
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

pH in soil (1:5) [AN101] Tested: 12/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
pH	pH Units	0.1	8.1	7.4	7.3	7.7	7.6

PARAMETER	UOM	LOR	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
pH	pH Units	0.1	8.1	7.7	6.9	6.7	7.6

PARAMETER	UOM	LOR	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
pH	pH Units	0.1	5.5	7.5

Conductivity and TDS by Calculation - Soil [AN106] Tested: 12/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	240	23	15	67	63

PARAMETER	UOM	LOR	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	190	55	50	43	110

PARAMETER	UOM	LOR	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	54	140

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 9/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
Arsenic, As	mg/kg	1	4	2	1	1	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	25	24	26	30
Copper, Cu	mg/kg	0.5	17	33	27	29	30
Lead, Pb	mg/kg	1	31	15	13	13	14
Nickel, Ni	mg/kg	0.5	6.8	34	29	31	31
Zinc, Zn	mg/kg	0.5	47	86	83	89	75

PARAMETER	UOM	LOR	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
Arsenic, As	mg/kg	1	2	2	6	9	18
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	25	29	15	19	21
Copper, Cu	mg/kg	0.5	29	30	29	22	30
Lead, Pb	mg/kg	1	18	14	15	20	15
Nickel, Ni	mg/kg	0.5	31	27	30	23	27
Zinc, Zn	mg/kg	0.5	90	76	61	97	59

PARAMETER	UOM	LOR	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
Arsenic, As	mg/kg	1	8	19
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	17	22
Copper, Cu	mg/kg	0.5	24	31
Lead, Pb	mg/kg	1	13	14
Nickel, Ni	mg/kg	0.5	26	29
Zinc, Zn	mg/kg	0.5	61	59

Mercury in Soil [AN312] Tested: 9/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
Mercury	mg/kg	0.05	**0.05**	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
Mercury	mg/kg	0.05	<0.05	<0.05

Fibre Identification in soil [AN602] Tested: 11/2/2021

PARAMETER	UOM	LOR	E1 SOIL - 5/2/2021 SE216258.001	E2 SOIL - 5/2/2021 SE216258.002	E3 SOIL - 5/2/2021 SE216258.003	E4 SOIL - 5/2/2021 SE216258.004	E5 SOIL - 5/2/2021 SE216258.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	E6 SOIL - 5/2/2021 SE216258.006	E7 SOIL - 5/2/2021 SE216258.007	E8 SOIL - 5/2/2021 SE216258.008	E9 SOIL - 5/2/2021 SE216258.009	E10 SOIL - 5/2/2021 SE216258.010
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	E11 SOIL - 5/2/2021 SE216258.011	E12 SOIL - 5/2/2021 SE216258.012
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

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.
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 ASS 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+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract of as received sample with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
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
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).
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.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

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	Sample listed, but not received.		
***	Indicates that both * and ** apply.				

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.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES I
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	12

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	**SE216258 R0**
Date Received	08 Feb 2021
Date Reported	12 Feb 2021

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

[redacted]

Akheeqar BENIAMEEN
Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

[redacted]

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE216258.001	E1	Soil	132g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.002	E2	Soil	101g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.003	E3	Soil	99g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.004	E4	Soil	108g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.005	E5	Soil	116g Clay, Sand	05 Feb 2021	No Asbestos Found	<0.01
SE216258.006	E6	Soil	91g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.007	E7	Soil	91g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.008	E8	Soil	92g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.009	E9	Soil	92g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.010	E10	Soil	128g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216258.011	E11	Soil	101g Clay, Sand	05 Feb 2021	No Asbestos Found	<0.01
SE216258.012	E12	Soil	98g Clay, Sand, Rocks	05 Feb 2021	No Asbestos Found	<0.01

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy , including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos -containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

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

SE216258 R0

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES I
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	14

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	**SE216258 R0**
Date Received	08 Feb 2021
Date Reported	12 Feb 2021

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

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	14 Soil
Date documentation received	8/2/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE216258 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E2	SE216258.002	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E3	SE216258.003	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E4	SE216258.004	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E5	SE216258.005	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E6	SE216258.006	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E7	SE216258.007	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E8	SE216258.008	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E9	SE216258.009	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E10	SE216258.010	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E11	SE216258.011	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021
E12	SE216258.012	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021	12 Feb 2021

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E2	SE216258.002	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E3	SE216258.003	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E4	SE216258.004	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E5	SE216258.005	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E6	SE216258.006	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E7	SE216258.007	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E8	SE216258.008	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E9	SE216258.009	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E10	SE216258.010	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E11	SE216258.011	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E12	SE216258.012	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E2	SE216258.002	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E3	SE216258.003	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E4	SE216258.004	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E5	SE216258.005	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E6	SE216258.006	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E7	SE216258.007	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E8	SE216258.008	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E9	SE216258.009	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E10	SE216258.010	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E11	SE216258.011	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E12	SE216258.012	LB218226	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E2	SE216258.002	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E3	SE216258.003	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E4	SE216258.004	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E5	SE216258.005	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E6	SE216258.006	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E7	SE216258.007	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E8	SE216258.008	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E9	SE216258.009	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E10	SE216258.010	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E11	SE216258.011	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E12	SE216258.012	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E2	SE216258.002	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

HOLDING TIME SUMMARY

SE216258 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E3	SE216258.003	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E4	SE216258.004	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E5	SE216258.005	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E6	SE216258.006	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E7	SE216258.007	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E8	SE216258.008	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E9	SE216258.009	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E10	SE216258.010	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E11	SE216258.011	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E12	SE216258.012	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

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
E1	SE216258.001	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E2	SE216258.002	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E3	SE216258.003	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E4	SE216258.004	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E5	SE216258.005	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E6	SE216258.006	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E7	SE216258.007	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E8	SE216258.008	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E9	SE216258.009	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E10	SE216258.010	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E11	SE216258.011	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E12	SE216258.012	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E2	SE216258.002	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E3	SE216258.003	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E4	SE216258.004	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E5	SE216258.005	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E6	SE216258.006	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E7	SE216258.007	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E8	SE216258.008	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E9	SE216258.009	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E10	SE216258.010	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E11	SE216258.011	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E12	SE216258.012	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

pH in soil (1:5)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E2	SE216258.002	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E3	SE216258.003	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E4	SE216258.004	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E5	SE216258.005	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E6	SE216258.006	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E7	SE216258.007	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E8	SE216258.008	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E9	SE216258.009	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E10	SE216258.010	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E11	SE216258.011	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021
E12	SE216258.012	LB218500	05 Feb 2021	08 Feb 2021	12 Feb 2021	12 Feb 2021	13 Feb 2021	12 Feb 2021

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
E1	SE216258.001	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E2	SE216258.002	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E3	SE216258.003	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E4	SE216258.004	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021

HOLDING TIME SUMMARY

SE216258 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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
E5	SE216258.005	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E6	SE216258.006	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E7	SE216258.007	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E8	SE216258.008	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E9	SE216258.009	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E10	SE216258.010	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E11	SE216258.011	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E12	SE216258.012	LB218219	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021

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
E1	SE216258.001	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E2	SE216258.002	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E3	SE216258.003	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E4	SE216258.004	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E5	SE216258.005	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E6	SE216258.006	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E7	SE216258.007	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E8	SE216258.008	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E9	SE216258.009	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E10	SE216258.010	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E11	SE216258.011	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E12	SE216258.012	LB218199	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E2	SE216258.002	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E3	SE216258.003	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E4	SE216258.004	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E5	SE216258.005	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E6	SE216258.006	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E7	SE216258.007	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E8	SE216258.008	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E9	SE216258.009	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E10	SE216258.010	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E11	SE216258.011	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E12	SE216258.012	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Blank	SE216258.013	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Spike	SE216258.014	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE216258.001	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E2	SE216258.002	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E3	SE216258.003	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E4	SE216258.004	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E5	SE216258.005	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E6	SE216258.006	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E7	SE216258.007	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E8	SE216258.008	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E9	SE216258.009	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E10	SE216258.010	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E11	SE216258.011	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E12	SE216258.012	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Blank	SE216258.013	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Spike	SE216258.014	LB218193	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

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)	E2	SE216258.002	%	60 - 130%	72
	E4	SE216258.004	%	60 - 130%	88
	E6	SE216258.006	%	60 - 130%	83
	E8	SE216258.008	%	60 - 130%	90
	E10	SE216258.010	%	60 - 130%	85
	E12	SE216258.012	%	60 - 130%	88

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	E2	SE216258.002	%	60 - 130%	90
	E4	SE216258.004	%	60 - 130%	76
	E6	SE216258.006	%	60 - 130%	101
	E8	SE216258.008	%	60 - 130%	77
	E10	SE216258.010	%	60 - 130%	79
	E12	SE216258.012	%	60 - 130%	81
d14-p-terphenyl (Surrogate)	E2	SE216258.002	%	60 - 130%	100
	E4	SE216258.004	%	60 - 130%	81
	E6	SE216258.006	%	60 - 130%	91
	E8	SE216258.008	%	60 - 130%	89
	E10	SE216258.010	%	60 - 130%	91
	E12	SE216258.012	%	60 - 130%	93

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	E1	SE216258.001	%	70 - 130%	95
	E2	SE216258.002	%	70 - 130%	90
	E3	SE216258.003	%	70 - 130%	79
	E4	SE216258.004	%	70 - 130%	76
	E5	SE216258.005	%	70 - 130%	79
	E6	SE216258.006	%	70 - 130%	101
	E7	SE216258.007	%	70 - 130%	73
	E8	SE216258.008	%	70 - 130%	77
	E9	SE216258.009	%	70 - 130%	84
	E10	SE216258.010	%	70 - 130%	79
	E11	SE216258.011	%	70 - 130%	89
	E12	SE216258.012	%	70 - 130%	81
d14-p-terphenyl (Surrogate)	E1	SE216258.001	%	70 - 130%	89
	E2	SE216258.002	%	70 - 130%	100
	E3	SE216258.003	%	70 - 130%	99
	E4	SE216258.004	%	70 - 130%	81
	E5	SE216258.005	%	70 - 130%	84
	E6	SE216258.006	%	70 - 130%	91
	E7	SE216258.007	%	70 - 130%	78
	E8	SE216258.008	%	70 - 130%	89
	E9	SE216258.009	%	70 - 130%	95
	E10	SE216258.010	%	70 - 130%	91
	E11	SE216258.011	%	70 - 130%	81
	E12	SE216258.012	%	70 - 130%	93
d5-nitrobenzene (Surrogate)	E1	SE216258.001	%	70 - 130%	85
	E2	SE216258.002	%	70 - 130%	91
	E3	SE216258.003	%	70 - 130%	85
	E4	SE216258.004	%	70 - 130%	89
	E5	SE216258.005	%	70 - 130%	85
	E6	SE216258.006	%	70 - 130%	93
	E7	SE216258.007	%	70 - 130%	74
	E8	SE216258.008	%	70 - 130%	84
	E9	SE216258.009	%	70 - 130%	93
	E10	SE216258.010	%	70 - 130%	87
	E11	SE216258.011	%	70 - 130%	81
	E12	SE216258.012	%	70 - 130%	90

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.

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	E2	SE216258.002	%	60 - 130%	72
	E4	SE216258.004	%	60 - 130%	88
	E6	SE216258.006	%	60 - 130%	83
	E8	SE216258.008	%	60 - 130%	90
	E10	SE216258.010	%	60 - 130%	85
	E12	SE216258.012	%	60 - 130%	88

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	E1	SE216258.001	%	60 - 130%	100
	E2	SE216258.002	%	60 - 130%	99
	E3	SE216258.003	%	60 - 130%	101
	E4	SE216258.004	%	60 - 130%	101
	E5	SE216258.005	%	60 - 130%	103
	E6	SE216258.006	%	60 - 130%	104
	E7	SE216258.007	%	60 - 130%	101
	E8	SE216258.008	%	60 - 130%	107
	E9	SE216258.009	%	60 - 130%	103
	E10	SE216258.010	%	60 - 130%	99
	E11	SE216258.011	%	60 - 130%	96
	E12	SE216258.012	%	60 - 130%	97
	Trip Blank	SE216258.013	%	60 - 130%	104
	Trip Spike	SE216258.014	%	60 - 130%	79
d4-1,2-dichloroethane (Surrogate)	E1	SE216258.001	%	60 - 130%	103
	E2	SE216258.002	%	60 - 130%	106
	E3	SE216258.003	%	60 - 130%	108
	E4	SE216258.004	%	60 - 130%	120
	E5	SE216258.005	%	60 - 130%	108
	E6	SE216258.006	%	60 - 130%	106
	E7	SE216258.007	%	60 - 130%	99
	E8	SE216258.008	%	60 - 130%	106
	E9	SE216258.009	%	60 - 130%	109
	E10	SE216258.010	%	60 - 130%	103
	E11	SE216258.011	%	60 - 130%	104
	E12	SE216258.012	%	60 - 130%	96
	Trip Blank	SE216258.013	%	60 - 130%	107
	Trip Spike	SE216258.014	%	60 - 130%	88
d8-toluene (Surrogate)	E1	SE216258.001	%	60 - 130%	97
	E2	SE216258.002	%	60 - 130%	100
	E3	SE216258.003	%	60 - 130%	102
	E4	SE216258.004	%	60 - 130%	120
	E5	SE216258.005	%	60 - 130%	106
	E6	SE216258.006	%	60 - 130%	101
	E7	SE216258.007	%	60 - 130%	100
	E8	SE216258.008	%	60 - 130%	103
	E9	SE216258.009	%	60 - 130%	108
	E10	SE216258.010	%	60 - 130%	99
	E11	SE216258.011	%	60 - 130%	102
	E12	SE216258.012	%	60 - 130%	93
	Trip Blank	SE216258.013	%	60 - 130%	104
	Trip Spike	SE216258.014	%	60 - 130%	85

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	E1	SE216258.001	%	60 - 130%	100
	E2	SE216258.002	%	60 - 130%	99
	E3	SE216258.003	%	60 - 130%	101
	E4	SE216258.004	%	60 - 130%	101
	E5	SE216258.005	%	60 - 130%	103
	E6	SE216258.006	%	60 - 130%	104
	E7	SE216258.007	%	60 - 130%	101
	E8	SE216258.008	%	60 - 130%	107

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 %
Bromofluorobenzene (Surrogate)	E9	SE216258.009	%	60 - 130%	103
	E10	SE216258.010	%	60 - 130%	99
	E11	SE216258.011	%	60 - 130%	96
	E12	SE216258.012	%	60 - 130%	97
d4-1,2-dichloroethane (Surrogate)	E1	SE216258.001	%	60 - 130%	103
	E2	SE216258.002	%	60 - 130%	106
	E3	SE216258.003	%	60 - 130%	108
	E4	SE216258.004	%	60 - 130%	120
	E5	SE216258.005	%	60 - 130%	108
	E6	SE216258.006	%	60 - 130%	106
	E7	SE216258.007	%	60 - 130%	99
	E8	SE216258.008	%	60 - 130%	106
	E9	SE216258.009	%	60 - 130%	109
	E10	SE216258.010	%	60 - 130%	103
	E11	SE216258.011	%	60 - 130%	104
	E12	SE216258.012	%	60 - 130%	96
d8-toluene (Surrogate)	E1	SE216258.001	%	60 - 130%	97
	E2	SE216258.002	%	60 - 130%	100
	E3	SE216258.003	%	60 - 130%	102
	E4	SE216258.004	%	60 - 130%	120
	E5	SE216258.005	%	60 - 130%	106
	E6	SE216258.006	%	60 - 130%	101
	E7	SE216258.007	%	60 - 130%	100
	E8	SE216258.008	%	60 - 130%	103
	E9	SE216258.009	%	60 - 130%	108
	E10	SE216258.010	%	60 - 130%	99
	E11	SE216258.011	%	60 - 130%	102
	E12	SE216258.012	%	60 - 130%	93

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.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB218500.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0.01

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB218226.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218199.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	83

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218199.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	98
		d14-p-terphenyl (Surrogate)	%	-	101

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB218199.001	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

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 Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB218199.001		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(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	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	109
		2-fluorobiphenyl (Surrogate)	%	-	98
		d14-p-terphenyl (Surrogate)	%	-	101

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218199.001		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
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	83

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

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

Sample Number		Parameter	Units	LOR	Result
LB218219.001		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	0.5	<0.5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218199.001		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

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218193.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	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	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	118
		d8-toluene (Surrogate)	%	-	121
		Bromofluorobenzene (Surrogate)	%	-	119
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218193.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	118

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 give a different calculated RPD.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.010	LB218500.014	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	110	22.572201352	32	7
SE216258.012	LB218500.017	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	140	28.032720588	32	6

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.003	LB218226.014	Mercury	mg/kg	0.05	<0.05	<0.05	172	0
SE216258.012	LB218226.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216178.004	LB218199.025		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0.0112109785	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.1281932210	30	4

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216178.004	LB218199.027		Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.0133966572	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4080940972	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4631458857	30	0
SE216258.012	LB218199.024		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	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 give a different calculated RPD.

OP Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.012	LB218199.024		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216178.004	LB218199.027		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0.0018539959	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0076219542	200	0
			Chrysene	mg/kg	0.1	<0.1	0.0073882286	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4661976922	30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4080940972	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4631458857	30	0
SE216258.012	LB218199.024		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	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(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	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	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 give a different calculated RPD.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.012	LB218199.024	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	6
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216178.004	LB218199.025		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.1281932210	30	4

pH in soil (1:5)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.010	LB218500.014	pH	pH Units	0.1	7.6	7.6	31	0
SE216258.012	LB218500.017	pH	pH Units	0.1	7.5	7.6	31	1

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 %
SE216258.003	LB218219.014	Arsenic, As	mg/kg	1	1	<1	133	30
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	24	27	32	11
		Copper, Cu	mg/kg	0.5	27	29	32	6
		Nickel, Ni	mg/kg	0.5	29	31	32	7
		Lead, Pb	mg/kg	1	13	12	38	6
		Zinc, Zn	mg/kg	0.5	83	88	32	6
SE216258.012	LB218219.024	Arsenic, As	mg/kg	1	19	19	35	2
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	22	21	32	6
		Copper, Cu	mg/kg	0.5	31	33	32	6
		Nickel, Ni	mg/kg	0.5	29	25	32	14
		Lead, Pb	mg/kg	1	14	13	37	11
		Zinc, Zn	mg/kg	0.5	59	60	33	3

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216178.004	LB218199.025		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE216258.012	LB218199.024		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

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 give a different calculated RPD.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.012	LB218199.024	TRH F Bands	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.003	LB218193.015	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	9.9	50	8
			d8-toluene (Surrogate)	mg/kg	-	10.2	9.5	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.1	9.7	50	4
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE216258.012	LB218193.032	Monocyclic	Benzene	mg/kg	0.1	<0.1	0	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	0.0019503165	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	0.0003886797	200	0
			m/p-xylene	mg/kg	0.2	<0.2	0.0011354537	200	0
			o-xylene	mg/kg	0.1	<0.1	0.0005769902	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	0	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.6	9.5393969975	50	1
			d8-toluene (Surrogate)	mg/kg	-	9.3	9.3493946298	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	9.4433213830	50	3
		Totals	Total Xylenes	mg/kg	0.3	<0.3	0.0017124440	200	0
			Total BTEX	mg/kg	0.6	<0.6	0	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216258.003	LB218193.015		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	-	10.8	9.9	30	8
			d8-toluene (Surrogate)	mg/kg	-	10.2	9.5	30	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.1	9.7	30	4
		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
SE216258.012	LB218193.032		TRH C6-C10	mg/kg	25	<25	0	200	0
			TRH C6-C9	mg/kg	20	<20	0	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.6	9.5393969975	30	1
			d8-toluene (Surrogate)	mg/kg	-	9.3	9.3493946298	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	9.4433213830	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	0	200	0

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.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218500.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	303	85 - 115	104

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218226.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	101

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218199.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	75
		Aldrin	mg/kg	0.1	0.1	0.2	60 - 140	74
		Delta BHC	mg/kg	0.1	0.1	0.2	60 - 140	75
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	76
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	77
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	77
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.15	40 - 130	80

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218199.002		Dichlorvos	mg/kg	0.5	1.4	2	60 - 140	70
		Diazinon (Dimpylate)	mg/kg	0.5	1.6	2	60 - 140	80
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.4	2	60 - 140	72
		Ethion	mg/kg	0.2	1.3	2	60 - 140	67
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	91
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	79

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218199.002		Naphthalene	mg/kg	0.1	3.6	4	60 - 140	90
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	97
		Acenaphthene	mg/kg	0.1	3.7	4	60 - 140	91
		Phenanthrene	mg/kg	0.1	3.6	4	60 - 140	91
		Anthracene	mg/kg	0.1	3.5	4	60 - 140	89
		Fluoranthene	mg/kg	0.1	3.6	4	60 - 140	90
		Pyrene	mg/kg	0.1	3.6	4	60 - 140	91
		Benzo(a)pyrene	mg/kg	0.1	4.5	4	60 - 140	111
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	90
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	91
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	79

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218199.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	110

pH in soil (1:5)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218500.003	pH	pH Units	0.1	7.4	7.415	98 - 102	100

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 %
LB218219.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	109
	Cadmium, Cd	mg/kg	0.3	5.2	5.41	80 - 120	96
	Chromium, Cr	mg/kg	0.5	41	38.31	80 - 120	106
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	109
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	104
	Lead, Pb	mg/kg	1	94	89.9	80 - 120	105
	Zinc, Zn	mg/kg	0.5	280	273	80 - 120	104

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

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218199.002		TRH C10-C14	mg/kg	20	45	40	60 - 140	113
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	98
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	78
	TRH F Bands	TRH >C10-C16	mg/kg	25	44	40	60 - 140	110
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	83
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218193.002	Monocyclic	Benzene	mg/kg	0.1	4.5	5	60 - 140	91
	Aromatic	Toluene	mg/kg	0.1	4.4	5	60 - 140	88
		Ethylbenzene	mg/kg	0.1	4.6	5	60 - 140	93
		m/p-xylene	mg/kg	0.2	9.4	10	60 - 140	94
		o-xylene	mg/kg	0.1	4.7	5	60 - 140	94
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10	70 - 130	106
		d8-toluene (Surrogate)	mg/kg	-	9.9	10	70 - 130	99
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.9	10	70 - 130	99

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218193.002		TRH C6-C10	mg/kg	25	71	92.5	60 - 140	77
		TRH C6-C9	mg/kg	20	61	80	60 - 140	76
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10	70 - 130	106
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.9	10	70 - 130	99
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	43	62.5	60 - 140	69

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 in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216177.001	LB218226.004	Mercury	mg/kg	0.05	0.18	<0.05	0.2	91

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216178.001	LB218199.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	88
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	86
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	88
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	<0.2	<0.2	0.2	88
			Endrin	mg/kg	0.2	<0.2	<0.2	0.2	89
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	84
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.13	-	85

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216178.001	LB218199.004		Dichlorvos	mg/kg	0.5	1.3	<0.5	2	64
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	1.6	<0.5	2	80
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.5	<0.2	2	75
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.3	<0.2	2	67
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	5.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	84
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	79

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216178.001	LB218199.004	Naphthalene	mg/kg	0.1	3.6	<0.1	4	90
		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	3.8	<0.1	4	95
		Acenaphthene	mg/kg	0.1	3.7	<0.1	4	93
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	3.2	<0.1	4	81

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%
SE216178.001	LB218199.004		Anthracene	mg/kg	0.1	3.5	<0.1	4	88
			Fluoranthene	mg/kg	0.1	3.5	<0.1	4	88
			Pyrene	mg/kg	0.1	3.7	<0.1	4	91
			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(a)pyrene	mg/kg	0.1	4.4	<0.1	4	109
			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	TEQ (mg/kg)	0.2	4.4	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.5	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.4	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	29	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	90
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	84
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	79

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216178.001	LB218199.004		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	0.5	<0.2	0.4	120
			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	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	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%
SE216177.001	LB218219.004	Arsenic, As	mg/kg	1	45	1	50	87
		Cadmium, Cd	mg/kg	0.3	41	<0.3	50	82
		Chromium, Cr	mg/kg	0.5	45	1.9	50	86
		Copper, Cu	mg/kg	0.5	45	1.6	50	87
		Nickel, Ni	mg/kg	0.5	44	1.6	50	86
		Lead, Pb	mg/kg	1	44	2	50	85
		Zinc, Zn	mg/kg	0.5	53	9.1	50	88

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216178.001	LB218199.004		TRH C10-C14	mg/kg	20	46	<20	40	115
			TRH C15-C28	mg/kg	45	<45	<45	40	98
			TRH C29-C36	mg/kg	45	<45	<45	40	83
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	44	<25	40	110
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	40	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	88
			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%
SE216178.001	LB218193.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.6	<0.1	5	92
			Toluene	mg/kg	0.1	4.6	<0.1	5	91
			Ethylbenzene	mg/kg	0.1	4.6	<0.1	5	92
			m/p-xylene	mg/kg	0.2	9.3	<0.2	10	93
			o-xylene	mg/kg	0.1	4.7	<0.1	5	93

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.

VOC's in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216178.001	LB218193.004	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	10.4	10	108
			d8-toluene (Surrogate)	mg/kg	-	10.2	10.4	10	102
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10.6	10	97
		Totals	Total Xylenes	mg/kg	0.3	14	<0.3	-	-
			Total BTEX	mg/kg	0.6	28	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216178.001	LB218193.004		TRH C6-C10	mg/kg	25	72	<25	92.5	77
			TRH C6-C9	mg/kg	20	62	<20	80	77
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	10.4	10	108
			d8-toluene (Surrogate)	mg/kg	-	10.2	10.4	10	102
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10.6	-	97
		VPH F	Benzene (F0)	mg/kg	0.1	4.6	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	<25	62.5	70

MATRIX SPIKE DUPLICATES

SE216258 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 end of this report for failure reasons.

QC Sample	Sample Number	Parameter	Units	LOR

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.

SAMPLE RECEIPT ADVICE

SE216258

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	14

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 8/2/2021
Report Due	Fri 12/2/2021
SGS Reference	**SE216258**

SUBMISSION DETAILS

This is to confirm that 14 samples were received on Monday 8/2/2021. Results are expected to be ready by COB Friday 12/2/2021. Please quote SGS reference SE216258 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	14 Soil
Date documentation received	8/2/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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 QA Copper and QC Copper not received.

SAMPLE RECEIPT ADVICE

SE216258

CLIENT DETAILS

Client DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY LTD Project DDE-759

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	E1	-	-	26	-	1	10	11	7
002	E2	29	14	26	11	1	10	11	7
003	E3	-	-	26	-	1	10	11	7
004	E4	29	14	26	11	1	10	11	7
005	E5	-	-	26	-	1	10	11	7
006	E6	29	14	26	11	1	10	11	7
007	E7	-	-	26	-	1	10	11	7
008	E8	29	14	26	11	1	10	11	7
009	E9	-	-	26	-	1	10	11	7
010	E10	29	14	26	11	1	10	11	7
011	E11	-	-	26	-	1	10	11	7
012	E12	29	14	26	11	1	10	11	7
013	Trip Blank	-	-	-	-	-	-	11	-
014	Trip Spike	-	-	-	-	-	-	11	-

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

SE216258

CLIENT DETAILS

Client DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY LTD Project DDE-759

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Soil	Fibre Identification in soil	Mercury in Soil	Total Recoverable Elements in Soil/Waste
001	E1	1	2	1	7
002	E2	1	2	1	7
003	E3	1	2	1	7
004	E4	1	2	1	7
005	E5	1	2	1	7
006	E6	1	2	1	7
007	E7	1	2	1	7
008	E8	1	2	1	7
009	E9	1	2	1	7
010	E10	1	2	1	7
011	E11	1	2	1	7
012	E12	1	2	1	7

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 .

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS tal Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	Dirt Doctors	Project Name/No:	DDE-759
Address:	5/15 Aero Rd, Ingleburn	Purchase Order No:	6204505
		Results Required By:	12.02.2021 TAT
		Telephone:	0424 639 602
Contact Name:	Mitchell Tofler	Facsimile:	
		Email Results:	mitch@dirtdoctors.com.au joanna@dirtdoctors.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Reg 9 (No FM)	Asbestos ID in soil	SV9	QA Copper	QC Copper	Blank	BTEX/PAHs
E1	05.02.2021	1		*		4	*	*		*	*		
E2	05.02.2021	2		*		2	*	*	*				
E3	05.02.2021	3		*		2	*	*					
E4	05.02.2021	4		*		2	*	*	*				
E5	05.02.2021	5		*		2	*	*					
E6	05.02.2021	6		*		2	*	*	*				
E7	05.02.2021	7		*		2	*	*					
E8	05.02.2021	8		*		2	*	*	*				
E9	05.02.2021	9		*		2	*	*					
E10	05.02.2021	10		*		2	*	*	*				
E11	05.02.2021	11		*		2	*	*					
E12	05.02.2021	12		*		2	*	*	*				
Trip Blank		13										*	
Trip Spike		14											*

SGS EHS Sydney COC
SE216258

Relinquished By: M.Tofler	Date/Time: 08.02.2021	Received By: George Zhi	Date/Time 8/2/21 @ 4:30pm
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes	Temperature: Chilled	Sample Cooler Sealed: Yes	Laboratory Quotation No:

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PT
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	15

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	**SE216259 R0**
Date Received	8/2/2021
Date Reported	12/2/2021

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

[redacted]

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

[redacted]

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Shane MCDERMOTT
Inorganic/Metals Chemist

VOC's in Soil [AN433] Tested: 9/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
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	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	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
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	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	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013	Trip Blank SOIL - 5/2/2021 SE216259.014	Trip Spike SOIL - 5/2/2021 SE216259.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[102%]
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[98%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[95%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	[95%]
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	[95%]
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 9/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
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	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
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	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 9/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
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	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
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	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
TRH C10-C14	mg/kg	20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
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(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	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
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(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	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/2/2021 (continued)

PARAMETER	UOM	LOR	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 9/2/2021

PARAMETER	UOM	LOR	E14 SOIL - 5/2/2021 SE216259.002	E16 SOIL - 5/2/2021 SE216259.004	E18 SOIL - 5/2/2021 SE216259.006	E20 SOIL - 5/2/2021 SE216259.008	E22 SOIL - 5/2/2021 SE216259.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	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
Beta 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 epoxide	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
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
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
trans-Nonachlor	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
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
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
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
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
Endosulfan sulphate	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
Methoxychlor	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
Isodrin	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

OC Pesticides in Soil [AN420] Tested: 9/2/2021 (continued)

PARAMETER	UOM	LOR	E24 SOIL - 5/2/2021 SE216259.012
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1

OP Pesticides in Soil [AN420] Tested: 9/2/2021

PARAMETER	UOM	LOR	E14 SOIL - 5/2/2021 SE216259.002	E16 SOIL - 5/2/2021 SE216259.004	E18 SOIL - 5/2/2021 SE216259.006	E20 SOIL - 5/2/2021 SE216259.008	E22 SOIL - 5/2/2021 SE216259.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	E24 SOIL - 5/2/2021 SE216259.012
Dichlorvos	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Malathion	mg/kg	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7

PCBs in Soil [AN420] Tested: 9/2/2021

PARAMETER	UOM	LOR	E14 SOIL - 5/2/2021 SE216259.002	E16 SOIL - 5/2/2021 SE216259.004	E18 SOIL - 5/2/2021 SE216259.006	E20 SOIL - 5/2/2021 SE216259.008	E22 SOIL - 5/2/2021 SE216259.010
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	<1	<1	<1	<1

PARAMETER	UOM	LOR	E24 SOIL - 5/2/2021 SE216259.012
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

pH in soil (1:5) [AN101] Tested: 11/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
pH	pH Units	0.1	5.8	6.2	6.0	6.1	7.5

PARAMETER	UOM	LOR	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
pH	pH Units	0.1	7.3	6.0	7.9	8.0	8.1

PARAMETER	UOM	LOR	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
pH	pH Units	0.1	6.8	6.8	7.4

Conductivity and TDS by Calculation - Soil [AN106] Tested: 11/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	17	12	15	45	190

PARAMETER	UOM	LOR	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	76	67	160	190	350

PARAMETER	UOM	LOR	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	69	50	210

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 9/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
Arsenic, As	mg/kg	1	10	3	5	9	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	21	18	18	19	11
Copper, Cu	mg/kg	0.5	27	26	28	27	38
Lead, Pb	mg/kg	1	15	13	19	12	16
Nickel, Ni	mg/kg	0.5	25	27	23	21	28
Zinc, Zn	mg/kg	0.5	60	62	65	47	73

PARAMETER	UOM	LOR	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
Arsenic, As	mg/kg	1	4	4	3	6	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	19	26	12	11	13
Copper, Cu	mg/kg	0.5	26	20	24	31	27
Lead, Pb	mg/kg	1	28	12	12	12	12
Nickel, Ni	mg/kg	0.5	25	18	14	8.5	14
Zinc, Zn	mg/kg	0.5	55	29	30	33	39

PARAMETER	UOM	LOR	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
Arsenic, As	mg/kg	1	4	6	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	17	18	14
Copper, Cu	mg/kg	0.5	17	29	18
Lead, Pb	mg/kg	1	7	19	9
Nickel, Ni	mg/kg	0.5	14	15	17
Zinc, Zn	mg/kg	0.5	28	40	28

Mercury in Soil [AN312] Tested: 9/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
Mercury	mg/kg	0.05	**2.8**	<0.05	<0.05	**0.06**	<0.05

PARAMETER	UOM	LOR	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

Fibre Identification in soil [AN602] Tested: 11/2/2021

PARAMETER	UOM	LOR	E13 SOIL - 5/2/2021 SE216259.001	E14 SOIL - 5/2/2021 SE216259.002	E15 SOIL - 5/2/2021 SE216259.003	E16 SOIL - 5/2/2021 SE216259.004	E17 SOIL - 5/2/2021 SE216259.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	E18 SOIL - 5/2/2021 SE216259.006	E19 SOIL - 5/2/2021 SE216259.007	E20 SOIL - 5/2/2021 SE216259.008	E21 SOIL - 5/2/2021 SE216259.009	E22 SOIL - 5/2/2021 SE216259.010
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	E23 SOIL - 5/2/2021 SE216259.011	E24 SOIL - 5/2/2021 SE216259.012	E25 SOIL - 5/2/2021 SE216259.013
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

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.
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 ASS 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+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract of as received sample with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
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
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).
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.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

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	Sample listed, but not received.		
***	Indicates that both * and ** apply.				

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.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES I
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	13

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	**SE216259 R0**
Date Received	08 Feb 2021
Date Reported	12 Feb 2021

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

[redacted]

Akheeqar BENIAMEEN
Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

[redacted]

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE216259.001	E13	Soil	92g Clay,Sand,Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.002	E14	Soil	101g Clay,Sand,Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.003	E15	Soil	68g Clay,Sand,Soil, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.004	E16	Soil	109g Clay,Sand,Soil, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.005	E17	Soil	110g Clay,Sand,Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.006	E18	Soil	110g Clay,Sand,Soil, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.007	E19	Soil	113g Clay,Sand,Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.008	E20	Soil	101g Clay,Sand,Soil, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.009	E21	Soil	99g Clay,Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.010	E22	Soil	120g Clay,Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.011	E23	Soil	163g Clay,Sand,Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.012	E24	Soil	152g Clay,Sand,Soil, Rocks	05 Feb 2021	No Asbestos Found	<0.01
SE216259.013	E25	Soil	103g Clay,Sand	05 Feb 2021	No Asbestos Found	<0.01

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy , including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos -containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

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

SE216259 R0

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES I
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	15

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	**SE216259 R0**
Date Received	08 Feb 2021
Date Reported	12 Feb 2021

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:

Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	3 items

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	15 Soil
Date documentation received	8/2/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE216259 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E14	SE216259.002	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E15	SE216259.003	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E16	SE216259.004	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E17	SE216259.005	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E18	SE216259.006	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E19	SE216259.007	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E20	SE216259.008	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E21	SE216259.009	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E22	SE216259.010	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E23	SE216259.011	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E24	SE216259.012	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E25	SE216259.013	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E14	SE216259.002	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E15	SE216259.003	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E16	SE216259.004	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E17	SE216259.005	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E18	SE216259.006	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E19	SE216259.007	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E20	SE216259.008	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E21	SE216259.009	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E22	SE216259.010	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E23	SE216259.011	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E24	SE216259.012	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021
E25	SE216259.013	LB218483	05 Feb 2021	08 Feb 2021	05 Feb 2022	11 Feb 2021	05 Feb 2022	12 Feb 2021

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E14	SE216259.002	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E15	SE216259.003	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E16	SE216259.004	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E17	SE216259.005	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E18	SE216259.006	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E19	SE216259.007	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E20	SE216259.008	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E21	SE216259.009	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E22	SE216259.010	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E23	SE216259.011	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E24	SE216259.012	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021
E25	SE216259.013	LB218227	05 Feb 2021	08 Feb 2021	05 Mar 2021	09 Feb 2021	05 Mar 2021	12 Feb 2021

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E14	SE216259.002	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E15	SE216259.003	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E16	SE216259.004	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E17	SE216259.005	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E18	SE216259.006	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E19	SE216259.007	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E20	SE216259.008	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E21	SE216259.009	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E22	SE216259.010	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E23	SE216259.011	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E24	SE216259.012	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E25	SE216259.013	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021

HOLDING TIME SUMMARY

SE216259 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E14	SE216259.002	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E15	SE216259.003	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E16	SE216259.004	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E17	SE216259.005	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E18	SE216259.006	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E19	SE216259.007	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E20	SE216259.008	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E21	SE216259.009	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E22	SE216259.010	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E23	SE216259.011	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E24	SE216259.012	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E25	SE216259.013	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021

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
E13	SE216259.001	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E14	SE216259.002	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E15	SE216259.003	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E16	SE216259.004	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E17	SE216259.005	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E18	SE216259.006	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E19	SE216259.007	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E20	SE216259.008	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E21	SE216259.009	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E22	SE216259.010	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E23	SE216259.011	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E24	SE216259.012	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E25	SE216259.013	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E14	SE216259.002	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E15	SE216259.003	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E16	SE216259.004	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E17	SE216259.005	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E18	SE216259.006	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E19	SE216259.007	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E20	SE216259.008	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E21	SE216259.009	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E22	SE216259.010	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E23	SE216259.011	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E24	SE216259.012	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E25	SE216259.013	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021

pH in soil (1:5)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E14	SE216259.002	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E15	SE216259.003	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E16	SE216259.004	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E17	SE216259.005	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E18	SE216259.006	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E19	SE216259.007	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E20	SE216259.008	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E21	SE216259.009	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E22	SE216259.010	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E23	SE216259.011	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E24	SE216259.012	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021
E25	SE216259.013	LB218484	05 Feb 2021	08 Feb 2021	12 Feb 2021	11 Feb 2021	12 Feb 2021	11 Feb 2021

HOLDING TIME SUMMARY

SE216259 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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
E13	SE216259.001	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E14	SE216259.002	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E15	SE216259.003	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E16	SE216259.004	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E17	SE216259.005	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E18	SE216259.006	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E19	SE216259.007	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E20	SE216259.008	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E21	SE216259.009	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E22	SE216259.010	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E23	SE216259.011	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E24	SE216259.012	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021
E25	SE216259.013	LB218220	05 Feb 2021	08 Feb 2021	04 Aug 2021	09 Feb 2021	04 Aug 2021	12 Feb 2021

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
E13	SE216259.001	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E14	SE216259.002	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E15	SE216259.003	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E16	SE216259.004	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E17	SE216259.005	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E18	SE216259.006	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E19	SE216259.007	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E20	SE216259.008	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E21	SE216259.009	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E22	SE216259.010	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E23	SE216259.011	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E24	SE216259.012	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021
E25	SE216259.013	LB218201	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	12 Feb 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E14	SE216259.002	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E15	SE216259.003	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E16	SE216259.004	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E17	SE216259.005	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E18	SE216259.006	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E19	SE216259.007	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E20	SE216259.008	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E21	SE216259.009	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E22	SE216259.010	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E23	SE216259.011	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E24	SE216259.012	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E25	SE216259.013	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Blank	SE216259.014	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Spike	SE216259.015	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E13	SE216259.001	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E14	SE216259.002	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E15	SE216259.003	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E16	SE216259.004	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E17	SE216259.005	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E18	SE216259.006	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E19	SE216259.007	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E20	SE216259.008	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E21	SE216259.009	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E22	SE216259.010	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E23	SE216259.011	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

HOLDING TIME SUMMARY

SE216259 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 sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E24	SE216259.012	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
E25	SE216259.013	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Blank	SE216259.014	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021
Trip Spike	SE216259.015	LB218194	05 Feb 2021	08 Feb 2021	19 Feb 2021	09 Feb 2021	21 Mar 2021	11 Feb 2021

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)	E14	SE216259.002	%	60 - 130%	91
	E16	SE216259.004	%	60 - 130%	93
	E18	SE216259.006	%	60 - 130%	89
	E20	SE216259.008	%	60 - 130%	88
	E22	SE216259.010	%	60 - 130%	99
	E24	SE216259.012	%	60 - 130%	93

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	E14	SE216259.002	%	60 - 130%	90
	E16	SE216259.004	%	60 - 130%	88
	E18	SE216259.006	%	60 - 130%	77
	E20	SE216259.008	%	60 - 130%	88
	E22	SE216259.010	%	60 - 130%	77
	E24	SE216259.012	%	60 - 130%	75
d14-p-terphenyl (Surrogate)	E14	SE216259.002	%	60 - 130%	98
	E16	SE216259.004	%	60 - 130%	87
	E18	SE216259.006	%	60 - 130%	80
	E20	SE216259.008	%	60 - 130%	85
	E22	SE216259.010	%	60 - 130%	81
	E24	SE216259.012	%	60 - 130%	81

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	E13	SE216259.001	%	70 - 130%	80
	E14	SE216259.002	%	70 - 130%	90
	E15	SE216259.003	%	70 - 130%	76
	E16	SE216259.004	%	70 - 130%	88
	E17	SE216259.005	%	70 - 130%	76
	E18	SE216259.006	%	70 - 130%	77
	E19	SE216259.007	%	70 - 130%	77
	E20	SE216259.008	%	70 - 130%	88
	E21	SE216259.009	%	70 - 130%	76
	E22	SE216259.010	%	70 - 130%	77
	E23	SE216259.011	%	70 - 130%	74
	E24	SE216259.012	%	70 - 130%	75
	E25	SE216259.013	%	70 - 130%	76
d14-p-terphenyl (Surrogate)	E13	SE216259.001	%	70 - 130%	90
	E14	SE216259.002	%	70 - 130%	98
	E15	SE216259.003	%	70 - 130%	91
	E16	SE216259.004	%	70 - 130%	87
	E17	SE216259.005	%	70 - 130%	82
	E18	SE216259.006	%	70 - 130%	80
	E19	SE216259.007	%	70 - 130%	87
	E20	SE216259.008	%	70 - 130%	85
	E21	SE216259.009	%	70 - 130%	89
	E22	SE216259.010	%	70 - 130%	81
	E23	SE216259.011	%	70 - 130%	73
	E24	SE216259.012	%	70 - 130%	81
	E25	SE216259.013	%	70 - 130%	80
d5-nitrobenzene (Surrogate)	E13	SE216259.001	%	70 - 130%	83
	E14	SE216259.002	%	70 - 130%	87
	E15	SE216259.003	%	70 - 130%	85
	E16	SE216259.004	%	70 - 130%	95
	E17	SE216259.005	%	70 - 130%	94
	E18	SE216259.006	%	70 - 130%	88
	E19	SE216259.007	%	70 - 130%	87
	E20	SE216259.008	%	70 - 130%	85
	E21	SE216259.009	%	70 - 130%	83
	E22	SE216259.010	%	70 - 130%	84
	E23	SE216259.011	%	70 - 130%	82
	E24	SE216259.012	%	70 - 130%	84

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)	E25	SE216259.013	%	70 - 130%	84

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	E14	SE216259.002	%	60 - 130%	91
	E16	SE216259.004	%	60 - 130%	93
	E18	SE216259.006	%	60 - 130%	89
	E20	SE216259.008	%	60 - 130%	88
	E22	SE216259.010	%	60 - 130%	99
	E24	SE216259.012	%	60 - 130%	93

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	E13	SE216259.001	%	60 - 130%	67
	E14	SE216259.002	%	60 - 130%	65
	E15	SE216259.003	%	60 - 130%	71
	E16	SE216259.004	%	60 - 130%	69
	E17	SE216259.005	%	60 - 130%	65
	E18	SE216259.006	%	60 - 130%	66
	E19	SE216259.007	%	60 - 130%	66
	E20	SE216259.008	%	60 - 130%	67
	E21	SE216259.009	%	60 - 130%	66
	E22	SE216259.010	%	60 - 130%	64
	E23	SE216259.011	%	60 - 130%	64
	E24	SE216259.012	%	60 - 130%	71
	E25	SE216259.013	%	60 - 130%	60
	Trip Blank	SE216259.014	%	60 - 130%	113
	Trip Spike	SE216259.015	%	60 - 130%	97
d4-1,2-dichloroethane (Surrogate)	E13	SE216259.001	%	60 - 130%	85
	E14	SE216259.002	%	60 - 130%	83
	E15	SE216259.003	%	60 - 130%	90
	E16	SE216259.004	%	60 - 130%	87
	E17	SE216259.005	%	60 - 130%	84
	E18	SE216259.006	%	60 - 130%	84
	E19	SE216259.007	%	60 - 130%	86
	E20	SE216259.008	%	60 - 130%	86
	E21	SE216259.009	%	60 - 130%	85
	E22	SE216259.010	%	60 - 130%	84
	E23	SE216259.011	%	60 - 130%	82
	E24	SE216259.012	%	60 - 130%	91
	E25	SE216259.013	%	60 - 130%	80
	Trip Blank	SE216259.014	%	60 - 130%	119
	Trip Spike	SE216259.015	%	60 - 130%	109
d8-toluene (Surrogate)	E13	SE216259.001	%	60 - 130%	84
	E14	SE216259.002	%	60 - 130%	80
	E15	SE216259.003	%	60 - 130%	87
	E16	SE216259.004	%	60 - 130%	86
	E17	SE216259.005	%	60 - 130%	82
	E18	SE216259.006	%	60 - 130%	81
	E19	SE216259.007	%	60 - 130%	84
	E20	SE216259.008	%	60 - 130%	84
	E21	SE216259.009	%	60 - 130%	83
	E22	SE216259.010	%	60 - 130%	80
	E23	SE216259.011	%	60 - 130%	80
	E24	SE216259.012	%	60 - 130%	88
	E25	SE216259.013	%	60 - 130%	77
	Trip Blank	SE216259.014	%	60 - 130%	117
	Trip Spike	SE216259.015	%	60 - 130%	106

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units

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 %
Bromofluorobenzene (Surrogate)	E13	SE216259.001	%	60 - 130%	67
	E14	SE216259.002	%	60 - 130%	65
	E15	SE216259.003	%	60 - 130%	71
	E16	SE216259.004	%	60 - 130%	69
	E17	SE216259.005	%	60 - 130%	65
	E18	SE216259.006	%	60 - 130%	66
	E19	SE216259.007	%	60 - 130%	66
	E20	SE216259.008	%	60 - 130%	67
	E21	SE216259.009	%	60 - 130%	66
	E22	SE216259.010	%	60 - 130%	64
	E23	SE216259.011	%	60 - 130%	64
	E24	SE216259.012	%	60 - 130%	71
	E25	SE216259.013	%	60 - 130%	60
d4-1,2-dichloroethane (Surrogate)	E13	SE216259.001	%	60 - 130%	85
	E14	SE216259.002	%	60 - 130%	83
	E15	SE216259.003	%	60 - 130%	90
	E16	SE216259.004	%	60 - 130%	87
	E17	SE216259.005	%	60 - 130%	84
	E18	SE216259.006	%	60 - 130%	84
	E19	SE216259.007	%	60 - 130%	86
	E20	SE216259.008	%	60 - 130%	86
	E21	SE216259.009	%	60 - 130%	85
	E22	SE216259.010	%	60 - 130%	84
	E23	SE216259.011	%	60 - 130%	82
	E24	SE216259.012	%	60 - 130%	91
	E25	SE216259.013	%	60 - 130%	80
d8-toluene (Surrogate)	E13	SE216259.001	%	60 - 130%	84
	E14	SE216259.002	%	60 - 130%	80
	E15	SE216259.003	%	60 - 130%	87
	E16	SE216259.004	%	60 - 130%	86
	E17	SE216259.005	%	60 - 130%	82
	E18	SE216259.006	%	60 - 130%	81
	E19	SE216259.007	%	60 - 130%	84
	E20	SE216259.008	%	60 - 130%	84
	E21	SE216259.009	%	60 - 130%	83
	E22	SE216259.010	%	60 - 130%	80
	E23	SE216259.011	%	60 - 130%	80
	E24	SE216259.012	%	60 - 130%	88
	E25	SE216259.013	%	60 - 130%	77

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.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB218484.001	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	0.6

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB218227.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218201.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	80

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218201.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	90
		d14-p-terphenyl (Surrogate)	%	-	87

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB218201.001	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

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 Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB218201.001		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(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	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	91
		2-fluorobiphenyl (Surrogate)	%	-	90
		d14-p-terphenyl (Surrogate)	%	-	87

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218201.001		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
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	80

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

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

Sample Number		Parameter	Units	LOR	Result
LB218220.001		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	0.5	<0.5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218201.001		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

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218194.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	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	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	91
		Bromofluorobenzene (Surrogate)	%	-	77
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB218194.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	95

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 give a different calculated RPD.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.009	LB218484.014	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	190	211.5	31	11
SE216259.013	LB218484.019	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	210	97.686956521	31	6

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216207.003	LB218227.023	Mercury	mg/kg	0.05	<0.05	<0.05	151	0
SE216259.009	LB218227.014	Mercury	mg/kg	0.05	0.06	0.06	109	3

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.012	LB218201.024		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0.0113293899	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.1310148631	30	7

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.006	LB218201.014		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	7

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

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 give a different calculated RPD.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.006	LB218201.014		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(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	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	7
SE216259.013	LB218201.025		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0052447559	200	0
			Chrysene	mg/kg	0.1	<0.1	0.0060395595	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.0045254322	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4283459148	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4490362699	30	17
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4100442709	30	2

PCBs in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.012	LB218201.024	Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	0	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 give a different calculated RPD.

PCBs in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.012	LB218201.024		Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.1310148631	30	7

pH in soil (1:5)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.009	LB218484.014	pH	pH Units	0.1	8.0	8.0	31	1
SE216259.013	LB218484.019	pH	pH Units	0.1	7.4	7.3	31	2

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 %
SE216207.003	LB218220.024	Arsenic, As	mg/kg	1	4	3	58	14
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	23	18	32	27
		Copper, Cu	mg/kg	0.5	6.7	6.7	37	0
		Nickel, Ni	mg/kg	0.5	2.0	2.0	55	3
		Lead, Pb	mg/kg	1	80	43	32	61 ②
		Zinc, Zn	mg/kg	0.5	86	77	32	11
SE216259.008	LB218220.014	Arsenic, As	mg/kg	1	3	3	61	2
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	12	13	34	9
		Copper, Cu	mg/kg	0.5	24	26	32	7
		Nickel, Ni	mg/kg	0.5	14	17	33	17
		Lead, Pb	mg/kg	1	12	14	38	14
		Zinc, Zn	mg/kg	0.5	30	32	36	6

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216259.006	LB218201.014		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
SE216259.013	LB218201.025		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216206.001	LB218194.025	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	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.2	7.1	50	15
			d8-toluene (Surrogate)	mg/kg	-	8.0	7.1	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.3	5.5	50	13
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	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 give a different calculated RPD.

VOC's in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216206.001	LB218194.025	Totals	Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE216259.006	LB218194.014	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	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	7.6	50	9
			d8-toluene (Surrogate)	mg/kg	-	8.1	7.3	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.6	5.7	50	14
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE216206.001	LB218194.025		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	-	8.2	7.1	30	15
			d8-toluene (Surrogate)	mg/kg	-	8.0	7.1	30	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.3	5.5	30	13
		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
SE216259.006	LB218194.014		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	-	8.4	7.6	30	9
			d8-toluene (Surrogate)	mg/kg	-	8.1	7.3	30	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.6	5.7	30	14
		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

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.

Conductivity and TDS by Calculation - Soil

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218484.002	Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	NA	303	85 - 115	96

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218227.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	101

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218201.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	79
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	78
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	78
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	80
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	82
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	81
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.15	40 - 130	80

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218201.002		Dichlorvos	mg/kg	0.5	1.7	2	60 - 140	85
		Diazinon (Dimpylate)	mg/kg	0.5	1.6	2	60 - 140	81
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	85
		Ethion	mg/kg	0.2	1.5	2	60 - 140	77
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	73

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218201.002		Naphthalene	mg/kg	0.1	3.8	4	60 - 140	95
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	98
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	97
		Phenanthrene	mg/kg	0.1	3.7	4	60 - 140	94
		Anthracene	mg/kg	0.1	3.7	4	60 - 140	93
		Fluoranthene	mg/kg	0.1	3.6	4	60 - 140	91
		Pyrene	mg/kg	0.1	3.8	4	60 - 140	95
		Benzo(a)pyrene	mg/kg	0.1	4.0	4	60 - 140	100
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	73

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218201.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	110

pH in soil (1:5)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218484.003	pH	pH Units	0.1	7.4	7.415	98 - 102	99

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 %
LB218220.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	4.7	5.41	80 - 120	86
	Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	98
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	104
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	99
	Lead, Pb	mg/kg	1	91	89.9	80 - 120	101
	Zinc, Zn	mg/kg	0.5	270	273	80 - 120	100

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

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218201.002		TRH C10-C14	mg/kg	20	43	40	60 - 140	108
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	93
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	85
	TRH F Bands	TRH >C10-C16	mg/kg	25	41	40	60 - 140	103
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	85

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218194.002	Monocyclic	Benzene	mg/kg	0.1	3.6	5	60 - 140	71
	Aromatic	Toluene	mg/kg	0.1	3.6	5	60 - 140	72
		Ethylbenzene	mg/kg	0.1	4.0	5	60 - 140	80
		m/p-xylene	mg/kg	0.2	8.1	10	60 - 140	81
		o-xylene	mg/kg	0.1	4.0	5	60 - 140	81
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
		d8-toluene (Surrogate)	mg/kg	-	8.5	10	70 - 130	85
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	10	70 - 130	75

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB218194.002		TRH C6-C10	mg/kg	25	75	92.5	60 - 140	82
		TRH C6-C9	mg/kg	20	65	80	60 - 140	81
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.5	10	70 - 130	75
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	52	62.5	60 - 140	83

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 in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216266.001	LB218227.004	Mercury	mg/kg	0.05	0.23	0.06	0.2	84

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216177.001	LB218201.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	-	-
			Alpha BHC	mg/kg	0.1	<0.1	0	-	-
			Lindane	mg/kg	0.1	<0.1	0	-	-
			Heptachlor	mg/kg	0.1	0.2	0	0.2	92
			Aldrin	mg/kg	0.1	0.2	0	0.2	88
			Beta BHC	mg/kg	0.1	<0.1	0	-	-
			Delta BHC	mg/kg	0.1	0.2	0	0.2	91
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	0	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	0	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	0	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	0	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	0	-	-
			Dieldrin	mg/kg	0.2	0.2	0.04787442130	0.2	91
			Endrin	mg/kg	0.2	0.2	0.03866196215	0.2	93
			o,p'-DDD	mg/kg	0.1	<0.1	0	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	0	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	0.03866196215	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	0	-	-
			p,p'-DDT	mg/kg	0.1	0.2	0.01037774785	0.2	88
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	-	-
			Methoxychlor	mg/kg	0.1	<0.1	0.04238652127	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	0.00516166926	-	-
			Isodrin	mg/kg	0.1	<0.1	0	-	-
			Mirex	mg/kg	0.1	<0.1	0.02682510270	-	-
			Total CLP OC Pesticides	mg/kg	1	1	0.17274653615	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.12849559088	-	93

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216177.001	LB218201.004		Naphthalene	mg/kg	0.1	4.0	0.31182215740	4	91
			2-methylnaphthalene	mg/kg	0.1	0.2	0.16022350859	-	-
			1-methylnaphthalene	mg/kg	0.1	0.1	0.13120258546	-	-
			Acenaphthylene	mg/kg	0.1	5.6	1.62438924629	4	99
			Acenaphthene	mg/kg	0.1	3.8	0.02794421695	4	94
			Fluorene	mg/kg	0.1	0.2	0.15188322978	-	-
			Phenanthrene	mg/kg	0.1	4.2	0.42537601907	4	95
			Anthracene	mg/kg	0.1	4.1	0.39188814711	4	92
			Fluoranthene	mg/kg	0.1	5.2	1.31675663023	4	97
			Pyrene	mg/kg	0.1	7.0	3.07850479970	4	99
			Benzo(a)anthracene	mg/kg	0.1	1.3	1.22650370975	-	-
			Chrysene	mg/kg	0.1	2.4	2.53109593148	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	1.8	1.61166238497	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.9	0.97893752307	-	-
			Benzo(a)pyrene	mg/kg	0.1	6.9	2.49356035617	4	111
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	2.1	1.96310740655	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	0.3	0.24242738448	-	-
			Benzo(ghi)perylene	mg/kg	0.1	2.1	1.91742343359	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	7.8	3.36440616864	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	7.8	3.36440616864	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	7.8	3.36440616864	-	-
			Total PAH (18)	mg/kg	0.8	52	20.61588577274	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.41401976985	-	86

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%
SE216177.001	LB218201.004	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.42945449269	-	87
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.42080715567	-	83

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216177.001	LB218201.004		Arochlor 1016	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1260	mg/kg	0.2	0.4	0	0.4	110
			Arochlor 1262	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	0	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	0	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.12849559088	-	93

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%
SE216266.001	LB218220.004		Arsenic, As	mg/kg	1	47	3	50	88
			Cadmium, Cd	mg/kg	0.3	43	<0.3	50	85
			Chromium, Cr	mg/kg	0.5	78	32	50	91
			Copper, Cu	mg/kg	0.5	62	17	50	91
			Nickel, Ni	mg/kg	0.5	66	22	50	89
			Lead, Pb	mg/kg	1	60	16	50	88
			Zinc, Zn	mg/kg	0.5	95	48	50	94

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216177.001	LB218201.004		TRH C10-C14	mg/kg	20	46	0	40	115
			TRH C15-C28	mg/kg	45	250	191	40	145 ⑨
			TRH C29-C36	mg/kg	45	390	293	40	238 ⑨
			TRH C37-C40	mg/kg	100	140	101	-	-
			TRH C10-C36 Total	mg/kg	110	680	484	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	800	579	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	49	0	40	123
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	45	-0.31182215740	-	-
			TRH >C16-C34 (F3)	mg/kg	90	470	376	40	238 ⑨
			TRH >C34-C40 (F4)	mg/kg	120	280	203	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216177.001	LB218194.004	Monocyclic	Benzene	mg/kg	0.1	3.5	0.00679286760	5	69
		Aromatic	Toluene	mg/kg	0.1	3.5	0.02178098085	5	70
			Ethylbenzene	mg/kg	0.1	4.0	0.03032136634	5	79
			m/p-xylene	mg/kg	0.2	8.0	0.06792830173	10	79
			o-xylene	mg/kg	0.1	4.0	0.03715568065	5	79
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	0.01379141312	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	8.72279367063	10	89
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.60677936913	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.6	7.12331958871	10	76
		Totals	Total Xylenes	mg/kg	0.3	12	0.10508398238	-	-
			Total BTEX	mg/kg	0.6	23	0	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE216177.001	LB218194.004		TRH C6-C10	mg/kg	25	82	0.30769936298	92.5	88
			TRH C6-C9	mg/kg	20	67	0.18070742326	80	84
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.9	8.72279367063	10	89
			d8-toluene (Surrogate)	mg/kg	-	8.8	8.60677936913	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.6	7.12331958871	-	76
		VPH F	Benzene (F0)	mg/kg	0.1	3.5	0.00679286760	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	59	0.30769936298	62.5	94

MATRIX SPIKE DUPLICATES

SE216259 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 end of this report for failure reasons.

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.

SAMPLE RECEIPT ADVICE

SE216259

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY
Address	14 DAPHNE STREET COLO VALE NSW 2575
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-759**
Order Number	**6204505**
Samples	15

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 8/2/2021
Report Due	Fri 12/2/2021
SGS Reference	**SE216259**

SUBMISSION DETAILS

This is to confirm that 15 samples were received on Monday 8/2/2021. Results are expected to be ready by COB Friday 12/2/2021. Please quote SGS reference SE216259 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	15 Soil
Date documentation received	8/2/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	17°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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

SE216259

CLIENT DETAILS

Client DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY LTD Project DDE-759

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	E13	-	-	26	-	1	10	11	7
002	E14	29	14	26	11	1	10	11	7
003	E15	-	-	26	-	1	10	11	7
004	E16	29	14	26	11	1	10	11	7
005	E17	-	-	26	-	1	10	11	7
006	E18	29	14	26	11	1	10	11	7
007	E19	-	-	26	-	1	10	11	7
008	E20	29	14	26	11	1	10	11	7
009	E21	-	-	26	-	1	10	11	7
010	E22	29	14	26	11	1	10	11	7
011	E23	-	-	26	-	1	10	11	7
012	E24	29	14	26	11	1	10	11	7
013	E25	-	-	26	-	1	10	11	7
014	Trip Blank	-	-	-	-	-	-	11	-
015	Trip Spike	-	-	-	-	-	-	11	-

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

SE216259

CLIENT DETAILS

Client DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY LTD Project DDE-759

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Soil	Fibre Identification in soil	Mercury in Soil	Total Recoverable Elements in Soil/Waste
001	E13	1	2	1	7
002	E14	1	2	1	7
003	E15	1	2	1	7
004	E16	1	2	1	7
005	E17	1	2	1	7
006	E18	1	2	1	7
007	E19	1	2	1	7
008	E20	1	2	1	7
009	E21	1	2	1	7
010	E22	1	2	1	7
011	E23	1	2	1	7
012	E24	1	2	1	7
013	E25	1	2	1	7

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 .

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS tal Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name: Dirt Doctors
Address: 5/15 Aero Rd, Ingleburn
Contact Name: Mitchell Tofler

Project Name/No: DDE-759
Purchase Order No: 6204505
Results Required By: 12.02.2021 TAT
Telephone: 0424 639 602
Facsimile:
Email Results: mitch@dirtdoctors.com.au joanna@dirtdoctors.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Reg 9 (No FM)	Asbestos ID in soil	SV9	QA Copper	QC Copper	Blank	BTEX/PAHs
E13	05.02.2021	1		*		4	*	*		*	*		
E14	05.02.2021	2		*		2	*	*	*				
E15	05.02.2021	3		*		2	*	*					
E16	05.02.2021	4		*		2	*	*	*				
E17	05.02.2021	5		*		2	*	*					
E18	05.02.2021	6		*		2	*	*	*				
E19	05.02.2021	7		*		2	*	*					
E20	05.02.2021	8		*		2	*	*	*				
E21	05.02.2021	9		*		2	*	*					
E22	05.02.2021	10		*		2	*	*	*				
E23	05.02.2021	11		*		2	*	*					
E24	05.02.2021	12		*		2	*	*	*				
E25	05.02.2021	13		*		2	*	*					
Trip Blank		14										*	
Trip Spike		15											*

SGS EHS Sydney COC
SE216259

Relinquished By: M.Tofler	Date/Time: 08.02.2021	[redacted]	Date/Time 8/2/21 @ 4:30pm
Relinquished By:	Date/Time:		Date/Time
Samples Intact: Yes	Temperature: Chilled	Sample Cooler Sealed: Yes	Laboratory Quotation No:

APPENDIX C

HISTORICAL SEARCHES

APPENDIX D

PREVIOUS INVESTIGATIONS