NATA
ACCREDITED FOR TECHNICAL COMPETENCE

Accredited for compliance with ISO/IEC 17025
Accreditation No. 19119

DIRT DOCTORS

GEOTECHNICAL TESTING SERVICES

Prepared For: Oar2 Pty Ltd
Address: 101 Nuwarra Road, Moorebank NSW
Job No: DDE-382_1
Date: 04-02-19

Dirt Doctors Pty Ltd
ABN 53 159 700 419

Phone: (02) 9605 4433 Email: info@dirtdoctors.com.au
www.dirtdoctors.com.au

OAR2 Pty Ltd
DDE-382_1

Stage 2 Environmental Investigation

101 Nuwarra Road, Moorebank NSW

Report No.	DDE-382_1
Date	04-02-2019
Revision	2

TABLE OF CONTENTS

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
bgs Below ground surface
CSM Conceptual site model
BTEX Benzene, toluene, ethylbenzene and xylenes
B(a)P Benzo(a)pyrene
CCA Copper Chromate Arsenate
COC Contaminants of 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 combined Stage1/Stage2 Detailed Site Investigation (DSI) for 101 Nuwarra Road, Moorebank NSW (the site). The site is currently occupied by multiple commercial developments and associated car park/hardstand areas. The site is legally defined Lot 1 in Deposited Plan 230908 and Lot 101 in Deposited Plan 601256. The site is proposed to be developed into a multiple commercial development, residential apartments and basement car park.

The site is bounded by Lucas Avenue followed by Nuwarra Public School to the west, Moorebank Library followed by Maddecks Avenue to the south, Nuwarra Road followed by residential dwellings to the east and residential dwellings to the north. The site encompasses a total area of approximately 5210m^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 eighteen (18) soils samples drilled to 1.5m below existing surface level, collection of three groundwater samples from installed monitoring wells, together with preparation of this report.

Historical review has indicated that the site was previously vacant land before being converted to a commercial development. From historical review, since being developed, the land is likely to have been used for commercial use with no obvious change.

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;
- Asbestos in onsite structures;
- Potential contamination as a results of farming before being developed;
- Hardstand areas where leaks and spills from vehicles may have occurred; and
- Lead paint used in construction of early structures.

Dirt Doctors therefore recommended material testing be carried out to determine the presence of contamination in order to determine the suitability of the site for proposed re-development and continued commercial use.

A search of the NSW EPA Contaminated Land Management record of notices for the Moorebank area can be found. 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.

A search of the POEO public register of licensed and delicensed premises (DECC) indicated the subject site is not listed and no licensed premises 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.

An intrusive soil investigation was conducted on the site. A total of fifteen (15) boreholes were excavated at selected locations across the site with samples collected from the in-situ material in a judgmental based sampling method.

Eighteen (18) soils samples and three (3) groundwater samples were recovered and sent to a NATA accredited laboratory for analysis. Test results revealed levels of heavy metals are below the adopted assessment criteria (HILs (B), 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 'Residential with Minimal Opportunities for Soil Access' ('B') setting.

This report is a Detailed Site 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 the proposed development in a 'Residential with Minimal Opportunities for Soil Access' ('B') setting 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 Contamination Investigation with testing and analysis as requested by Oar2 Pty Ltd at the site;
101 Nuwarra Road, Moorebank NSW (the site).

The site is proposed to be developed into a multiple commercial development, residential apartments and basement car park. At the time of DD investigation, the site was occupied by multiple commercial developments and associated car park/hardstand areas.

The Investigation was requested to determine the suitability for the proposed development in accordance with the National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013.

1.2 Previous Investigations

DD were not made aware of any previous investigations at the site.

2.0 SCOPE OF WORK

The following scope of work was conducted by DD:

2.1 Objectives of the Investigation

The objectives of the investigation are as follows:

- To determine whether onsite material meets National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013 criteria; and
- If the material fails to meet the assessment criteria, provide guidance for remediation of impacted soils and groundwater.

This Stage 2 Assessment Report has been prepared to address the above objectives, with the following scope of work undertaken:

- Review of historical information relating to the site and surrounding area;
- Preparation of a CSM for the onsite material and subsequent material suitability assessment;
- Identification of data gaps and data quality issues;
- 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 proposed to be developed as a multiple commercial development, residential apartments and basement car park. The site is legally defined as Lot 1 in Deposited Plan 230908 and Lot 101 in Deposited Plan 601256.

The site is bounded by Lucas Avenue followed by Nuwarra Public School to the west, Moorebank Library followed by Maddecks Avenue to the south, Nuwarra Road followed by residential dwellings to the east and residential dwellings to the north. The site encompasses a total area of approximately 5210m^2.

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

- The main access to the property was along Nuwarra Road;
- Exposed surface material comprised predominantly concrete and bitumen hardstand. Garden areas comprised clayey silt, sand and gravel and garden mulch;
- No surface standing water was noticed at the site;
- Minor staining of hardstand areas was observed;
- There were no indicators of underground storage tanks within the site; and
- Potential Asbestos Containing Material (ACM) was observed in onsite structures.

3.1 Topography

The site has an approximate average height of 28m above Australian Height Datum (AHD) and grades west towards Lucas Avenue.

3.2 Geology

The 1:100,000 Penrith Geological information indicates that the site is underlain by Triassic aged Bringelly Shale of the Wianamatta Group and generally comprises Shale, carbonaceous claystone, claystone, laminate, fine to medium grained lithic sandstone, rare coal and tuff.

Onsite excavations as part of this investigation identified the subsurface profile to comprise:

- Silty Clay, some Sand and Gravel (Fill)
- Silty Clay, Orange Brown (Residual)
- Bedrock, Sandstone, Low Strength

3.3 Hydrogeology

A review of Bureau of Meteorology records for groundwater bores indicated no bores within a 500m radius of the subject site. Three installed monitoring wells identified groundwater 5.4m below existing surface level.

3.4 Surface Water Flows

Based on site topography, surface water flows would be expected to flow west towards Lucas Avenue.

3.5 Acid Sulfate Soils

Acid sulfate soil risk maps indicate that the subject site is situated in a region with low probability of acid sulfate soils, however; pH analysis of samples collected confirms the absence of actual acid sulfate soils. Additionally, there were no visual signs of acid sulfate affected soils.

4.0 SITE HISTORY

Aerial photographs indicate the site was vacant until being developed. Since being developed, the site appears to have been predominantly used for commercial use. Aerial Photographs were obtained by this office from the NSW Department of Lands Office. The aerial photographs were reviewed to assess the likely past uses of the site with the findings summarised below;

1943 – The site appears to be vacant land. Grass and vegetation can be seen throughout the property. The site is bordered by vacant rural land.

1955 – The site appears to be occupied by a rural residential structure with associated garden/storage sheds.

1970 – The existing structure has been demolished. A commercial structure and an adjacent residential structure has been constructed. Significant residential development surrounding the site.

1975 – Photo resolution is poor. Increased commercial development onsite with multiple structures erected and with adjacent vehicle car park/hardstand. Increased residential development surrounding the site.

2017 – Little change to the site and surrounding area.

4.1 Search of Contaminated Land Management Register (NSW EPA)

A search of the NSW EPA Contaminated Land Management record of notices for the Moorebank area can be found. 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 no licensed premises 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.

5.0 SITE CONDITION AND SURROUNDING ENVIRONMENT

One (1) site investigation was conducted on 15th November 2018. The field observations are summarized in the table below:

Table 1 – Summary of Field Observations

Parameter	Observation
Visible observations on site contamination	No contamination was observed.
Presence of drums, fill or waste materials	No waste material observed.
Presence of fill	Fill material identified beneath car park/hardstand areas.
Flood potential	No potential flood prone area was identified during the investigation.
Odours	No odours were detected.

5.1 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 vapors; and
- Dissolution or suspension (leaching) from soils to groundwater; and
- Ecological exposure to impacted soil and groundwater

Pathways not considered:

- Ingestion of impacted biota (terrestrial or aquatic);

5.2 Receptors

The potential receptors for the contaminants of concern are:

- Site workers (acute / short term risks);
- Future site users (including residential);
- Residents near the site;
- Recipients receiving material transported from site; and
- Groundwater;

5.3 Preliminary Conceptual Model

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

- Dermal contact with impacted soils in landscaped areas by future site users and from processed 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 with impacted soils in landscaped areas by future site users;
- 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;
- 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);
- Inhalation of volatile contaminant from soil/groundwater by site workers during construction (indoor and outdoor);
- Pollution of groundwater could occur through the downward migration of leachable contaminants;

In addition, the onsite material will be excavated as part of the proposed development, therefore the risks for dermal contact, incidental ingestion, and inhalation of particulate matter will be limited to landscaped areas post development.

It should be noted that site workers during construction works are considered to be a less sensitive receptor than future site users of the development due to the reduced exposure risk arising for the site occupancy of the construction workers, time per day, number of days, and the risk management provided by the typical minimum PPE requirements for construction workers in Australia, therefore are not considered as a specific receptor further.

The proposed development will remove all fill material during the proposed basement excavation and associated site works. Material being removed will be properly classified in accordance with EPA NSW Waste Classification guidelines, which will be properly classified through laboratory analysis and onsite investigations.

6.0 DATA GAP ANALYSIS

The data gaps identified as part of the stage 2 investigation have been incorporated and are presented below:

- Potential asbestos containing material within onsite structures; and
- The quality of soils under the existing building footprints and beneath hardstand areas within the site.

7.0 SAMPLING & ANALYSIS PLAN AND SAMPLING METHODOLOGY

Sampling and analysis was undertaken in order to assess the nature, location and likely distribution of any contamination present at the subject site, and also any potential risk posed to human health and/or the environment. Test results were compared to the relevant assessment criteria.

7.1 Data Quality Objectives (DQO)

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.

7.2 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. The problem at the site, is the potential for soil/groundwater contamination as a result from commercial site use. Contaminants identified exceed the adopted acceptance criteria.

Additionally, as is the goal of this stage 2 investigation, is to determine if the site is suitable for the proposed development and if remaining soils pose any potential risk to human health and/or the environment.

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 during the investigation before any construction works commence?
- After analysis of samples collected, does the process comply NEPM 2013 and relevant assessment criteria?
- If contaminants are present in soil above the relevant guideline criteria does a complete source – exposure pathway – receptor link exist, or will exist during and following the proposed development works;
- Following potential conformance with the assessment criteria, has the material being removed and any material remaining onsite been analysed in accordance with NEPM 2013?
- 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:

- 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 results of proposed site works and existing site contamination;
- The contaminants of concern are as follows:
    - Petroleum Hydrocarbons (analysed as TRH);
    - Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX);
    - Polycyclic Aromatic Hydrocarbons (PAHs);
    - Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc; and
    - Asbestos.
- Adopted assessment criteria presented in National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013.

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 boundaries at 101 Nuwarra Rd, Moorebank, Lot 1 in Deposited Plan 230908 and Lot 101 in Deposited Plan 601256 as shown on Figure 1. Additionally, onsite sampling will be contained to material excavated from selected borehole locations;
- Vertical – as the site is predominantly covered in hardstand, the vertical extent of the investigation is 1.5m from existing surface level in selected borehole locations;
- Temporal – The proposed assessment works involves the collection of discrete sampling at 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 the report;
- 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;
- 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:
  - The samples analysed must comply with National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013 assessment criteria;
  - The calculated 95% Upper Confidence Level value (95%UCL) for material analysed do not identify concentrations in excess of the adopted assessment criteria;
- The results of the asbestos analyses must meet the following criteria:
  - No observed Asbestos Containing Material (ACM) on site surface and no detections in excess of 0.01% w/w.

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 error to be applied in the investigation have been developed based on Data Quality Indicators of precision, accuracy, representativeness, comparability and completeness in accordance with 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 should not exceed the adopted assessment criteria;

- No single analytical result for a COPC should exceed the adopted assessment criteria;
- Test reports are to comply with test methods, requirements and sampling procedures defined in National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013;
- 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 is to be documented 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:

FIELDWORK PROGRAMME

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 remaining remediated site material.

Site Inspection

A site walkover inspection will be undertaken as part of the fieldwork programme. The walkover assessment will identify:

- Any evidence of contamination arising as part of past and current site activities;
- Any asbestos containing materials or lead paint which may have been used in construction of early structures; 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.

SOIL SAMPLING PROGRAMME

Sample Requirements

A total of fifteen sample locations are to be analysed from excavated material. Total samples collected meet the requirements of Contaminated Sites – Sampling Design Guidelines published by NSW Environment Protection Authority (EPA) 1995.

Sample Pattern

Sample locations are to be selected on a targeted/judgmental pattern, to ensure representative coverage and suitable assessment of the underlying site material. If contamination, whether by staining, odours or visual indicators is observed, samples are to be targeted in the identified area to adequately document any contaminants above the adopted assessment criteria and accurately classify site material.

Sample Depth

Samples will be collected 0.2m from surface sample points to assess the underlying fill material and from the underlying natural material, assuming the sample location is homogeneous. If the sample point is not homogeneous, a sample is to be collected from each material type/soil horizon.

Field Screening

Field screening of samples will be carried out by a combination of olfactory and visual contamination indications such as odours, staining or the presence of large particles and foreign materials, such as building rubble, asbestos etc.

Method of Sample Collection

Care will be taken to ensure that representative samples are obtained and that the integrity is 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.

Sample Collection

Sampling locations will be excavated using a vehicle mounted drill rig. Samples will be collected using either a decontaminated stainless steel trowel or by using new nitrile gloves for each sample directly from the auger, and placing the soil directly into laboratory supplied containers.

Decontamination Procedures

Sampling equipment, such as trowels, will be 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

Sample Containers

Soil sample containers will comprise glass jars with Teflon lined lids, supplied by the laboratory. The containers will be labelled with the unique project job number and unique sample number.

Method of Sample Storage and Handling

The samples will immediately be placed in a cooler to keep the samples below a temperature of approximately $4^{o}C$. At the end of each day, the samples in the cooler will be transported to laboratory. If sampling times don't allow immediate transport to the laboratory, samples are to be transferred into a designated fridge or other means to maintain the desired sample temperature.

Sample Logging and QA/QC Data

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

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

All samples will be classified in the field based on soil/groundwater characteristics and obvious signs of contamination such as discolouration or odour will be documented on the sample log.

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

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

GROUNDWATER SAMPLING PROGRAMME

Well Installation

Three monitoring wells were installed (G1-G3) in selected locations using solid stem and hollow flight augering, under the supervision of DD. The well installation comprised 50mm diameter PVC and slotted screens to an approximate depth of 12m below existing surface level. Coarse grained sand was placed surrounding the pipe, and was plugged using bentonite pellets to prevent surface run-off from entering the well. The wells were capped using a PVC cap.

Well volumes were removed to achieve groundwater equilibrium was achieved and no further reduction in turbidity was observed.

Sample Collection

Sample were collected using a low flow pump and were placed into laboratory prepared bottles. Samples were placed into a cooler for transport to SGS laboratory. All sampling equipment was decontaminated before and after use to prevent cross contamination.

8 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.

8.1 FIELD QA/QC PROGRAMME

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

8.1.2 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.

8.2 Duplicate Sampling

Duplicate samples were prepared in the field in order to determine the accuracy of the analytical programs.

Approximately twice the normal amount of soil was collected and placed in a decontaminated stainless steel bowl. The sample was split into 2 portions. One portion was placed in a 250g laboratory prepared glass jar, capped using Teflon-sealed screw cap and then labelled sample E18. The second portion was placed into a second identical jar, labelled Copper E18 QA, with a triplicate sample sent to SGS labelled Copper E18 QC.

The results of SGS certificates of analysis and ALS certificates of analysis are attached in Appendix B. The duplicate sample comparison indicates that the difference of laboratory test results produced by SGS are <30%, and therefore are of acceptable accuracy for this report.

Table 2 – Field Duplicates

Laboratory	QC Type	No. of samples	RPD %	QC Acceptance Criteria
SGS	Field Duplicates	1	All <30	Achieved
SGS	Field Triplicate	1	All <30	Achieved

8.3 Reporting Requirements and Record Keeping

The processor of material being exported from site must:

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

8.4 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.

8.4.1 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.

8.4.2 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.

8.4.3 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.

8.4.4 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 3 – RPDs

Laboratory	QC Type	QC Outliners Occur	QC Acceptance Criteria
SGS	Laboratory Blanks	No	Achieved
SGS	Laboratory Duplicates	Yes,1	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.

8.4.5 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.

8.4.6 Sample Holding Times

The holding times for samples at SGS and ALS 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):

Table 4 – Holding Times

Laboratory	Analyte	Date Sampled	Date Received	Date of Extraction/ Analysis	Holding Time	Allowable Holding Time
SGS	Metals	15-11-18	16-11-18	16-11-18	1 day	6 months*
SGS	Total Petroleum Hydrocarbons (TPH), PAH, BTEX	15-11-18	16-11-18	16-11-18	1 day	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.

8.4.7 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.

9.0 QUALITY ASSESSMENT AND QUALITY CONTROL DATA EVALUATION

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

9.1 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

9.2 Data Completeness

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

9.3 Data Representativeness

This is achieved by the following:

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

9.4 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.

9.5 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.
- The analysis of duplicate and split samples.
- Acceptable RPD for duplicate and split samples overall.
- Acceptable laboratory performance based on results of blank, matrix spike, control, duplicate and surrogate samples.

9.6 Data Evaluation

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 5 – 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

10.0 BASIS FOR ASSESSMENT CRITERIA

The Assessment criteria used in this investigation have been obtained from the following guideline documents:

- The National Environment Protection (Assessment of Site Contamination) Measure (NEPM, 2013). This document presents risk-based Health Investigation Levels based on a variety of exposure settings for a number of organic and inorganic contaminants. To assess the risk to human health the results of the laboratory analysis are compared against the Health Investigation Levels (HIL) for the exposure setting; 'Residential with Minimal Opportunities for Soil Access' ('B').

- Ecological Investigation Levels (EILs) for metals are applicable for assessing the risk to terrestrial ecosystems.

- Ecological Screening Levels (ESLs) for petroleum hydrocarbon compounds for assessing the risk of many species in the root and habitation zone.

- Health Screening Levels (HSLs) to assess human health risks via the inhalation and direct exposure pathways.

- Groundwater Investigation Levels (GILs) to assess groundwater quality trigger levels for aquatic ecosystems.

Table 6 – Basis of Assessment

Contaminant	Assessment Criteria (mg/kg)		Guidelines
	Health Based Investigation Level (HIL'B')	Ecological Investigation/ Screening Levels	
Inorganics **(Heavy Metals)**			
Arsenic (total)	500	100	NEPM (2013)
Cadmium	150	-	NEPM (2013)
Chromium (vI)	500	190	NEPM (2013)
Copper	30000	60	NEPM (2013)
Lead	1200	1100	NEPM (2013)
Mercury	30	-	NEPM (2013)
Nickel	1200	30	NEPM (2013)
Zinc	60000	70	NEPM (2013)
Organics **TPH**			
C^6-C^{10}/C^{16}-C^{34}	50/-280		NSW EPA,
Benzene	0.7	65	DECC 2009 &
Toulene	480	105	NEPM (2013)
Xylene	110	45	NEPM (2013)
Phenol	240000		NEPM (2013)
PAH	400		NEPM (2013)
B(a)P	4	0.7	NEPM (2013)

11.0 LABORATORY TEST RESULTS

Test results are tabulated and presented below (tables 8, and 9) along with the relevant assessment criteria. Laboratory test certificates are located in Appendix B

Table 7 – Analysis Solid Samples collected

Contaminant	Maximum Concentration mg/kg	Health Based Investigation Levels HIL 'B' mg/kg	Ecological Investigation/ Screening Levels mg/kg	Absolute Maximum Analyte Criteria ENM Order 2014 mg/kg	95% Upper Confidence Limit (UCL)
Arsenic	5	500	100	40	2
Cadmium	<0.3	150	-	1	<0.3
Chromium	7.6	500	190	150	5.8
Lead	190	1200	1100	100	45
Mercury	0.21	30	-	1	0.08
Nickel	2.7	1200	30	60	2.1
Zinc	62	60000	70	300	50
Copper	28	30000	60	200	17
Benzene	<0.1	0.7	65	0.5	<0.1
Toluene	<0.1	480	105	65	<0.1
Xylenes (total)	<0.1	110	45	NA	<0.1
Benzo(a) Pyrene	0.5	4	0.7	1	0.2
Polynuclear Aromatic Hydrocarbons (PAH's)	5.2	400	-	40	2.7
Petroleum Hydrocarbon Components – C6-10	<25	50	-	NA	<25
Petroleum Hydrocarbon Components – C16-34	<110	280	-	500	<110
Asbestos	No	<0.01	-	-	-

Table 8 – Analysis Groundwater Samples collected

Contaminant	Maximum Concentration mg/kg	Groundwater Investigation Levels
Arsenic	<1	24
Cadmium	<0.1	0.7
Chromium	<1	4.4
Lead	<1	4.4
Mercury	<0.0001	0.1
Nickel	<1	7
Zinc	<0.005	15
Copper	<0.001	1.3
Benzene	-	500
Toluene	-	-
Xylenes (total)	-	350
Benzo(a)Pyrene	<0.1	-
Naphthalene	<0.1	50
Petroleum Hydrocarbon Components – C6-10	<50	-
Petroleum Hydrocarbon Components – C16-34	<500	-

Table 9: Asbestos Test Results

Sample ID/Location	Asbestos Detected	Type of Asbestos
E1	No	NA
E2	No	NA
E3	No	NA
E4	No	NA
E5	No	NA
E6	No	NA
E7	No	NA
E8	No	NA
E9	No	NA
E10	No	NA
E11	No	NA
E12	No	NA
E13	No	NA
E14	No	NA
E15	No	NA

11.1 Heavy Metals

Heavy metal concentrations for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc are presented in Table 7. The soil concentrations of all metals were compared to the relevant assessment criteria (HILs B). Metal concentrations were within the HILs B criteria, hence heavy metal levels on site are considered acceptable at the adopted exposure settings.

Groundwater heavy metal concentrations were compared to the relevant assessment criteria (GILs). Initial readings identified elevated levels of heavy metals, so a second round of analysis was undertaken. The repeat analysis identified heavy metal concentration levels below the adopted assessment criteria, are of no concern.

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

The TPH, PAH and BTEX concentrations, presented in Table 7, 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.

11.3 Asbestos Test Results

The Asbestos test results are presented in table 9. No asbestos was detected within samples obtained from site, hence indicating the site is not contaminated with asbestos.

12.0 SITE CHARACTERISATION

As can be seen in the previous Section 11.0 (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.

13.0 CONCLUSION AND RECOMMENDATIONS

The conclusion of this Stage 2 Contamination Assessment 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 at the site pose no risk to human health and/or the environment for the exposure setting; 'Residential with Minimal Opportunities for Soil Access' ('B').

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.

14.0 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.

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

View from Nuwarra Road

Hardstand Adjacent to Nuwarra Road

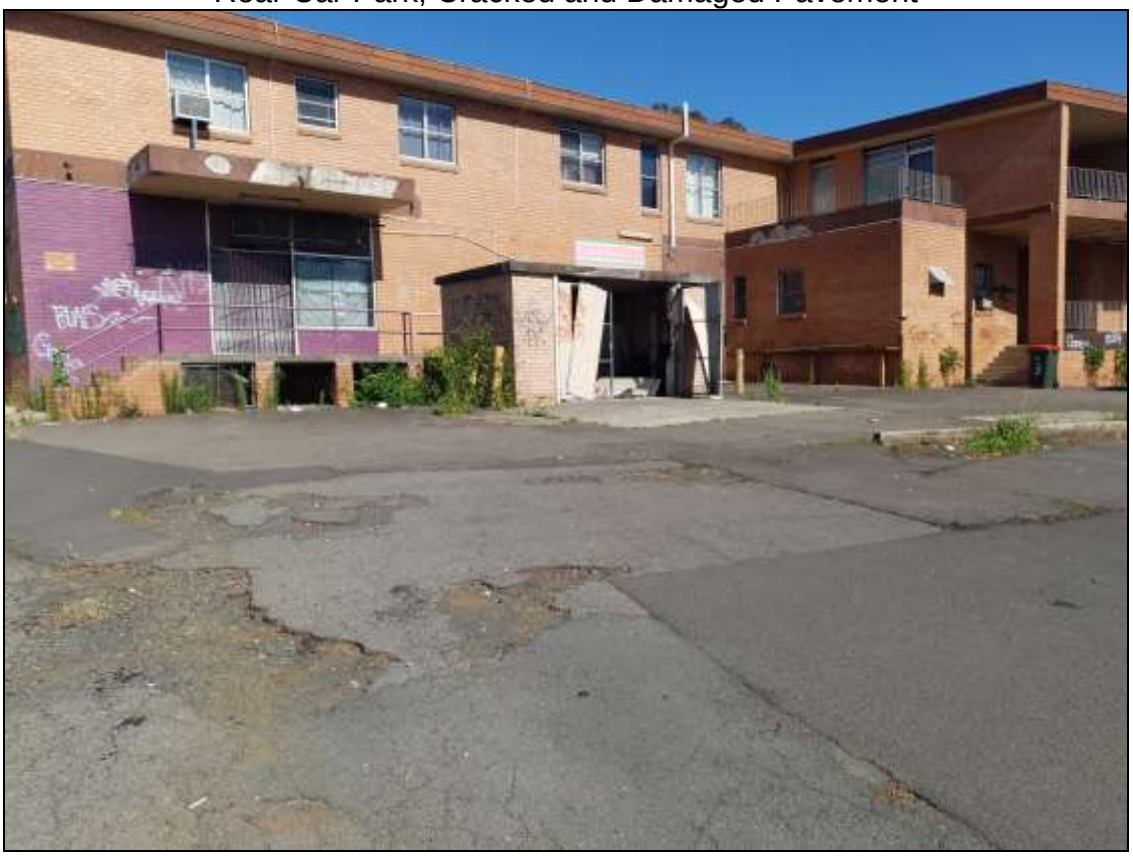
Pedestrian Access, Cracked Pavement

Rear Car Park

Rear of Structure, View from Lucas Avenue

Side Access, View from Lucas Avenue, Cracked Pavement

Rear Car Park, Cracked and Damaged Pavement



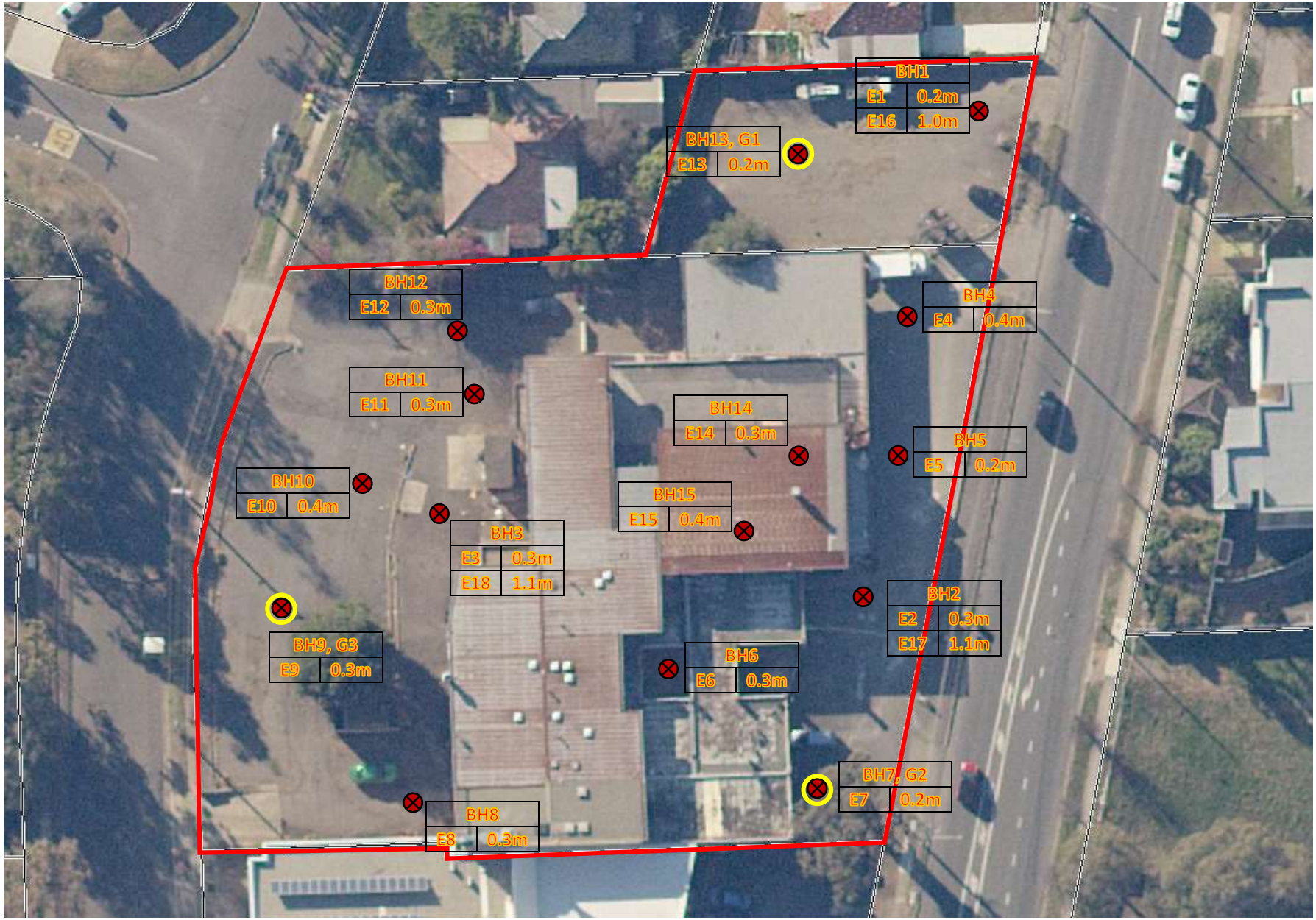
View from Lucas Avenue

Front Car Park, Cracked and Damaged Pavement

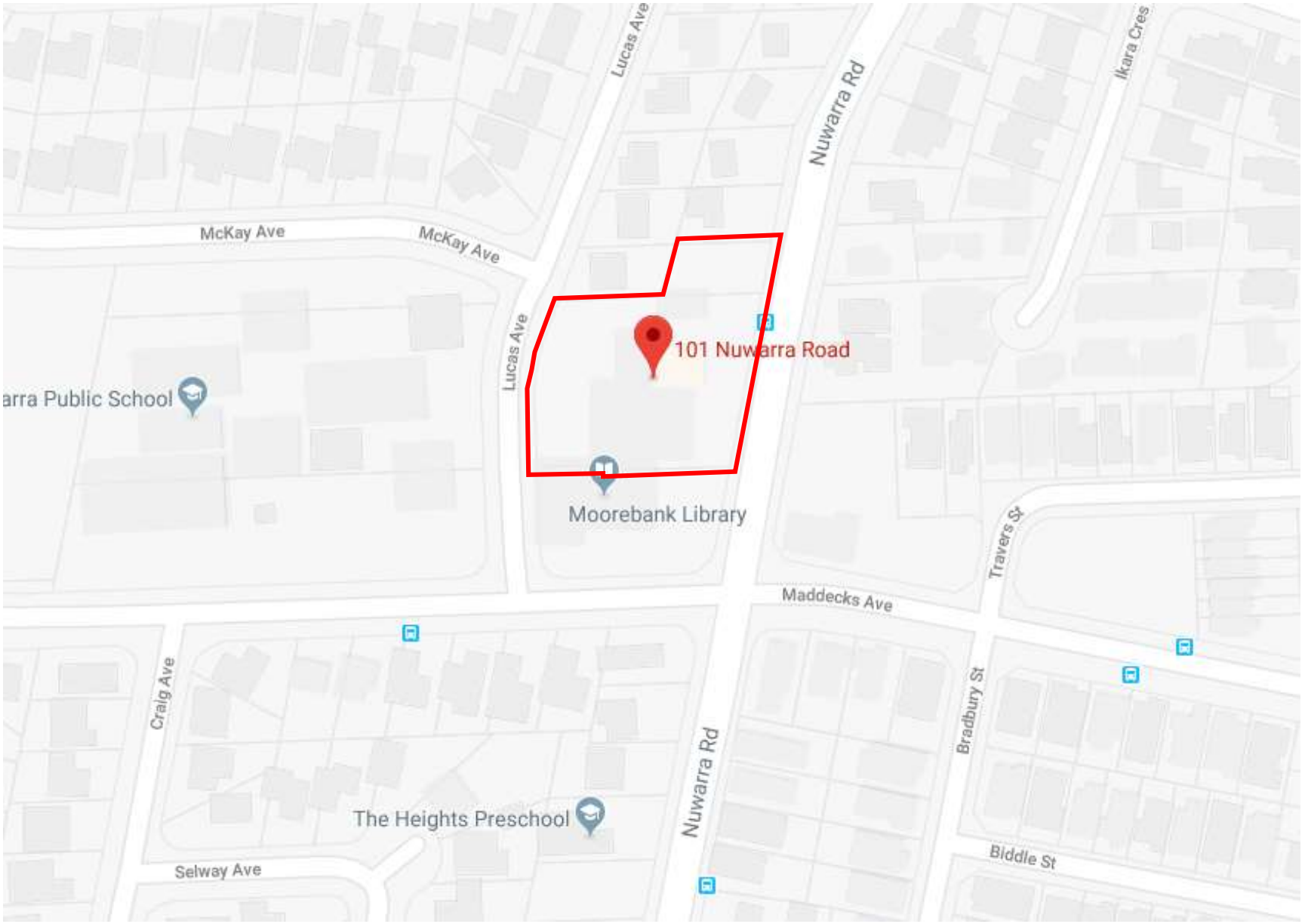
APPENDIX A

FIGURES

Bore Hole Locations and Plans

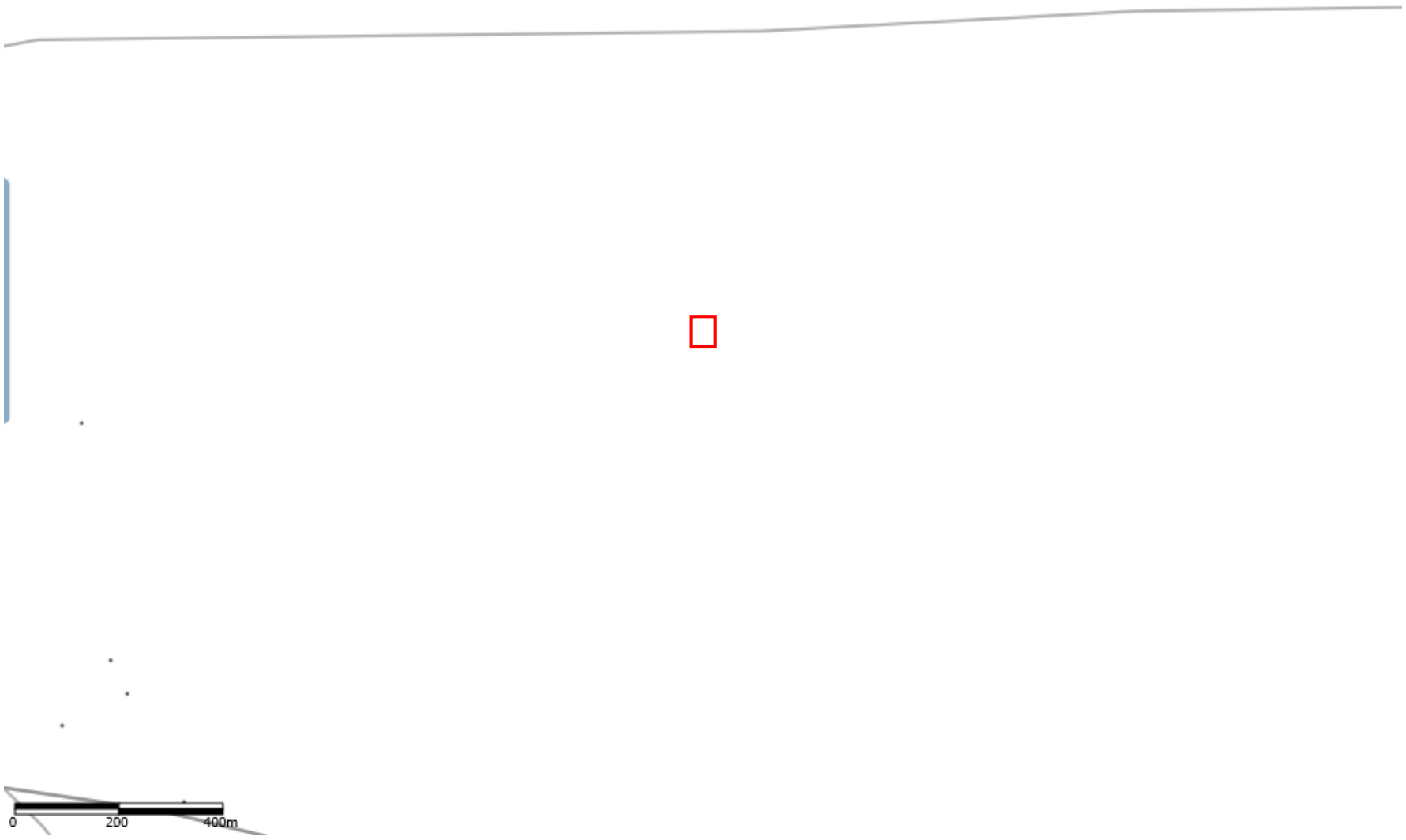


DIRT DOCTORS GEOTECHNICAL TESTING SERVICES	Site Location Sample Location Groundwater Monitoring Well	OAR2 Pty Ltd 101 Nuwarra Rd, Moorebank NSW		Job No.	DDE – 382
				Drawing No.	DDE – 382_1
		Drawn By	MT	Ref No.	
		Approved By	MT	Scale	N.T.S.



DIRT DOCTORS GEOTECHNICAL TESTING SERVICES	Subject Site	OAR2 Pty Ltd 101 Nuwarra Rd, Moorebank NSW		Job No.	DDE – 382
				Drawing No.	DDE – 382_1a
		Drawn By	MT	Ref No.	
		Approved By	MT	Scale	N.T.S.

DIRT DOCTORS GEOTECHNICAL TESTING SERVICES	Subject Site	OAR2 Pty Ltd 101 Nuwarra Rd, Moorebank NSW		Job No.	DDE – 382
				Drawing No.	DDE – 382_1b
		Drawn By	MT	Ref No.	
		Approved By	MT	Scale	N.T.S.



DIRT DOCTORS GEOTECHNICAL TESTING SERVICES	Bore Locations Bore Locations within 500m Subject Site	OAR2 Pty Ltd 101 Nuwarra Rd, Moorebank NSW		Job No.	DDE – 382
				Drawing No.	DDE – 382_1c
		Drawn By	MT	Ref No.	
		Approved By	MT	Scale	N.T.S.

LIVERPOOL CITY COUNCIL

Liverpool Local Environmental Plan 2008

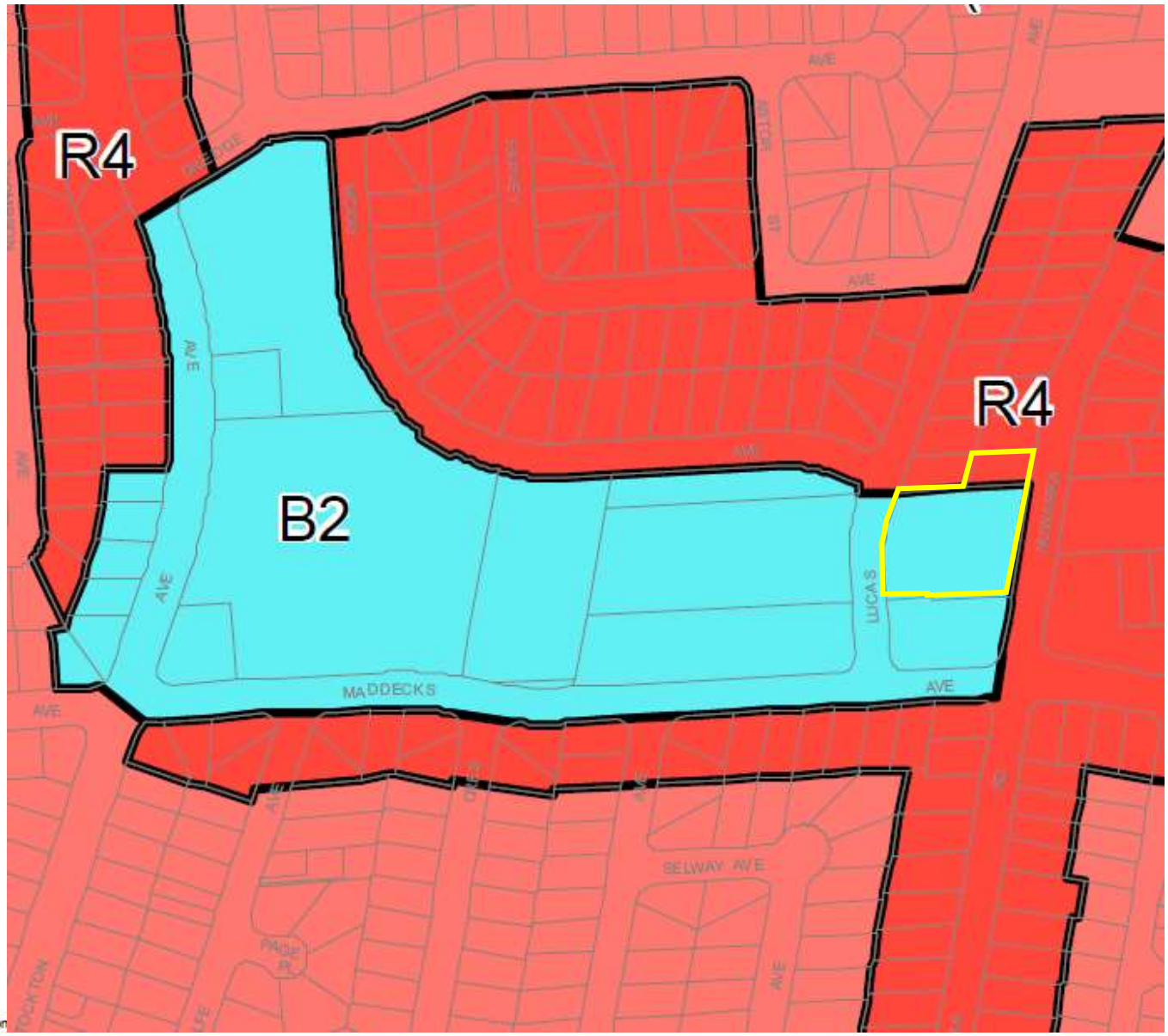
Land zoning map - sheet LZN-014

Zone

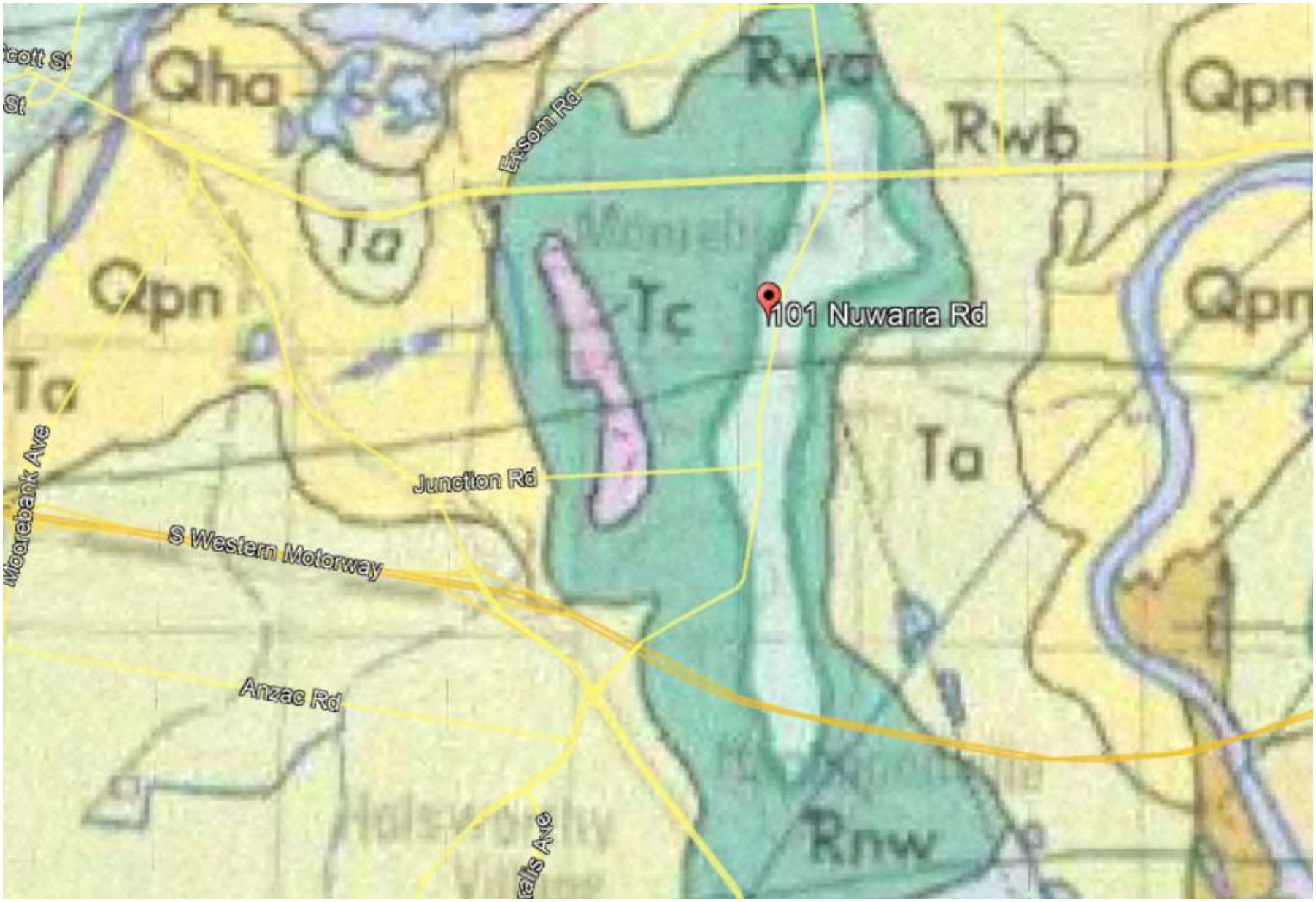
- B1 Neighbourhood Centre
- B2 Local Centre
- B3 Commercial Core
- B4 Mixed Use
- B5 Business Development
- B6 Enterprise Corridor
- E1 National Parks and Nature Reserves
- E2 Environmental Conservation
- E3 Environmental Management
- IN1 General Industrial
- IN2 Light Industrial
- IN3 Heavy Industrial
- R1 General Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- R4 High Density Residential
- R5 Large Lot Residential
- RE1 Public Recreation
- RE2 Private Recreation
- RU1 Primary Production
- RU2 Rural Landscape
- RU4 Primary Production Small Lots
- SP1 Special Activities
- SP2 Infrastructure
- W1 Natural Waterways
- SSP SEPP (State Significant Precincts) 2005
- SGC SEPP (Sydney Region Growth Centres) 2006
- WSP SEPP (Western Sydney Parklands) 2009

Cadastre

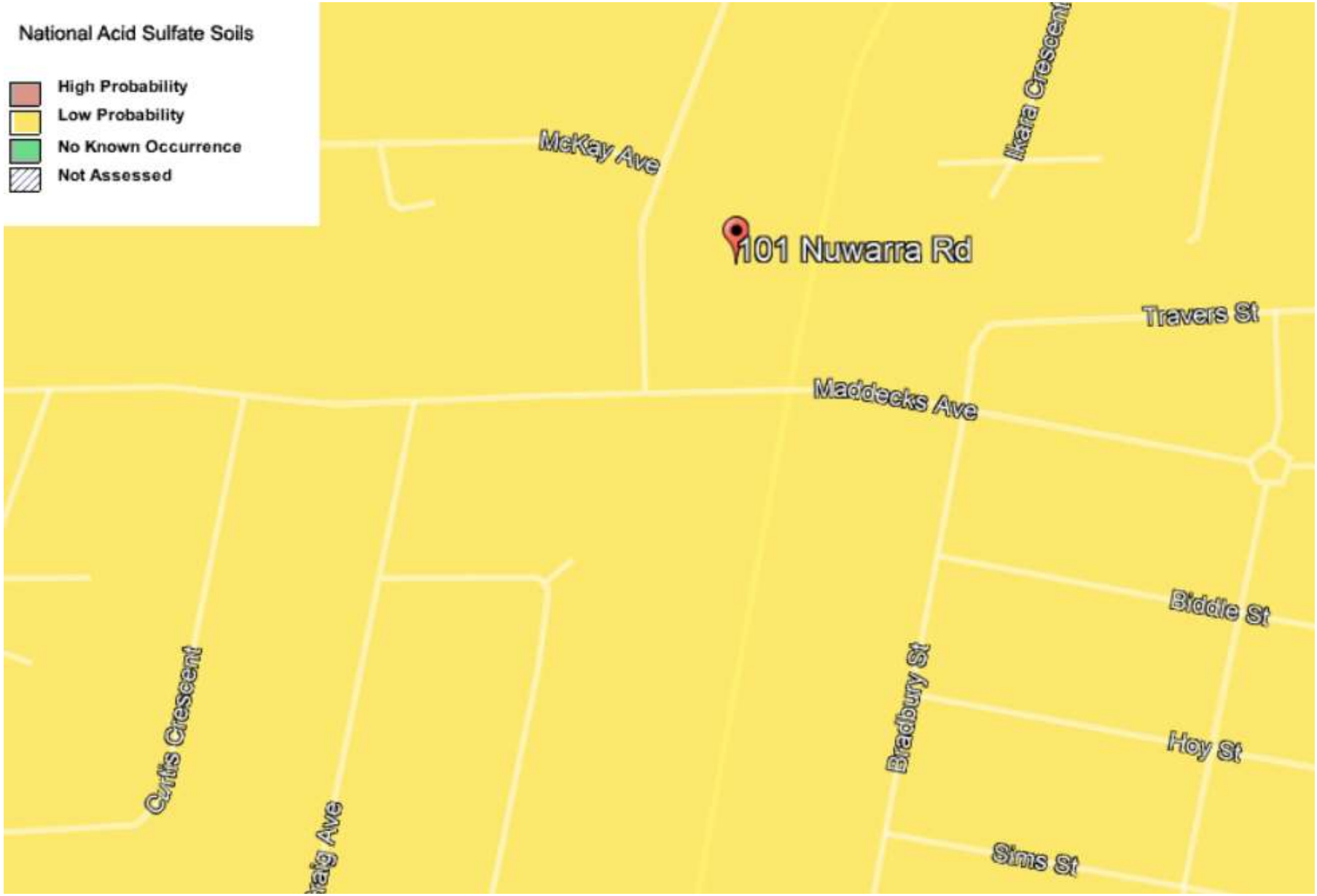
Cadastre 21/8/2017 © Land and Property Information



DIRT DOCTORS GEOTECHNICAL TESTING SERVICES	Subject Site	OAR2 Pty Ltd 101 Nuwarra Rd, Moorebank NSW		Job No.	DDE – 382
				Drawing No.	DDE – 382_1d
		Drawn By	MT	Ref No.	
		Approved By	MT	Scale	N.T.S.



DIRT DOCTORS GEOTECHNICAL TESTING SERVICES		OAR2 Pty Ltd 101 Nuwarra Rd, Moorebank NSW		Job No.	DDE – 382
				Drawing No.	DDE – 382_1e
		Drawn By	MT	Ref No.	
		Approved By	MT	Scale	N.T.S.



DIRT DOCTORS GEOTECHNICAL TESTING SERVICES		OAR2 Pty Ltd 101 Nuwarra Rd, Moorebank NSW		Job No.	DDE – 382
				Drawing No.	DDE – 382_1f
		Drawn By	MT	Ref No.	
		Approved By	MT	Scale	N.T.S.

Search results

Your search for: Suburb: MOOREBANK

Matched 9 notices relating to 1 site.

Search Again Refine Search

Suburb	Address	Site Name	Notices related to this site
MOOREBANK	(a) 1 Bapaume ROAD	ABB Australia Pty Ltd	1 current and 8 former

Page 1 of 1

29 November 2018

Search results

Your search for: **POEO Licences** with the following criteria

Suburb - MOOREBANK NSW

Number	Name	Location	Type	Status	Issued date
753	ABB AUSTRALIA PTY LIMITED	3 BAPAUME ROAD, MOOREBANK, NSW 2170	POEO licence	No longer in force	23-Mar-00
20002	ABB AUSTRALIA PTY LIMITED	Bapaume Road, MOOREBANK, NSW	POEO	Issued	4-Oct-11
2639	ABEL METAL SERVICES PTY. LTD.	16-18 KELSO CRESCENT, MOOREBANK, NSW 2170	POEO licence	Issued	29-Dec-00
4612	BENEDICT INDUSTRIES PTY LIMITED	146 NEWBRIDGE ROAD, MOOREBANK, NSW 2170	POEO licence	Issued	24-Nov-00
10490	BENEDICT INDUSTRIES PTY LIMITED	146 Newbridge Road, MOOREBANK, NSW 2170	POEO licence	Issued	6-Feb-01
1207	BERESFORD CONCRETE PRODUCTS PTY LTD	2 FIELD CLOSE, MOOREBANK, NSW 2170	POEO licence	Surrendered	6-Jun-00
2091	BORAL RECYCLING PTY LIMITED	NUWARRA ROAD, MOOREBANK, NSW 2170	POEO licence	Surrendered	11-Nov-99
1179	BORAL RESOURCES (NSW) PTY LTD	5 GREENHILLS AVE, MOOREBANK, NSW 2170	POEO licence	No longer in force	22-Aug-00
1199	C&M MASONRY PRODUCTS PTY LTD	20 KELSO CRES, MOOREBANK, NSW 2170	POEO	Issued	15-May-00
13333	CLEANAWAY OPERATIONS PTY LTD	22 Centenary Avenue, MOOREBANK, NSW 2170	POEO licence	Surrendered	6-Dec-10
2712	CONCRITE PTY LTD	26 SETON ROAD, MOOREBANK, NSW 2170	POEO licence	No longer in force	30-Mar-00
2356	HOLCIM (AUSTRALIA) PTY LTD	28 REGENT CRESCENT, MOOREBANK, NSW 2170	POEO licence	No longer in force	10-Apr-00
12344	INTERLINK ROADS PTY LTD	M5 (between Georges River and Camden Valley Way), MOOREBANK,	POEO licence	Surrendered	4-Aug-05
3099	JOYCE FOAM PTY LTD	5-9 BRIDGES ROAD, MOOREBANK, NSW 2170	POEO licence	Issued	2-Feb-00
11653	KODAK (AUSTRALASIA) PROPRIETARY LIMITED	30 HEATHCOTE ROAD, MOOREBANK, NSW 2170	POEO licence	Surrendered	29-May-02
6382	MOOREBANK AEROSOL FILLERS PTY LIMITED	11 CUNNINGHAM STREET, MOOREBANK, NSW 2170	POEO licence	Issued	25-May-00
20107	NULON PRODUCTS AUSTRALIA PTY LTD	17 Yulong Close, MOOREBANK, NSW 2170	POEO licence	Issued	29-Mar-12
21059	PAPER TRADE PROCESSING (AUST) PTY LTD	49 Heathcote Road, MOOREBANK, NSW 2170	POEO licence	Issued	4-May-18
11637	PLATING 'R US PTY LTD	1 Mitchell Road, MOOREBANK, NSW	POEO	No longer in	15-Mar-02
21054	QUBE RE SERVICES (NO.2) PTY LIMITED	Not applicable, MOOREBANK, NSW	POEO	Issued	4-Jun-18
6453	SPHERE HEALTHCARE PTY. LIMITED	12 CHURCH ROAD, MOOREBANK, NSW 2170	POEO licence	Issued	8-Jan-01
7281	SUPERIOR RADIATOR SERVICE PTY LTD	12 SETON ROAD, MOOREBANK, NSW 2170	POEO licence	No longer in force	18-Sep-00

Dirt Doctors Geotechnical Testing Services Pty Ltd
T: (02) 9605 4433
E: info@dirtdoctors.com.au
W: www.dirtdoctors.com.au

BH No: BH07
Sheet: 1 of 2
Job No:DDE-382

Borehole Log

Client: Oar2 Pty Ltd
Project: Proposed Residential Development
Location: 101 Nuwarra Rd, Moorebank

Started: 15/11/18
Finished: 15/11/18
Borehole Size: 100mm

Rig Type: Drill Rig | **Hole Location:** BH07 | **Driller:** DB | **Logged:** DB
RL Surface: Existing | **Contractor:** | **Bearing:** --- | **Checked:** CS

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT					AC	Apshalptic Concrete				PAVEMENT
					CI	Silty Clay, medium plasticity, brown, traces of gravel		M		FILL
			0.5							
					CI-CH	Silty Clay, medium to high plasticity, orange brown		M		RESIDUAL
			1.0							
	Yes		1.5		XW	Sandstone: Light Brown, low strength, extremely weathered				BEDROCK
			2.0							
			2.5							
			3.0							

Dirt Doctors Geotechnical Testing Services Pty Ltd
T: (02) 9605 4433
E: info@dirtdoctors.com.au
W: www.dirtdoctors.com.au

BH No: BH07
Sheet: 2 of 2
Job No:DDE-382

Borehole Log

Client: Oar2 Pty Ltd
Project: Proposed Residential Development
Location: 101 Nuwarra Rd, Moorebank

Started: 15/11/18
Finished: 15/11/18
Borehole Size: 100mm

Rig Type: Drill Rig | **Hole Location:** BH07 | **Driller:** DB | **Logged:** DB
RL Surface: Existing | **Contractor:** | **Bearing:** --- | **Checked:** CS

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Yes		3.5		XW	Sandstone: Light Brown, low strength, extremely weathered *(continued)*				
			4.0							
			4.5							
			5.0							
			5.5							
			6.0			Borehole BH07 terminated at 5.9m				

BOREHOLE / TEST PIT SAMPLE LOG 2.GPJ GINT STD AUSTRALIA.GDT 1/2/19

Dirt Doctors Geotechnical Testing Services Pty Ltd
T: (02) 9605 4433
E: info@dirtdoctors.com.au
W: www.dirtdoctors.com.au

BH No: BH09
Sheet: 1 of 2
Job No:DDE-382

Borehole Log

Client: Oar2 Pty Ltd
Project: Proposed Residential Development
Location: 101 Nuwarra Rd, Moorebank

Started: 15/11/18
Finished: 15/11/18
Borehole Size: 100mm

Rig Type: Drill Rig | **Hole Location:** BH09 | **Driller:** DB | **Logged:** DB
RL Surface: Existing | **Contractor:** | **Bearing:** --- | **Checked:** CS

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT					AC	Ashaphtic Concrete				PAVEMENT
					CI	Silty Clay, medium plasticity, brown, trace of gravel		M		FILL
			0.5							
					CI-CH	Sllty Clay, medium to high plasticity, orange brown		M		RESIDUAL
			1.0							
	Yes				XW	Sandstone: Light Brown, low strength, extremely weathered				BEDROCK
			1.5							
			2.0							
			2.5							
			3.0							

Dirt Doctors Geotechnical Testing Services Pty Ltd
T: (02) 9605 4433
E: info@dirtdoctors.com.au
W: www.dirtdoctors.com.au

BH No: BH09
Sheet: 2 of 2
Job No:DDE-382

Borehole Log

Client: Oar2 Pty Ltd
Project: Proposed Residential Development
Location: 101 Nuwarra Rd, Moorebank

Started: 15/11/18
Finished: 15/11/18
Borehole Size: 100mm

Rig Type: Drill Rig | **Hole Location:** BH09 | **Driller:** DB | **Logged:** DB
RL Surface: Existing | **Contractor:** | **Bearing:** --- | **Checked:** CS

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Yes		3.5		XW	Sandstone: Light Brown, low strength, extremely weathered *(continued)*				
			4.0							
			4.5							
			5.0							
	▼		5.5							
			6.0			Borehole BH09 terminated at 5.8m				

Dirt Doctors Geotechnical Testing Services Pty Ltd
T: (02) 9605 4433
E: info@dirtdoctors.com.au
W: www.dirtdoctors.com.au

BH No: BH13
Sheet: 1 of 2
Job No:DDE-382

Borehole Log

Client: Oar2 Pty Ltd
Project: Proposed Residential Development
Location: 101 Nuwarra Rd, Moorebank

Started: 15/11/18
Finished: 15/11/18
Borehole Size: 100mm

Rig Type: Drill Rig | **Hole Location:** BH13 | **Driller:** DB | **Logged:** DB
RL Surface: Existing | **Contractor:** | **Bearing:** --- | **Checked:** CS

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT					AC	Apshalptic Concrete				PAVEMENT
					CI	Silty Clay, medium plasticity, brown, traces of gravel		M		FILL
			0.5							
					CI-CH	Silty Clay, medium to high plasticity, orange brown		M		RESIDUAL
			1.0							
	Yes		1.5		XW	Sandstone: Light Brown, low strength, extremely weathered				BEDROCK
			2.0							
			2.5							
			3.0							

Dirt Doctors Geotechnical Testing Services Pty Ltd
T: (02) 9605 4433
E: info@dirtdoctors.com.au
W: www.dirtdoctors.com.au

BH No: BH13
Sheet: 2 of 2
Job No:DDE-382

Borehole Log

Client: Oar2 Pty Ltd
Project: Proposed Residential Development
Location: 101 Nuwarra Rd, Moorebank

Started: 15/11/18
Finished: 15/11/18
Borehole Size: 100mm

Rig Type: Drill Rig | **Hole Location:** BH13 | **Driller:** DB | **Logged:** DB
RL Surface: Existing | **Contractor:** | **Bearing:** --- | **Checked:** CS

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Yes		3.5		XW	Sandstone: Light Brown, low strength, extremely weathered *(continued)*				
			4.0							
			4.5							
			5.0							
			5.5							
			6.0			Borehole BH13 terminated at 5.9m				

BOREHOLE / TEST PIT SAMPLE LOG 2.GPJ GINT STD AUSTRALIA.GDT 1/2/19

APPENDIX B

LABORATORY TEST CERTIFICATES

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PT
Address	54 MATCHAM ROAD BUXTON NSW 2571
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-382**
Order Number	**DDE-382**
Samples	24

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	**SE186261 R0**
Date Received	16/11/2018
Date Reported	26/11/2018

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.
Copper QC reported directly by SGS Cairns.

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: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
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
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
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	E6 SOIL - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
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
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
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	E11 SOIL - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
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
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
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2
o-xylene	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
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
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 - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
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 - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
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	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018
TRH C6-C9	mg/kg	20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
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: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
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 - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
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 - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
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

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 16/11/2018 (continued)

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018
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: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
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	0.2	0.2	0.2	0.4
Pyrene	mg/kg	0.1	0.2	0.2	0.2	0.2	0.4
Benzo(a)anthracene	mg/kg	0.1	0.1	0.1	0.1	0.1	0.2
Chrysene	mg/kg	0.1	0.1	0.1	0.1	0.1	0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	0.2	0.1	0.2	0.3
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	0.2	0.1	0.2	0.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	0.1	0.1	0.1	0.2
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	0.2
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0.2	<0.2	0.2	0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.3	<0.3	0.3	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.2	0.3	0.2	0.3	0.4
Total PAH (18)	mg/kg	0.8	1.1	1.5	1.1	1.5	2.3
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.1	1.5	1.1	1.5	2.3

PARAMETER	UOM	LOR	E6 SOIL - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
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	0.8
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.2
Fluoranthene	mg/kg	0.1	0.3	0.2	0.4	0.2	1.0
Pyrene	mg/kg	0.1	0.3	0.2	0.4	0.2	1.0
Benzo(a)anthracene	mg/kg	0.1	0.1	0.1	0.2	0.1	0.4
Chrysene	mg/kg	0.1	0.1	<0.1	0.2	<0.1	0.3
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.1	0.3	0.2	0.4
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	0.2
Benzo(a)pyrene	mg/kg	0.1	0.1	0.1	0.2	0.1	0.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	0.1	0.2	0.1	0.3
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	0.2	0.1	0.3
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	0.3	<0.2	0.6
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	0.4	<0.3	0.7
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.2	0.2	0.4	0.2	0.6
Total PAH (18)	mg/kg	0.8	1.4	0.9	2.4	1.0	5.4
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.4	0.9	2.4	1.0	5.4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 16/11/2018 (continued)

PARAMETER	UOM	LOR	E11 SOIL - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
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	0.5	<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	1.0	0.3	0.2	0.2
Pyrene	mg/kg	0.1	0.2	0.9	0.3	0.2	0.2
Benzo(a)anthracene	mg/kg	0.1	0.1	0.5	0.2	0.1	0.1
Chrysene	mg/kg	0.1	0.1	0.4	0.1	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.5	0.2	0.1	0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.2	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.1	0.5	0.2	0.1	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	0.4	0.2	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	0.3	0.1	0.1	0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0.6	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.7	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.2	0.7	0.3	0.2	0.2
Total PAH (18)	mg/kg	0.8	1.3	5.2	1.6	1.3	1.0
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.3	5.2	1.6	1.3	1.0

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018
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

pH in soil (1:5) [AN101] Tested: 19/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
pH	pH Units	0.1	7.6	7.9	7.8	8.0	8.0

PARAMETER	UOM	LOR	E6 SOIL - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
pH	pH Units	0.1	8.0	8.1	8.1	8.0	8.0

PARAMETER	UOM	LOR	E11 SOIL - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
pH	pH Units	0.1	8.1	8.0	8.0	8.1	8.1

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018
pH	pH Units	0.1	5.4	5.4	5.8

Conductivity and TDS by Calculation - Soil [AN106] Tested: 19/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
Conductivity of Extract (1:5 as received)	µS/cm	1	830	640	1000	740	860

PARAMETER	UOM	LOR	E6 SOIL - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
Conductivity of Extract (1:5 as received)	µS/cm	1	800	720	700	750	790

PARAMETER	UOM	LOR	E11 SOIL - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
Conductivity of Extract (1:5 as received)	µS/cm	1	750	690	770	670	650

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018
Conductivity of Extract (1:5 as received)	µS/cm	1	95	87	120

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
Arsenic, As	mg/kg	1	<1	1	2	<1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	6.3	5.1	4.7	4.5	4.7
Copper, Cu	mg/kg	0.5	11	13	13	28	12
Lead, Pb	mg/kg	1	40	41	37	48	39
Nickel, Ni	mg/kg	0.5	2.0	2.4	2.0	1.9	1.9
Zinc, Zn	mg/kg	2	44	48	47	46	53

PARAMETER	UOM	LOR	E6 SOIL - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
Arsenic, As	mg/kg	1	2	2	2	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	5.0	7.3	4.5	4.9	5.1
Copper, Cu	mg/kg	0.5	12	11	11	11	11
Lead, Pb	mg/kg	1	47	37	53	37	36
Nickel, Ni	mg/kg	0.5	2.0	1.9	1.9	2.0	1.8
Zinc, Zn	mg/kg	2	52	45	54	46	43

PARAMETER	UOM	LOR	E11 SOIL - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
Arsenic, As	mg/kg	1	1	1	1	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	6.3	6.4	5.7	7.4	4.7
Copper, Cu	mg/kg	0.5	24	13	11	11	12
Lead, Pb	mg/kg	1	190	45	40	38	38
Nickel, Ni	mg/kg	0.5	2.7	2.1	1.9	1.8	2.0
Zinc, Zn	mg/kg	2	62	49	45	47	47

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018	E18 Copper QA SOIL - 15/11/2018 SE186261.023
Arsenic, As	mg/kg	1	4	3	5	-
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	-
Chromium, Cr	mg/kg	0.3	6.1	5.3	7.6	-
Copper, Cu	mg/kg	0.5	3.3	2.9	6.0	6.1
Lead, Pb	mg/kg	1	11	10	12	-
Nickel, Ni	mg/kg	0.5	<0.5	<0.5	1.2	-
Zinc, Zn	mg/kg	2	3.1	2.5	9.0	-

Mercury in Soil [AN312] Tested: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
Mercury	mg/kg	0.05	0.07	0.07	0.08	0.07	0.08

PARAMETER	UOM	LOR	E6 SOIL - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
Mercury	mg/kg	0.05	0.06	0.08	0.08	0.07	0.08

PARAMETER	UOM	LOR	E11 SOIL - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
Mercury	mg/kg	0.05	0.06	0.07	0.07	0.07	0.21

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
% Moisture	%w/w	0.5	7.4	8.9	7.1	7.4	7.9

PARAMETER	UOM	LOR	E6 SOIL - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
% Moisture	%w/w	0.5	6.5	6.6	6.5	7.8	5.9

PARAMETER	UOM	LOR	E11 SOIL - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
% Moisture	%w/w	0.5	7.6	7.6	6.6	7.3	7.9

PARAMETER	UOM	LOR	E16 SOIL - 15/11/2018 SE186261.016	E17 SOIL - 15/11/2018 SE186261.017	E18 SOIL - 15/11/2018 SE186261.018	E18 Copper QA SOIL - 15/11/2018 SE186261.023
% Moisture	%w/w	0.5	12	8.7	13	12

Fibre Identification in soil [AN602] Tested: 16/11/2018

PARAMETER	UOM	LOR	E1 SOIL - 15/11/2018 SE186261.001	E2 SOIL - 15/11/2018 SE186261.002	E3 SOIL - 15/11/2018 SE186261.003	E4 SOIL - 15/11/2018 SE186261.004	E5 SOIL - 15/11/2018 SE186261.005
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 - 15/11/2018 SE186261.006	E7 SOIL - 15/11/2018 SE186261.007	E8 SOIL - 15/11/2018 SE186261.008	E9 SOIL - 15/11/2018 SE186261.009	E10 SOIL - 15/11/2018 SE186261.010
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 - 15/11/2018 SE186261.011	E12 SOIL - 15/11/2018 SE186261.012	E13 SOIL - 15/11/2018 SE186261.013	E14 SOIL - 15/11/2018 SE186261.014	E15 SOIL - 15/11/2018 SE186261.015
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

Sample Subcontracted [] Tested: 26/11/2018

PARAMETER	UOM	LOR	E18 Copper QC SOIL - 15/11/2018 SE186261.024
SGS Cairns*	No unit	-	Subcontracted

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 19/11/2018

PARAMETER	UOM	LOR	E19 WATER - 15/11/2018 SE186261.019	E20 WATER - 15/11/2018 SE186261.020	E21 WATER - 15/11/2018 SE186261.021
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 16/11/2018

PARAMETER	UOM	LOR	E19 WATER - 15/11/2018 SE186261.019	E20 WATER - 15/11/2018 SE186261.020	E21 WATER - 15/11/2018 SE186261.021
TRH C10-C14	µg/L	50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 16/11/2018

PARAMETER	UOM	LOR	E19 WATER - 15/11/2018 SE186261.019	E20 WATER - 15/11/2018 SE186261.020	E21 WATER - 15/11/2018 SE186261.021
Naphthalene	µg/L	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1	<1

Conductivity and TDS by Calculation - Water [AN106] Tested: 16/11/2018

PARAMETER	UOM	LOR	E19 WATER - 15/11/2018 SE186261.019	E20 WATER - 15/11/2018 SE186261.020	E21 WATER - 15/11/2018 SE186261.021
Conductivity @ 25 C	µS/cm	2	**84**	**59**	**15**

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 16/11/2018

PARAMETER	UOM	LOR	E19 WATER - 15/11/2018 SE186261.019	E20 WATER - 15/11/2018 SE186261.020	E21 WATER - 15/11/2018 SE186261.021	E22 WATER - 15/11/2018 SE186261.022
Arsenic, As	µg/L	1	<1	<1	<1	-
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	<0.1	-
Copper, Cu	µg/L	1	**11**	**7**	<1	-
Chromium, Cr	µg/L	1	<1	<1	<1	-
Nickel, Ni	µg/L	1	<1	<1	<1	-
Lead, Pb	µg/L	1	<1	<1	<1	<1
Zinc, Zn	µg/L	5	<5	<5	**13**	-

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 19/11/2018

PARAMETER	UOM	LOR	E19 WATER - 15/11/2018 SE186261.019	E20 WATER - 15/11/2018 SE186261.020	E21 WATER - 15/11/2018 SE186261.021
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by 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 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.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present , measured by the conductivity, are present as NaCl.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
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	Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all < LOR results are half the LOR and the third assuming all <LOR results are the LOR.
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.		

Samples 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 criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Mitchell Tofler	Manager	Jon Dicker
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES F	Laboratory	SGS Cairns Environmental
Address	54 MATCHAM ROAD BUXTON NSW 2571	Address	Unit 2, 58 Comport St Portsmith QLD 4870
Telephone	0424 639 602	Telephone	+61 07 4035 5111
Facsimile	(Not specified)	Facsimile	+61 07 4035 5122
Email	mitch@dirtdoctors.com.au	Email	AU.Environmental.Cairns@sgs.com
Project	**DDE-382**	SGS Reference	**CE136723 R0**
Order Number	**Dirt_MMINJR_2018**	Date Received	19 Nov 2018
Samples	1	Date Reported	22 Nov 2018

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(3146).

SIGNATORIES

Anthony Nilsson
Operations Manager

Jon Dicker
Manager Northern QLD

Maristela Ganzan
Metals Team Leader

Parameter	Units	LOR	Sample Number CE136723.001 Sample Matrix Soil Sample Date 15 Nov 2018 Sample Name E18 - QC
Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	**Method: AN040/AN320**	**Tested: 22/11/2018**	
Copper, Cu	mg/kg	0.5	**6.0**

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES **Method: ME-(AU)-[ENV]AN040/AN320**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	MS %Recovery
Copper, Cu	LB061974	mg/kg	0.5	<0.5	0 - 7%	103%

METHOD SUMMARY

CE136723 R0

METHOD	METHODOLOGY SUMMARY
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.

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
		QFL	QC result is below the lower tolerance
**	Indicative data, theoretical holding time exceeded.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Samples 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 calcuated 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 criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PT
Address	54 MATCHAM ROAD BUXTON NSW 2571
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-382**
Order Number	**Dirt_KALCF6_2018**
Samples	3

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	**SE187570 R0**
Date Received	18/12/2018
Date Reported	19/12/2018

COMMENTS

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

SIGNATORIES

Kamrul Ahsan
Senior Chemist

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 19/12/2018

PARAMETER	UOM	LOR	E1 WATER - 16/12/2018 SE187570.001	E2 WATER - 16/12/2018 SE187570.002	E3 WATER - 16/12/2018 SE187570.003
Copper, Cu	mg/L	0.001	<0.001	<0.001	<0.001
Zinc, Zn	mg/L	0.005	<0.005	<0.005	<0.005

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.

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.		

Samples 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 criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/ Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company 's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES F
Address	54 MATCHAM ROAD BUXTON NSW 2571
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-382**
Order Number	**DDE-382**
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	**SE186261 R0**
Date Received	16 Nov 2018
Date Reported	26 Nov 2018

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.
Copper QC reported directly by SGS Cairns.

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

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE186261.001	E1	Soil	45g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.002	E2	Soil	77g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.003	E3	Soil	70g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.004	E4	Soil	56g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.005	E5	Soil	60g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.006	E6	Soil	63g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.007	E7	Soil	68g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.008	E8	Soil	81g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.009	E9	Soil	99g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.010	E10	Soil	111g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.011	E11	Soil	51g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.012	E12	Soil	46g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.013	E13	Soil	63g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<0.01
SE186261.014	E14	Soil	67g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found	<0.01
SE186261.015	E15	Soil	61g Sand,Soil,Rocks ,Plant Matter	15 Nov 2018	No Asbestos Found Organic Fibres Detected	<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.

(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.

Sampled by the client.

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 criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/ Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

STATEMENT OF QA/QC PERFORMANCE

SE186261 R0

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES I
Address	54 MATCHAM ROAD BUXTON NSW 2571
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-382**
Order Number	**DDE-382**
Samples	24

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	**SE186261 R0**
Date Received	16 Nov 2018
Date Reported	26 Nov 2018

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 and was supplied by the Client.
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

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	20 Soil, 4 Water
Date documentation received	15/11/2018@6:55pn	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	11.5ºC	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

HOLDING TIME SUMMARY

SE186261 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	SE186261.001	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E2	SE186261.002	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E3	SE186261.003	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E4	SE186261.004	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E5	SE186261.005	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E6	SE186261.006	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E7	SE186261.007	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E8	SE186261.008	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E9	SE186261.009	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E10	SE186261.010	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E11	SE186261.011	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E12	SE186261.012	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E13	SE186261.013	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E14	SE186261.014	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E15	SE186261.015	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E16	SE186261.016	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E17	SE186261.017	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018
E18	SE186261.018	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	22 Nov 2018	19 Nov 2018

Conductivity and TDS by Calculation - Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E19	SE186261.019	LB161404	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018
E20	SE186261.020	LB161404	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018
E21	SE186261.021	LB161404	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE186261.001	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E2	SE186261.002	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E3	SE186261.003	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E4	SE186261.004	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E5	SE186261.005	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E6	SE186261.006	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E7	SE186261.007	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E8	SE186261.008	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E9	SE186261.009	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E10	SE186261.010	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E11	SE186261.011	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E12	SE186261.012	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E13	SE186261.013	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E14	SE186261.014	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018
E15	SE186261.015	LB161387	15 Nov 2018	16 Nov 2018	15 Nov 2019	16 Nov 2018	15 Nov 2019	19 Nov 2018

Mercury (dissolved) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E19	SE186261.019	LB161421	15 Nov 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018	13 Dec 2018	19 Nov 2018
E20	SE186261.020	LB161421	15 Nov 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018	13 Dec 2018	19 Nov 2018
E21	SE186261.021	LB161421	15 Nov 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018	13 Dec 2018	19 Nov 2018

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE186261.001	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E2	SE186261.002	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E3	SE186261.003	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E4	SE186261.004	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E5	SE186261.005	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E6	SE186261.006	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E7	SE186261.007	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E8	SE186261.008	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E9	SE186261.009	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E10	SE186261.010	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E11	SE186261.011	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018

HOLDING TIME SUMMARY

SE186261 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.

Mercury in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E12	SE186261.012	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E13	SE186261.013	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E14	SE186261.014	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E15	SE186261.015	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E16	SE186261.016	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E17	SE186261.017	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018
E18	SE186261.018	LB161386	15 Nov 2018	16 Nov 2018	13 Dec 2018	16 Nov 2018	13 Dec 2018	19 Nov 2018

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE186261.001	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E2	SE186261.002	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E3	SE186261.003	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E4	SE186261.004	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E5	SE186261.005	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E6	SE186261.006	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E7	SE186261.007	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E8	SE186261.008	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E9	SE186261.009	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E10	SE186261.010	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E11	SE186261.011	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E12	SE186261.012	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E13	SE186261.013	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E14	SE186261.014	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E15	SE186261.015	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E16	SE186261.016	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E17	SE186261.017	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E18	SE186261.018	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018
E18 Copper QA	SE186261.023	LB161384	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	21 Nov 2018	19 Nov 2018

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	SE186261.001	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E2	SE186261.002	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E3	SE186261.003	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E4	SE186261.004	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E5	SE186261.005	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E6	SE186261.006	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E7	SE186261.007	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E8	SE186261.008	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E9	SE186261.009	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E10	SE186261.010	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E11	SE186261.011	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E12	SE186261.012	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E13	SE186261.013	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E14	SE186261.014	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E15	SE186261.015	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E16	SE186261.016	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E17	SE186261.017	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E18	SE186261.018	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E19	SE186261.019	LB161382	15 Nov 2018	16 Nov 2018	22 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E20	SE186261.020	LB161382	15 Nov 2018	16 Nov 2018	22 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E21	SE186261.021	LB161382	15 Nov 2018	16 Nov 2018	22 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018

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	SE186261.001	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E2	SE186261.002	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E3	SE186261.003	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018

HOLDING TIME SUMMARY

SE186261 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.

pH in soil (1:5) (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E4	SE186261.004	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E5	SE186261.005	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E6	SE186261.006	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E7	SE186261.007	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E8	SE186261.008	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E9	SE186261.009	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E10	SE186261.010	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E11	SE186261.011	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E12	SE186261.012	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E13	SE186261.013	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E14	SE186261.014	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E15	SE186261.015	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E16	SE186261.016	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E17	SE186261.017	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018
E18	SE186261.018	LB161427	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	20 Nov 2018	19 Nov 2018

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	SE186261.001	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E2	SE186261.002	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E3	SE186261.003	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E4	SE186261.004	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E5	SE186261.005	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E6	SE186261.006	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E7	SE186261.007	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E8	SE186261.008	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E9	SE186261.009	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E10	SE186261.010	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E11	SE186261.011	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E12	SE186261.012	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E13	SE186261.013	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E14	SE186261.014	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E15	SE186261.015	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E16	SE186261.016	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E17	SE186261.017	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E18	SE186261.018	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E18 Copper QA	SE186261.023	LB161385	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E19	SE186261.019	LB161413	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E20	SE186261.020	LB161413	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E21	SE186261.021	LB161413	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018
E22	SE186261.022	LB161413	15 Nov 2018	16 Nov 2018	14 May 2019	16 Nov 2018	14 May 2019	19 Nov 2018

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	SE186261.001	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E2	SE186261.002	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E3	SE186261.003	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E4	SE186261.004	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E5	SE186261.005	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E6	SE186261.006	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E7	SE186261.007	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E8	SE186261.008	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E9	SE186261.009	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E10	SE186261.010	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E11	SE186261.011	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E12	SE186261.012	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E13	SE186261.013	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E14	SE186261.014	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018

HOLDING TIME SUMMARY

SE186261 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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E15	SE186261.015	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E16	SE186261.016	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E17	SE186261.017	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E18	SE186261.018	LB161383	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E19	SE186261.019	LB161382	15 Nov 2018	16 Nov 2018	22 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E20	SE186261.020	LB161382	15 Nov 2018	16 Nov 2018	22 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E21	SE186261.021	LB161382	15 Nov 2018	16 Nov 2018	22 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E1	SE186261.001	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E2	SE186261.002	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E3	SE186261.003	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E4	SE186261.004	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E5	SE186261.005	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E6	SE186261.006	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E7	SE186261.007	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E8	SE186261.008	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E9	SE186261.009	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E10	SE186261.010	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E11	SE186261.011	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E12	SE186261.012	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E13	SE186261.013	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E14	SE186261.014	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E15	SE186261.015	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E16	SE186261.016	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E17	SE186261.017	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E18	SE186261.018	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018

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	SE186261.001	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E2	SE186261.002	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E3	SE186261.003	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E4	SE186261.004	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E5	SE186261.005	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E6	SE186261.006	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E7	SE186261.007	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E8	SE186261.008	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E9	SE186261.009	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E10	SE186261.010	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E11	SE186261.011	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E12	SE186261.012	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E13	SE186261.013	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E14	SE186261.014	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E15	SE186261.015	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E16	SE186261.016	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E17	SE186261.017	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018
E18	SE186261.018	LB161381	15 Nov 2018	16 Nov 2018	29 Nov 2018	16 Nov 2018	26 Dec 2018	19 Nov 2018

Volatile Petroleum Hydrocarbons in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
E19	SE186261.019	LB161422	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	29 Dec 2018	19 Nov 2018
E20	SE186261.020	LB161422	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	29 Dec 2018	19 Nov 2018
E21	SE186261.021	LB161422	15 Nov 2018	16 Nov 2018	22 Nov 2018	19 Nov 2018	29 Dec 2018	19 Nov 2018

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	E1	SE186261.001	%	70 - 130%	104
	E2	SE186261.002	%	70 - 130%	112
	E3	SE186261.003	%	70 - 130%	110
	E4	SE186261.004	%	70 - 130%	106
	E5	SE186261.005	%	70 - 130%	108
	E6	SE186261.006	%	70 - 130%	106
	E7	SE186261.007	%	70 - 130%	110
	E8	SE186261.008	%	70 - 130%	108
	E9	SE186261.009	%	70 - 130%	108
	E10	SE186261.010	%	70 - 130%	110
	E11	SE186261.011	%	70 - 130%	104
	E12	SE186261.012	%	70 - 130%	110
	E13	SE186261.013	%	70 - 130%	108
	E14	SE186261.014	%	70 - 130%	108
	E15	SE186261.015	%	70 - 130%	102
	E16	SE186261.016	%	70 - 130%	108
	E17	SE186261.017	%	70 - 130%	108
	E18	SE186261.018	%	70 - 130%	112
d14-p-terphenyl (Surrogate)	E1	SE186261.001	%	70 - 130%	108
	E2	SE186261.002	%	70 - 130%	108
	E3	SE186261.003	%	70 - 130%	112
	E4	SE186261.004	%	70 - 130%	112
	E5	SE186261.005	%	70 - 130%	108
	E6	SE186261.006	%	70 - 130%	110
	E7	SE186261.007	%	70 - 130%	114
	E8	SE186261.008	%	70 - 130%	110
	E9	SE186261.009	%	70 - 130%	108
	E10	SE186261.010	%	70 - 130%	112
	E11	SE186261.011	%	70 - 130%	108
	E12	SE186261.012	%	70 - 130%	108
	E13	SE186261.013	%	70 - 130%	108
	E14	SE186261.014	%	70 - 130%	118
	E15	SE186261.015	%	70 - 130%	106
	E16	SE186261.016	%	70 - 130%	110
	E17	SE186261.017	%	70 - 130%	104
	E18	SE186261.018	%	70 - 130%	114
d5-nitrobenzene (Surrogate)	E1	SE186261.001	%	70 - 130%	100
	E2	SE186261.002	%	70 - 130%	110
	E3	SE186261.003	%	70 - 130%	108
	E4	SE186261.004	%	70 - 130%	102
	E5	SE186261.005	%	70 - 130%	106
	E6	SE186261.006	%	70 - 130%	104
	E7	SE186261.007	%	70 - 130%	102
	E8	SE186261.008	%	70 - 130%	102
	E9	SE186261.009	%	70 - 130%	104
	E10	SE186261.010	%	70 - 130%	102
	E11	SE186261.011	%	70 - 130%	102
	E12	SE186261.012	%	70 - 130%	102
	E13	SE186261.013	%	70 - 130%	100
	E14	SE186261.014	%	70 - 130%	104
	E15	SE186261.015	%	70 - 130%	102
	E16	SE186261.016	%	70 - 130%	94
	E17	SE186261.017	%	70 - 130%	94
	E18	SE186261.018	%	70 - 130%	96

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	E19	SE186261.019	%	40 - 130%	78
	E20	SE186261.020	%	40 - 130%	74
	E21	SE186261.021	%	40 - 130%	90
d14-p-terphenyl (Surrogate)	E19	SE186261.019	%	40 - 130%	98

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 Water (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	E20	SE186261.020	%	40 - 130%	96
	E21	SE186261.021	%	40 - 130%	112
d5-nitrobenzene (Surrogate)	E19	SE186261.019	%	40 - 130%	66
	E20	SE186261.020	%	40 - 130%	64
	E21	SE186261.021	%	40 - 130%	86

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	E1	SE186261.001	%	60 - 130%	76
	E2	SE186261.002	%	60 - 130%	84
	E3	SE186261.003	%	60 - 130%	81
	E4	SE186261.004	%	60 - 130%	75
	E5	SE186261.005	%	60 - 130%	88
	E6	SE186261.006	%	60 - 130%	72
	E7	SE186261.007	%	60 - 130%	84
	E8	SE186261.008	%	60 - 130%	83
	E9	SE186261.009	%	60 - 130%	88
	E10	SE186261.010	%	60 - 130%	79
	E11	SE186261.011	%	60 - 130%	76
	E12	SE186261.012	%	60 - 130%	90
	E13	SE186261.013	%	60 - 130%	89
	E14	SE186261.014	%	60 - 130%	92
	E15	SE186261.015	%	60 - 130%	81
	E16	SE186261.016	%	60 - 130%	87
	E17	SE186261.017	%	60 - 130%	78
	E18	SE186261.018	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	E1	SE186261.001	%	60 - 130%	81
	E2	SE186261.002	%	60 - 130%	96
	E3	SE186261.003	%	60 - 130%	93
	E4	SE186261.004	%	60 - 130%	80
	E5	SE186261.005	%	60 - 130%	97
	E6	SE186261.006	%	60 - 130%	84
	E7	SE186261.007	%	60 - 130%	90
	E8	SE186261.008	%	60 - 130%	88
	E9	SE186261.009	%	60 - 130%	96
	E10	SE186261.010	%	60 - 130%	84
	E11	SE186261.011	%	60 - 130%	88
	E12	SE186261.012	%	60 - 130%	106
	E13	SE186261.013	%	60 - 130%	87
	E14	SE186261.014	%	60 - 130%	102
	E15	SE186261.015	%	60 - 130%	92
	E16	SE186261.016	%	60 - 130%	102
	E17	SE186261.017	%	60 - 130%	85
	E18	SE186261.018	%	60 - 130%	93
d8-toluene (Surrogate)	E1	SE186261.001	%	60 - 130%	78
	E2	SE186261.002	%	60 - 130%	92
	E3	SE186261.003	%	60 - 130%	93
	E4	SE186261.004	%	60 - 130%	82
	E5	SE186261.005	%	60 - 130%	101
	E6	SE186261.006	%	60 - 130%	84
	E7	SE186261.007	%	60 - 130%	87
	E8	SE186261.008	%	60 - 130%	83
	E9	SE186261.009	%	60 - 130%	91
	E10	SE186261.010	%	60 - 130%	80
	E11	SE186261.011	%	60 - 130%	80
	E12	SE186261.012	%	60 - 130%	98
	E13	SE186261.013	%	60 - 130%	83
	E14	SE186261.014	%	60 - 130%	97
	E15	SE186261.015	%	60 - 130%	86
	E16	SE186261.016	%	60 - 130%	99
	E17	SE186261.017	%	60 - 130%	80

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

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

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	E18	SE186261.018	%	60 - 130%	90
Dibromofluoromethane (Surrogate)	E1	SE186261.001	%	60 - 130%	76
	E2	SE186261.002	%	60 - 130%	88
	E3	SE186261.003	%	60 - 130%	88
	E4	SE186261.004	%	60 - 130%	76
	E5	SE186261.005	%	60 - 130%	89
	E6	SE186261.006	%	60 - 130%	79
	E7	SE186261.007	%	60 - 130%	86
	E8	SE186261.008	%	60 - 130%	83
	E9	SE186261.009	%	60 - 130%	88
	E10	SE186261.010	%	60 - 130%	77
	E11	SE186261.011	%	60 - 130%	80
	E12	SE186261.012	%	60 - 130%	97
	E13	SE186261.013	%	60 - 130%	81
	E14	SE186261.014	%	60 - 130%	95
	E15	SE186261.015	%	60 - 130%	83
	E16	SE186261.016	%	60 - 130%	95
	E17	SE186261.017	%	60 - 130%	75
	E18	SE186261.018	%	60 - 130%	84

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	E1	SE186261.001	%	60 - 130%	76
	E2	SE186261.002	%	60 - 130%	84
	E3	SE186261.003	%	60 - 130%	81
	E4	SE186261.004	%	60 - 130%	75
	E5	SE186261.005	%	60 - 130%	88
	E6	SE186261.006	%	60 - 130%	72
	E7	SE186261.007	%	60 - 130%	84
	E8	SE186261.008	%	60 - 130%	83
	E9	SE186261.009	%	60 - 130%	88
	E10	SE186261.010	%	60 - 130%	79
	E11	SE186261.011	%	60 - 130%	76
	E12	SE186261.012	%	60 - 130%	90
	E13	SE186261.013	%	60 - 130%	89
	E14	SE186261.014	%	60 - 130%	92
	E15	SE186261.015	%	60 - 130%	81
	E16	SE186261.016	%	60 - 130%	87
	E17	SE186261.017	%	60 - 130%	78
	E18	SE186261.018	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	E1	SE186261.001	%	60 - 130%	81
	E2	SE186261.002	%	60 - 130%	96
	E3	SE186261.003	%	60 - 130%	93
	E4	SE186261.004	%	60 - 130%	80
	E5	SE186261.005	%	60 - 130%	97
	E6	SE186261.006	%	60 - 130%	84
	E7	SE186261.007	%	60 - 130%	90
	E8	SE186261.008	%	60 - 130%	88
	E9	SE186261.009	%	60 - 130%	96
	E10	SE186261.010	%	60 - 130%	84
	E11	SE186261.011	%	60 - 130%	88
	E12	SE186261.012	%	60 - 130%	106
	E13	SE186261.013	%	60 - 130%	87
	E14	SE186261.014	%	60 - 130%	102
	E15	SE186261.015	%	60 - 130%	92
	E16	SE186261.016	%	60 - 130%	102
	E17	SE186261.017	%	60 - 130%	85
	E18	SE186261.018	%	60 - 130%	93
d8-toluene (Surrogate)	E1	SE186261.001	%	60 - 130%	78
	E2	SE186261.002	%	60 - 130%	92
	E3	SE186261.003	%	60 - 130%	93

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 %
d8-toluene (Surrogate)	E4	SE186261.004	%	60 - 130%	82
	E5	SE186261.005	%	60 - 130%	101
	E6	SE186261.006	%	60 - 130%	84
	E7	SE186261.007	%	60 - 130%	87
	E8	SE186261.008	%	60 - 130%	83
	E9	SE186261.009	%	60 - 130%	91
	E10	SE186261.010	%	60 - 130%	80
	E11	SE186261.011	%	60 - 130%	80
	E12	SE186261.012	%	60 - 130%	98
	E13	SE186261.013	%	60 - 130%	83
	E14	SE186261.014	%	60 - 130%	97
	E15	SE186261.015	%	60 - 130%	86
	E16	SE186261.016	%	60 - 130%	99
	E17	SE186261.017	%	60 - 130%	80
	E18	SE186261.018	%	60 - 130%	90
Dibromofluoromethane (Surrogate)	E1	SE186261.001	%	60 - 130%	76
	E2	SE186261.002	%	60 - 130%	88
	E3	SE186261.003	%	60 - 130%	88
	E4	SE186261.004	%	60 - 130%	76
	E5	SE186261.005	%	60 - 130%	89
	E6	SE186261.006	%	60 - 130%	79
	E7	SE186261.007	%	60 - 130%	86
	E8	SE186261.008	%	60 - 130%	83
	E9	SE186261.009	%	60 - 130%	88
	E10	SE186261.010	%	60 - 130%	77
	E11	SE186261.011	%	60 - 130%	80
	E12	SE186261.012	%	60 - 130%	97
	E13	SE186261.013	%	60 - 130%	81
	E14	SE186261.014	%	60 - 130%	95
	E15	SE186261.015	%	60 - 130%	83
	E16	SE186261.016	%	60 - 130%	95
	E17	SE186261.017	%	60 - 130%	75
	E18	SE186261.018	%	60 - 130%	84

Volatile Petroleum Hydrocarbons in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	E19	SE186261.019	%	40 - 130%	101
	E20	SE186261.020	%	40 - 130%	97
	E21	SE186261.021	%	40 - 130%	97
d4-1,2-dichloroethane (Surrogate)	E19	SE186261.019	%	60 - 130%	98
	E20	SE186261.020	%	60 - 130%	102
	E21	SE186261.021	%	60 - 130%	98
d8-toluene (Surrogate)	E19	SE186261.019	%	40 - 130%	113
	E20	SE186261.020	%	40 - 130%	112
	E21	SE186261.021	%	40 - 130%	110
Dibromofluoromethane (Surrogate)	E19	SE186261.019	%	40 - 130%	105
	E20	SE186261.020	%	40 - 130%	106
	E21	SE186261.021	%	40 - 130%	104

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
LB161427.001	Conductivity of Extract (1:5 as received)	µS/cm	1	<1

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result
LB161404.001	Conductivity @ 25 C	µS/cm	2	<2

Mercury (dissolved) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB161421.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB161386.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB161383.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(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)	%	-	108
		2-fluorobiphenyl (Surrogate)	%	-	110
		d14-p-terphenyl (Surrogate)	%	-	112

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB161382.001	Naphthalene	µg/L	0.1	<0.1
	2-methylnaphthalene	µg/L	0.1	<0.1
	1-methylnaphthalene	µg/L	0.1	<0.1
	Acenaphthylene	µg/L	0.1	<0.1
	Acenaphthene	µg/L	0.1	<0.1
	Fluorene	µg/L	0.1	<0.1
	Phenanthrene	µg/L	0.1	<0.1
	Anthracene	µg/L	0.1	<0.1
	Fluoranthene	µg/L	0.1	<0.1
	Pyrene	µg/L	0.1	<0.1
	Benzo(a)anthracene	µg/L	0.1	<0.1
	Chrysene	µg/L	0.1	<0.1
	Benzo(a)pyrene	µg/L	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
	Dibenzo(ah)anthracene	µg/L	0.1	<0.1
	Benzo(ghi)perylene	µg/L	0.1	<0.1

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Water (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB161382.001	Surrogates	d5-nitrobenzene (Surrogate)	%	-	86
		2-fluorobiphenyl (Surrogate)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	96

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

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

Sample Number	Parameter	Units	LOR	Result
LB161385.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB161413.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB161383.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB161382.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB161381.001	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	Dibromofluoromethane (Surrogate)	%	-	124
		d4-1,2-dichloroethane (Surrogate)	%	-	123
		d8-toluene (Surrogate)	%	-	130
		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
LB161381.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	124
		d4-1,2-dichloroethane (Surrogate)	%	-	123
		d8-toluene (Surrogate)	%	-	130

Volatile Petroleum Hydrocarbons in Water

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

Sample Number	Parameter	Units	LOR

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

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

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

Sample Number		Parameter	Units	LOR	Result
LB161422.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	112
		d4-1,2-dichloroethane (Surrogate)	%	-	107
		d8-toluene (Surrogate)	%	-	99
		Bromofluorobenzene (Surrogate)	%	-	91

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.

Conductivity and TDS by Calculation - Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.005	LB161427.024	Conductivity of Extract (1:5 as received)	µS/cm	1	860	694.77	30	21
SE186261.015	LB161427.025	Conductivity of Extract (1:5 as received)	µS/cm	1	650	749.79	30	15

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.010	LB161386.014	Mercury	mg/kg	0.05	0.08	0.07	95	11
SE186261.018	LB161386.023	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.010	LB161384.011	% Moisture	%w/w	0.5	5.9	6.6	46	10
SE186261.023	LB161384.021	% Moisture	%w/w	0.5	12	12	38	3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.009	LB161383.014		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	148	10
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	0.2	0.2	79	34
			Pyrene	mg/kg	0.1	0.2	0.2	79	24
			Benzo(a)anthracene	mg/kg	0.1	0.1	0.1	121	18
			Chrysene	mg/kg	0.1	<0.1	0.1	130	10
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.2	93	13
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	163	0
			Benzo(a)pyrene	mg/kg	0.1	0.1	0.1	110	8
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	0.1	113	17
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.1	0.1	117	9
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	126	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	120	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.2	0.2	100	8
			Total PAH (18)	mg/kg	0.8	1.0	1.4	96	36
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
SE186261.018	LB161383.024		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

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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.018	LB161383.024		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	-	0.5	0.5	30	8
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	2

pH in soil (1:5)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.005	LB161427.024	pH	pH Units	0.1	8.0	7.62	31	5
SE186261.015	LB161427.025	pH	pH Units	0.1	8.1	7.788	31	4
SE186261.018	LB161427.023	pH	pH Units	0.1	5.8	5.9	32	0

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.010	LB161385.014	Arsenic, As	mg/kg	1	2	2	84	1
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	5.1	4.5	40	12
		Copper, Cu	mg/kg	0.5	11	13	34	18
		Nickel, Ni	mg/kg	0.5	1.8	4.7	45	92 ②
		Lead, Pb	mg/kg	1	36	36	33	0
		Zinc, Zn	mg/kg	2	43	46	34	8
SE186261.023	LB161385.024	Copper, Cu	mg/kg	0.5	2.6	4.1	45	42

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.022	LB161413.024	Lead, Pb	µg/L	1	<1	<1	200	0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.009	LB161383.014		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
SE186261.018	LB161383.024		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
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

TRH (Total Recoverable Hydrocarbons) in Water

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186199.001	LB161382.024	TRH C10-C14	µg/L	50	<50	<50	200	0
		TRH C15-C28	µg/L	200	<200	<200	200	0
		TRH C29-C36	µg/L	200	<200	<200	200	0
		TRH C37-C40	µg/L	200	<200	<200	200	0
		TRH C10-C36	µg/L	450	<450	<450	200	0
		TRH C10-C40	µg/L	650	<650	<650	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.

TRH (Total Recoverable Hydrocarbons) in Water (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186199.001	LB161382.024	TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186261.010	LB161381.014	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	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.1	50	6
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	4.4	50	4
			d8-toluene (Surrogate)	mg/kg	-	4.0	4.1	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.8	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
SE186261.018	LB161381.023	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	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	4.1	50	3
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.5	50	3
			d8-toluene (Surrogate)	mg/kg	-	4.5	4.3	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	4.0	50	5
		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 %
SE186261.010	LB161381.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.1	30	6
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	4.4	30	4
			d8-toluene (Surrogate)	mg/kg	-	4.0	4.1	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.8	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
SE186261.018	LB161381.023		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	4.1	30	3
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.5	30	3
			d8-toluene (Surrogate)	mg/kg	-	4.5	4.3	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	4.0	30	5
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186131.011	LB161422.022		TRH C6-C10	µg/L	50	<50	0	200	0
			TRH C6-C9	µg/L	40	<40	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.8	6.36	30	10
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	6.4	6.45	30	1
			d8-toluene (Surrogate)	µg/L	-	4.6	4.51	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	4.4	4.76	30	7
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	0.03	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	-0.11	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 %
LB161427.002	Conductivity of Extract (1:5 as received)	µS/cm	1	290	303	85 - 115	95

Conductivity and TDS by Calculation - Water

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161404.002	Conductivity @ 25 C	µS/cm	2	300	303	90 - 110	98

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161386.002	Mercury	mg/kg	0.05	0.19	0.2	70 - 130	95

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161383.002		Naphthalene	mg/kg	0.1	4.3	4	60 - 140	107
		Acenaphthylene	mg/kg	0.1	4.5	4	60 - 140	112
		Acenaphthene	mg/kg	0.1	4.5	4	60 - 140	112
		Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	110
		Anthracene	mg/kg	0.1	4.3	4	60 - 140	107
		Fluoranthene	mg/kg	0.1	4.1	4	60 - 140	102
		Pyrene	mg/kg	0.1	4.3	4	60 - 140	108
		Benzo(a)pyrene	mg/kg	0.1	4.8	4	60 - 140	121
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161382.002		Naphthalene	µg/L	0.1	28	40	60 - 140	70
		Acenaphthylene	µg/L	0.1	30	40	60 - 140	76
		Acenaphthene	µg/L	0.1	30	40	60 - 140	75
		Phenanthrene	µg/L	0.1	36	40	60 - 140	90
		Anthracene	µg/L	0.1	32	40	60 - 140	79
		Fluoranthene	µg/L	0.1	36	40	60 - 140	90
		Pyrene	µg/L	0.1	37	40	60 - 140	92
		Benzo(a)pyrene	µg/L	0.1	36	40	60 - 140	90
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.3	0.5	40 - 130	68
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	68
		d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	88

pH in soil (1:5)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161427.003	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 %
LB161385.002	Arsenic, As	mg/kg	1	360	336.32	79 - 120	107
	Cadmium, Cd	mg/kg	0.3	420	416.6	69 - 131	102
	Chromium, Cr	mg/kg	0.3	38	35.2	80 - 120	107
	Copper, Cu	mg/kg	0.5	340	370.46	80 - 120	91
	Nickel, Ni	mg/kg	0.5	190	210.88	79 - 120	91
	Lead, Pb	mg/kg	1	95	107.87	79 - 120	88
	Zinc, Zn	mg/kg	2	290	301.27	80 - 121	97

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

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

Trace Metals (Dissolved) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN318

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161413.002		Arsenic, As	µg/L	1	19	20	80 - 120	96
		Cadmium, Cd	µg/L	0.1	21	20	80 - 120	106
		Chromium, Cr	µg/L	1	22	20	80 - 120	108
		Copper, Cu	µg/L	1	22	20	80 - 120	111
		Lead, Pb	µg/L	1	21	20	80 - 120	107
		Nickel, Ni	µg/L	1	21	20	80 - 120	107
		Zinc, Zn	µg/L	5	21	20	80 - 120	104

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161383.002		TRH C10-C14	mg/kg	20	30	40	60 - 140	75
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	75
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	75
	TRH F Bands	TRH >C10-C16	mg/kg	25	30	40	60 - 140	75
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	75
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	85

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161382.002		TRH C10-C14	µg/L	50	1100	1200	60 - 140	94
		TRH C15-C28	µg/L	200	1500	1200	60 - 140	122
		TRH C29-C36	µg/L	200	1500	1200	60 - 140	121
	TRH F Bands	TRH >C10-C16	µg/L	60	1300	1200	60 - 140	104
		TRH >C16-C34 (F3)	µg/L	500	1500	1200	60 - 140	123
		TRH >C34-C40 (F4)	µg/L	500	740	600	60 - 140	123

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161381.002	Monocyclic Aromatic	Benzene	mg/kg	0.1	2.9	2.9	60 - 140	99
		Toluene	mg/kg	0.1	2.1	2.9	60 - 140	74
		Ethylbenzene	mg/kg	0.1	2.1	2.9	60 - 140	71
		m/p-xylene	mg/kg	0.2	4.8	5.8	60 - 140	82
		o-xylene	mg/kg	0.1	2.2	2.9	60 - 140	76
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	5	60 - 140	85
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	5	60 - 140	94
		d8-toluene (Surrogate)	mg/kg	-	4.4	5	60 - 140	88
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.3	5	60 - 140	85

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161381.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	88
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	84
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	5	60 - 140	85
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	5	60 - 140	94
		d8-toluene (Surrogate)	mg/kg	-	4.4	5	60 - 140	88
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.3	5	60 - 140	85
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	105

Volatile Petroleum Hydrocarbons in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB161422.002		TRH C6-C10	µg/L	50	940	946.63	60 - 140	99
		TRH C6-C9	µg/L	40	760	818.71	60 - 140	93
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.8	5	60 - 140	97
		d8-toluene (Surrogate)	µg/L	-	4.8	5	60 - 140	97
		Bromofluorobenzene (Surrogate)	µg/L	-	4.8	5	60 - 140	95
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	630	639.67	60 - 140	98

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

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

Mercury (dissolved) in Water

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE186255.001	LB161421.004	Mercury	mg/L	0.0001	0.0075	<0.0001	0.008	93

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE186261.001	LB161386.004	Mercury	mg/kg	0.05	0.22	0.07	0.2	79

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%
SE186261.001	LB161385.004	Arsenic, As	mg/kg	1	48	<1	50	94
		Cadmium, Cd	mg/kg	0.3	46	<0.3	50	91
		Chromium, Cr	mg/kg	0.3	52	6.3	50	92
		Copper, Cu	mg/kg	0.5	59	11	50	96
		Nickel, Ni	mg/kg	0.5	47	2.0	50	90
		Lead, Pb	mg/kg	1	78	40	50	75
		Zinc, Zn	mg/kg	2	89	44	50	89

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE186191.001	LB161413.004	Arsenic, As	µg/L	1	36	13	20	112
		Cadmium, Cd	µg/L	0.1	22	0.2	20	110
		Chromium, Cr	µg/L	1	21	<1	20	104
		Copper, Cu	µg/L	1	21	1	20	98
		Lead, Pb	µg/L	1	21	<1	20	105
		Nickel, Ni	µg/L	1	31	11	20	98
		Zinc, Zn	µg/L	5	21	<5	20	90

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE186261.002	LB161383.025		TRH C10-C14	mg/kg	20	<20	40	95
			TRH C15-C28	mg/kg	45	<45	40	83
			TRH C29-C36	mg/kg	45	<45	40	113
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	40	88
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	90
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE186261.001	LB161381.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	2.6	<0.1	2.9	89
			Toluene	mg/kg	0.1	2.4	<0.1	2.9	84
			Ethylbenzene	mg/kg	0.1	2.4	<0.1	2.9	82
			m/p-xylene	mg/kg	0.2	5.4	<0.2	5.8	92
			o-xylene	mg/kg	0.1	2.5	<0.1	2.9	86
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	3.8	-	90
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	4.0	-	98
			d8-toluene (Surrogate)	mg/kg	-	4.7	3.9	-	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	3.8	-	95
		Totals	Total Xylenes	mg/kg	0.3	7.9	<0.3	-	-
			Total BTEX	mg/kg	0.6	15	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE186261.001	LB161381.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	90
			TRH C6-C9	mg/kg	20	<20	<20	23.2	85
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	3.8	-	90

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

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

Volatile Petroleum Hydrocarbons in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE186261.001	LB161381.004	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	4.0	-	98
			d8-toluene (Surrogate)	mg/kg	-	4.7	3.9	-	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	3.8	-	95
		VPH F	Benzene (F0)	mg/kg	0.1	2.6	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	95

Volatile Petroleum Hydrocarbons in Water

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE186131.012	LB161422.023		TRH C6-C10	µg/L	50	<50	<50	946.63	112
			TRH C6-C9	µg/L	40	<40	<40	818.71	107
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.7	5.7	-	115
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	6.4	5.8	-	127
			d8-toluene (Surrogate)	µg/L	-	4.5	4.6	-	89
			Bromofluorobenzene (Surrogate)	µg/L	-	5.1	4.4	-	103
		VPH F	Benzene (F0)	µg/L	0.5	<0.50	<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	639.67	110

MATRIX SPIKE DUPLICATES

SE186261 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.
-	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 Analytical Report comments for further information.

SAMPLE RECEIPT ADVICE

SE186261

CLIENT DETAILS

Contact	Mitchell Tofler
Client	DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY
Address	54 MATCHAM ROAD BUXTON NSW 2571
Telephone	0424 639 602
Facsimile	(Not specified)
Email	mitch@dirtdoctors.com.au
Project	**DDE-382**
Order Number	**DDE-382**
Samples	24

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 16/11/2018
Report Due	Mon 19/11/2018
SGS Reference	**SE186261**

SUBMISSION DETAILS

This is to confirm that 24 samples were received on Friday 16/ 11/2018. Results are expected to be ready by COB Monday 19/ 11/2018. Please quote SGS reference SE186261 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	20 Soil, 4 Water
Date documentation received	15/11/2018@6:55pm	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	11.5ºC	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

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

E18 Copper QC forwarded to SGS Cairns.

SAMPLE RECEIPT ADVICE

SE186261

CLIENT DETAILS

Client DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY LTD Project DDE-382

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	pH in soil (1:5)	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	E1	1	26	1	7	10	12	8
002	E2	1	26	1	7	10	12	8
003	E3	1	26	1	7	10	12	8
004	E4	1	26	1	7	10	12	8
005	E5	1	26	1	7	10	12	8
006	E6	1	26	1	7	10	12	8
007	E7	1	26	1	7	10	12	8
008	E8	1	26	1	7	10	12	8
009	E9	1	26	1	7	10	12	8
010	E10	1	26	1	7	10	12	8
011	E11	1	26	1	7	10	12	8
012	E12	1	26	1	7	10	12	8
013	E13	1	26	1	7	10	12	8
014	E14	1	26	1	7	10	12	8
015	E15	1	26	1	7	10	12	8
016	E16	1	26	1	7	10	12	8
017	E17	1	26	1	7	10	12	8
018	E18	1	26	1	7	10	12	8
023	E18 Copper QA	-	-	-	1	-	-	-

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

SE186261

CLIENT DETAILS

Client DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY LTD Project DDE-382

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	Sample Subcontracted	Volatile Petroleum Hydrocarbons in Water
001	E1	2	1	1	-	-
002	E2	2	1	1	-	-
003	E3	2	1	1	-	-
004	E4	2	1	1	-	-
005	E5	2	1	1	-	-
006	E6	2	1	1	-	-
007	E7	2	1	1	-	-
008	E8	2	1	1	-	-
009	E9	2	1	1	-	-
010	E10	2	1	1	-	-
011	E11	2	1	1	-	-
012	E12	2	1	1	-	-
013	E13	2	1	1	-	-
014	E14	2	1	1	-	-
015	E15	2	1	1	-	-
016	E16	-	1	1	-	-
017	E17	-	1	1	-	-
018	E18	-	1	1	-	-
019	E19	-	-	-	-	8
020	E20	-	-	-	-	8
021	E21	-	-	-	-	8
023	E18 Copper QA	-	-	1	-	-
024	E18 Copper QC	-	-	-	1	-

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

SE186261

CLIENT DETAILS

Client DIRT DOCTORS GEOTECHNICAL TESTING SERVICES PTY LTD Project DDE-382

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Water	Mercury (dissolved) in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water
019	E19	1	1	22	7	10
020	E20	1	1	22	7	10
021	E21	1	1	22	7	10
022	E22	-	-	-	1	-

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

E-MAILED
16/11/18 @ 6:55p

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental 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-382
Address:	Unit N2 5-7 Hepher Rd, Campbelltown	Purchase Order No:	Dirt_MMINJR_2018
		Results Required By:	24hr TAT
		Telephone:	0424 639 602
Contact Name:	Mitchell Tofler	Facsimile:	
		Email Results:	mitch@dirtdoctors.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Reg 9, no FM	Asbestos in soils	Copper QA	Copper QC – External	lead	8 metals	Ec	Pah	Trh							
E1	15-11-18	1		*		2	*	*														
E2	15-11-18	2		*		2	*	*														
E3	15-11-18	3		*		2	*	*														
E4	15-11-18	4		*		2	*	*														
E5	15-11-18	5		*		2	*	*														
E6	15-11-18	6		*		2	*	*														
E7	15-11-18	7		*		2	*	*														
E8	15-11-18	8		*		2	*	*														
E9	15-11-18	9		*		2	*	*														
E10	15-11-18	10		*		2	*	*														
E11	15-11-18	11		*		2	*	*														
E12	15-11-18	12		*		2	*	*														
E13	15-11-18	13		*		2	*	*														
E14	15-11-18	14		*		2	*	*														
E15	15-11-18	15		*		2	*	*														
E16	15-11-18	16		*		2	*															

SGS EHS Alexandria Laboratory

SE186261 COC
Received: 16 – Nov – 2018

E17	15-11-18	17		*		2	*															
E18	15-11-18	18		*		3	*		*	*												
E19	15-11-18	19	*			1						*	*	*	*							
E20	15-11-18	20	*			1						*	*	*	*							
E21	15-11-18	21	*			1						*	*	*	*							
E22	15-11-18	22	*			1					*											

Relinquished By: M.Tofler	Date/Time: 15-11-18 07:00am	Received By:	Date/Time 16/11/18 @ 11:10
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes	Temperature: Chilled	Sample Cooler Sealed: Yes	Laboratory Quotation No:
	Comments:		

E-MAILED
18/12/18 10.42pm

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

CHAIN OF CUSTODY & ANALYSIS REQUEST

Company Name:	Dirt Doctors	Project Name/No:	DDE-382
Address:	5/15 Aero Rd, Ingleburn	Purchase Order No:	Dirt_KALCF6_2018
		Results Required By:	Same day TAT
		Telephone:	0424 639 602
Contact Name:	Mitchell Tofler	Facsimile:	
		Email Results:	mitch@dirtdoctors.com.au desmond@dirtdoctors.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Zinc	Copper
E1	16-12-18	1	*			1	*	*
E2	16-12-18	2	*			1	*	*
E3	16-12-18	3	*			1	*	*

SGS EHS Alexandria Laboratory
SE187570 COC
Received: 18 – Dec – 2018

Relinquished By: M.Tofler	Date/Time: 17-12-18 08:00am	Received By:	Date/Time 18/12/18 6pm
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes	Temperature: Chilled	Sample Cooler Sealed: Yes	Laboratory Quotation No:

APPENDIX C

HISTORICAL PHOTOGRAPHS

1943

1955

1970

1975

2017

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

Historical Search
29/11/2018 11:27 PM

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

29/11/2018 11:27PM

FOLIO: 101/601256

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 13875 FOL 222

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
11/12/1991		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
5/5/1992	E432346	LEASE	
5/5/1992	E432347	LEASE	EDITION 1
15/5/1992	E459652	REQUEST	
15/5/1992	E459653	REQUEST	
15/5/1992	E459654	REQUEST	
15/5/1992	E459655	REQUEST	
15/5/1992	E459656	REQUEST	EDITION 2
26/5/1992	E482856	LEASE	EDITION 3
28/5/1992	E491125	LEASE	EDITION 4
9/7/1992	E595443	DISCHARGE OF MORTGAGE	
9/7/1992	E595444	TRANSFER	
9/7/1992	E595445	MORTGAGE	EDITION 5
28/8/1992	E721526	LEASE	EDITION 6
17/8/1993	I568115	SURRENDER OF LEASE	
17/8/1993	I568116	LEASE	EDITION 7
11/10/1993	I707707	SURRENDER OF LEASE	
11/10/1993	I707708	LEASE	EDITION 8
26/4/1996	2111581	LEASE	EDITION 9

12/8/1996 2371763 LEASE EDITION 10

10/10/1997 3483206 LEASE EDITION 11

14/1/1998 3729827 LEASE EDITION 12

10/8/1998 5185660 TRANSFER OF LEASE

END OF PAGE 1 - CONTINUED OVER

101 historical PRINTED ON 29/11/2018

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

29/11/2018 11:27PM

FOLIO: 101/601256 PAGE 2

Recorded	Number	Type of Instrument	C.T. Issue
18/5/2001	7622301	LEASE	EDITION 13
1/6/2004	AA684273	REQUEST	EDITION 14
8/9/2004	AA938217	REQUEST	EDITION 15
25/11/2004	AB117946	DISCHARGE OF MORTGAGE	
25/11/2004	AB117947	TRANSFER	
25/11/2004	AB117948	MORTGAGE	EDITION 16
3/7/2012	AH90616	DEPARTMENTAL DEALING	
4/7/2012	AH68938	DISCHARGE OF MORTGAGE	EDITION 17
13/7/2012	AH107195	TRANSFER	EDITION 18
5/11/2015	AJ961199	TRANSFER	EDITION 19

*** END OF SEARCH ***

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

101 historical PRINTED ON 29/11/2018

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:33 PM

Form: 01T
Release: 6·1

TRANSFER

New South Wales
Real Property Act 1900

AJ961199H

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar-General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY Office of State Revenue use only

Office of State Revenue (NSW)
Client No: 3323749 4541
Duty: $10.00 Trans No: 839682609
Asst details:

(A) **TORRENS TITLE** Certificates of Title Folio Identifiers 101/601256 & 1/230908

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODES
124E	GlobalX Legal Solutions Pty Ltd Level 3, 175 Castlereagh Street SYDNEY 2000 LLPN : 123820V Ph. 13 5669 Reference: FOTFC 3616303	T TW

(C) **TRANSFEROR** Fabcot Pty Limited ABN 55 002 960 983

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 6,600,000.00 and as regards

(E) **ESTATE** the abovementioned land transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** OAR2 Pty Ltd ACN 607 961 357

(I) **TENANCY:**

DATE 3 November 2015.

(J) I certify that I am an eligible witness and that the transferor's attorney signed this dealing in my presence. [See note* below].

Signature of witness:

Name of witness: ALISON PORTEOUS
Address of witness: 1 WOOLWORTHS WAY
BELLA VISTA, NSW

Certified correct for the purposes of the Real Property Act 1900 by the transferor's attorney who signed this dealing pursuant to the power of attorney specified.

Signature of attorney:

Attorney's name: RODNEY ALBINO BORDIGNON
Signing on behalf of: Fabcot Pty Ltd
Power of attorney-Book: 4674
-No.: 186

Certified correct for the purposes of the Real Property Act 1900 on behalf of the transferee by the person whose signature appears below.

Signature:

Signatory's name: Suzanne Dobinson
Signatory's capacity: licensed conveyancer

(K) The transferee's solicitor certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. 911830 Full name: Suzanne Dobinson Signature:

** s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.*

ALL HANDWRITING MUST BE IN BLOCK CAPITALS

1303

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:35 PM

Form: 01T
Release: 6·0

TRANSFER

New South Wales
Real Property Act 1900

AH107195J

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect information by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY Office of State Revenue use only

Office of State Revenue
NSW Treasury
Client No: 117754406 3479
Duty: ~~$19,440~~ $10 Trans No: 6740389
Asst details: ~~EG~~
~~Pol#~~

(A) **TORRENS TITLE** 1/230908 and 101/601256

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODES
1W	Herbert Geer Lawyers Level 12, 77 King Street, Sydney DX 95 Sydney Phone: 9239 4500 Reference: EYW:1352527	T TW

(C) **TRANSFEROR** JOBEMA DEVELOPMENTS PTY LIMITED ACN 053 203 964

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 3,600,000.00 and as regards

(E) **ESTATE** the abovementioned land transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** FABCOT PTY LTD ACN 002 960 983

(I) **TENANCY:**

DATE

(J) Certified correct for the purposes of the Real Property Act 1900 and executed on behalf of the corporation named below by the authorised person(s) whose signature(s) appear(s) below pursuant to the authority specified.

Corporation: JOBEMA DEVELOPMENTS PTY LIMITED ACN 053 203 964
Authority: section 127 of the Corporations Act 2001

Signature of authorised person: E Messih
Name of authorised person: EDWARD MESSIH.
Office held: SECRETARY

Signature of authorised person:
Name of authorised person: EDWARD ZACAROPOULOS
Office held: DIRECTOR

Certified correct for the purposes of the Real Property Act 1900 on behalf of the transferee by the person whose signature appears below.

Signature:

Signatory's name: Erica Rees
Signatory's capacity: solicitor

(K) The transferee's agent certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. 281216 Full name: ~~Erica Rees~~ Barbara Chong Signature:

* *s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.*

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:37 PM

Form: 01T
Release: 2.1
www.lpi.nsw.gov.au

(2) **TRANSFER**

New South Wales
Real Property Act 1900

AB117947E

PRIVACY NOTE: this information is legally required and will become part of the public record

STAMP DUTY

Office of State Revenue use only
NSW Treasury
S26
VENDOR DUTY ENDORSED
ID: NOT LIABLE

NEW SOUTH WALES DUTY
11-08-2004 0002115622-001
SECTION 18(2)
DUTY $ ********2.00

(A) **TORRENS TITLE**

Folio Identifier 101/601256 AND 1/230908

(B) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone	CODES
45A	LLPN: 1230110 National Australia Bank Limited 197 Prospect Highway Seven Hills NSW 2147 Tel: (02) 8825 0898 Reference: S4C29002	T TW (Sheriff)

(C) **TRANSFEROR**

RAGI PTY LIMITED ACN 001452384

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 2,000,000.00 and as regards

(E) **ESTATE** the land specified above transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE**

JOBEMA DEVELOPMENTS PTY LIMITED ACN 053203964

(I) **TENANCY:**

(J) **DATE**

I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness:
Address of witness:

Certified correct for the purposes of the Real Property Act 1900 by the transferor.

Signature of transferor:

See Annexure "A"

Certified for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatory's name: Warwick Van Ede
Signatory's capacity: transferee's solicitor

All handwriting must be in block capitals.

Land and Property Information NSW.

REC 32
3 m

ANNEXURE "A"

Certified correct for the purposes of the Real Property Act 1900 by the corporation named below the common seal of which was affixed pursuant to the authority specified and in the presence of the authorised person(s) whose signature(s) appear(s) below.
Corporation:
Authority: Section 127 of the corporations Act 2001

Signature of authorised person:

Name of authorised person:
Office held:

Signature of authorised person: Henri Zacarpoulos

Name of authorised person:
Office held: SOLE DIRECTOR / SECRETARY

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:39 PM

RP13

[redacted]

TRANSFER

Real Property Act, 1900

E 595444 L

Office of State Revenue use only

B

(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

FOLIO IDENTIFIER 101/601256 & 1/230908

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
45A	NATIONAL AUSTRALIA BANK LIMITED National Australia Bank Limited 2nd George Street, Sydney REFERENCE (max. 15 characters): [illegible] FAX 237-1284 JY 1903

(C) **TRANSFEROR** ALLENBY DADISHO GEORGE

(D) acknowledges receipt of the consideration of $1,500,000.00

and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. SEE SCHEDULE ONE ANNEXED 2. 3.

(F) **TRANSFEREE**

T

(G)

RAGI PTY LTD ACN. 001 452 384

551 KING GEORGES ROAD, PENSHURST

as joint tenants/tenants in common

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. **DATE OF EXECUTION** 19.6.1992

Signed in my presence by the transferor who is personally known to me.

SIGNED by ALLENBY DADISHO GEORGE by his Receiver HUGH CHARLES THOMAS pursuant to deed of appointment registered book 3865 no.116 in the presence of:

Signature of Witness

Janette Hummelstad

Name of Witness (BLOCK LETTERS)

13 Empire Bay Drive, Kincumber South

Address of Witness

Signature of Transferor

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferee 's Solicitor

TATIANA A. LENTON

CHECKED BY (office use only) ZB

☞ **INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE**

B

SCHEDULE ONE

Transfer from ALLENBY DADISHO GEORGE to

RAGI PTY LIMITED A.C.N. 001 452 384

Land comprised in Folio Identifier 101/601256 and 1/230908

Subject to the following encumbrances:

N366037 easement for transmission line

V102110 lease to M.W. LAU and R.L.Y. LAI of shop 5

Y616308 lease to Safeway Stores Pty Ltd of shop 8(b)

E432346 lease to D. & L. SURRIDGE of shop 3

E432347 lease to M. ALAM of shop 6

E.482856 lease to O.R. & R. LANDICHO of shop 8(A)

E.491125 lease to P. WANG of shops 1 & 2.

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:41 PM

CERTIFICATE OF TITLE

13875222

NEW SOUTH WALES

PROPERTY ACT, 1900

Vol. 13875 Fol. 222

Appln. No.7206

Prior Titles Vol.10518 Fol.175
Vol.11595 Fol.148

EDITION ISSUED

22 6 1979

(Page 1) Vol. 13875 Fol. 222

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

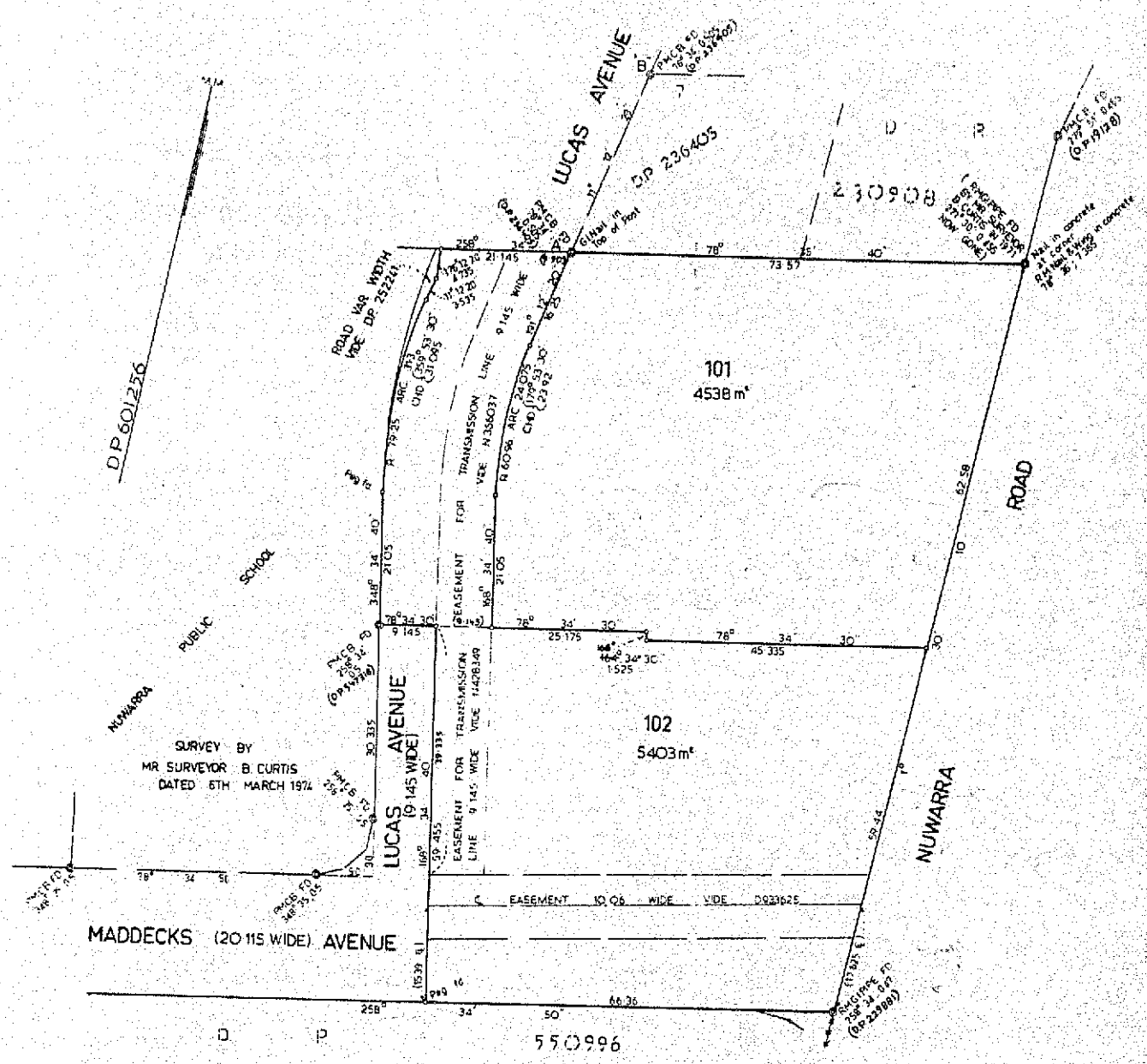
CANCELLED

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 101 in Deposited Plan 601256 at Moorebank in the City of Liverpool Parish of Holsworthy and County of Cumberland being part of Portion 31 granted to Thomas Moore on 26-11-1818.

FIRST SCHEDULE

~~GIUSEPPE VARTULI, Fruiterer, ROSINA VARTULI, his wife, FRANCESCO VARTULI, Insurance Clerk and BRUNO VARTULI, Jeweller and DOMENICO VARTULI, Plasterer, all of Cabramatta as tenants in common in equal shares~~

SECOND SCHEDULE

GRY ET(SB)

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. N366037 Easement for transmission line affecting the part of the land above described shown so burdened in Deposited Plan 601256.
3. ~~N856749 Mortgage to The Commercial Banking Company of Sydney Limited.~~ V851094

RG 2/62

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	~~Signature of~~ Registrar General
Allenby Dadisho George by Transfer V851095. Registered 28-11-1985.				

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	~~Signature of~~ Registrar General	CANCELLATION	
~~Mortgage~~	R697197	~~to The Commercial Banking Company of Sydney Limited~~	2-5-1980		Discharged	W13800
~~S935597 Caveat by Robert Graham Robinson, Margaret Alice Robinson, Christen Trembath Robinson, Steven Trembath~~ ~~Robinson, Steven~~ ~~and Kerry Margaret Robinson. Registered 26-2-1982~~					Withdrawn	T756837
~~W13801 Mortgage to Commonwealth Bank of Australia. Registered 28-11-1985.~~						
~~W13801 Mortgage to Commonwealth Bank of Australia. Registered 28-11-1985.~~					Discharged	X281866
X281868	Mortgage to National Australia Bank Limited. Registered 13-4-1988					

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

SECOND SCHEDULE (continued)

BEING PART OF THE SHOPPING CENTRE ERECTED ON LAND IN CERTIFICATE OF TITLE VOLUME 11595 FOLIO 148 TOGETHER WITH RIGHTS.

INSTRUMENT NATURE	INSTRUMENT NUMBER	Shop	LESSEES	DATE OF EXPIRY	REGISTERED	Signature of Registrar General	CANCELLATION
~~Lease~~	~~N701424~~	~~7~~	~~to Henry George Piggott of Moorebank, Master Butcher, with option for renewal.~~	~~30-12-1976~~	~~4-4-1974~~		~~18-4-1988~~
~~Lease~~	~~N701426~~	~~3~~	~~to Dave Demertzis of Liverpool and John Demertzis of Strathfield, both Shopkeepers, with option for renewal.~~	~~10-9-1976~~	~~4-4-1974~~		Expired 17-11-1983
~~Lease~~	~~N701434~~	~~101A~~	~~to Coco's Self Service Pty.Limited.~~	~~30-4-1983~~	~~4-4-1974~~		~~18-4-1988~~
~~Lease~~ Lease ~~T662981~~ T662981	T662981	101B 9	to George Toutounji and Georgette Toutounji as joint tenants, together with option of renewal	3-11-1988	26-9-1988		
~~Lease~~	~~T662981~~	~~9~~	~~to George Toutounji and Georgette Toutounji as joint tenants, together with option of renewal.~~	~~3-11-1988~~	~~26-9-1983~~		
~~Lease~~	~~T845081~~	~~1 & 2~~	~~to Patricia Wang, together with option of renewal~~	~~27-6-1987~~	~~17-11-1983~~		~~18-4-1988~~
~~Lease~~	~~T845082~~	~~3~~	~~to Telpom Pty.Limited, together with option of renewal~~	~~31-7-1985~~	~~17-11-1983~~		~~18-4-1988~~
~~Lease~~	~~T845083~~	~~6~~	~~to John Vartuli and Anna-Maria Vartuli as joint tenants, together with option of renewal~~	~~30-6-1985~~	~~17-11-1983~~		~~18-4-1988~~
Lease	V102110	5	to Mieneke Wilhelmina Lau and Rowena Lai Yuen Lai as tenants in common, together with an option of renewal.	7-3-1988	15-5-1984		
~~Lease~~	~~V103799~~	~~4~~	~~to Peris Harris and Catherine Harris as joint tenants.~~	~~30-6-1986~~	~~29-5-1984~~		~~18-4-1988~~
Lease	V103800	8	to Robbs Bulk Food Discount Centre Pty. Limited, together with an option of renewal.	30-4-1989	29-5-1984		
Lease	T662981	~~V698913~~ V698914)	Transfersof Lease to Rocco Alati.		20-5-1985		
Lease	V103800	V951600	Mortgage to Westpac Banking Corporation.	--	28-11-1985		

X572068 Lease to Leslie Arthur Elliott and Pamela Frances Elliott as joint tenants of premises being Shop 7/101 Nuwarra Road, Moorebank. Expires 5-4-1990. Option of renewal 3 years. Registered 14-10-1988.

X572069 Lease to Jason Vong and Kenley Wong as joint tenants of premises Shop No.4, 101 Nuwarra Road, Moorebank. Expires 30-4-1991. Option of renewal 4 years. Registered 14-10-1988.

Y616308 Lease to Robbs Bulk Food Discount Centre Pty. Limited of premises being Shop 8 (b) Nuwarra Road, Moorebank. Expires 15-12-1992. Option of renewal for 7 years. Registered 31-10-1989

Y880934 Lease to Peris Harris and Catherine Harris as joint tenants of premises being shop 8(a) Nuwarra Road, Moorebank. Expires 15-12-1991. Option of renewal 3 years. Registered 23-4-1990.

Y616308 Lease Z232700 Transfer of Lease to Safeway Stores Pty. Limited. Registered 21-12-1990.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Z223269 Rejected 15/12/1990 Y880934L Z223700 TC DELETED X572068-L, X572069 L ~~X572070 L~~ RESCINDED 13-9-1988 X281866 D/M R. X281868 MR. ~~X281867 M~~ (Rejected 7-12-87) ~~X281868 L~~ V951600 M/L

Dup Ent of filed dealing

R697197

CT 16.5. 593559 E

UPDATE COMPLETE 29-10-82

C.T. 15.4.8 T523777L 86 REJECTED 14.7.86 T662981L T768377 CT 11-11-83 T845081 L T845082 L T845083 L

C.T. 15.4.8 V103799 L V103800 L

Vol. 13875 Fol. 222

V698913 T/C V698914 T/C V951600 M/L

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER		LESSEES	DATE OF EXPIRY	REGISTERED	Signature of Registrar General	CANCELLATION

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

registered 28/11/85
V851095 DM R
V851095 TR R
Page 2 Y965144 R
V965144 R

(Page Number Only)
11

W138801/MR
I.M R
Y616308LR
Y880934LR
2232700TL R

CERTIFICATE OF TITLE

TORRENS TITLE

Register

NEW SOUTH WALES

REAL PROPERTY ACT, 1900

Vol. 13875 Fol. 222

Appln. No.7206

Prior Titles Vol.10518 Fol.175
Vol.11595 Fol.148

CANCELLED

See new edition

EDITION ISSUED

22 6 1979

13875 Fol. 222

(Page 1) Vol. .....

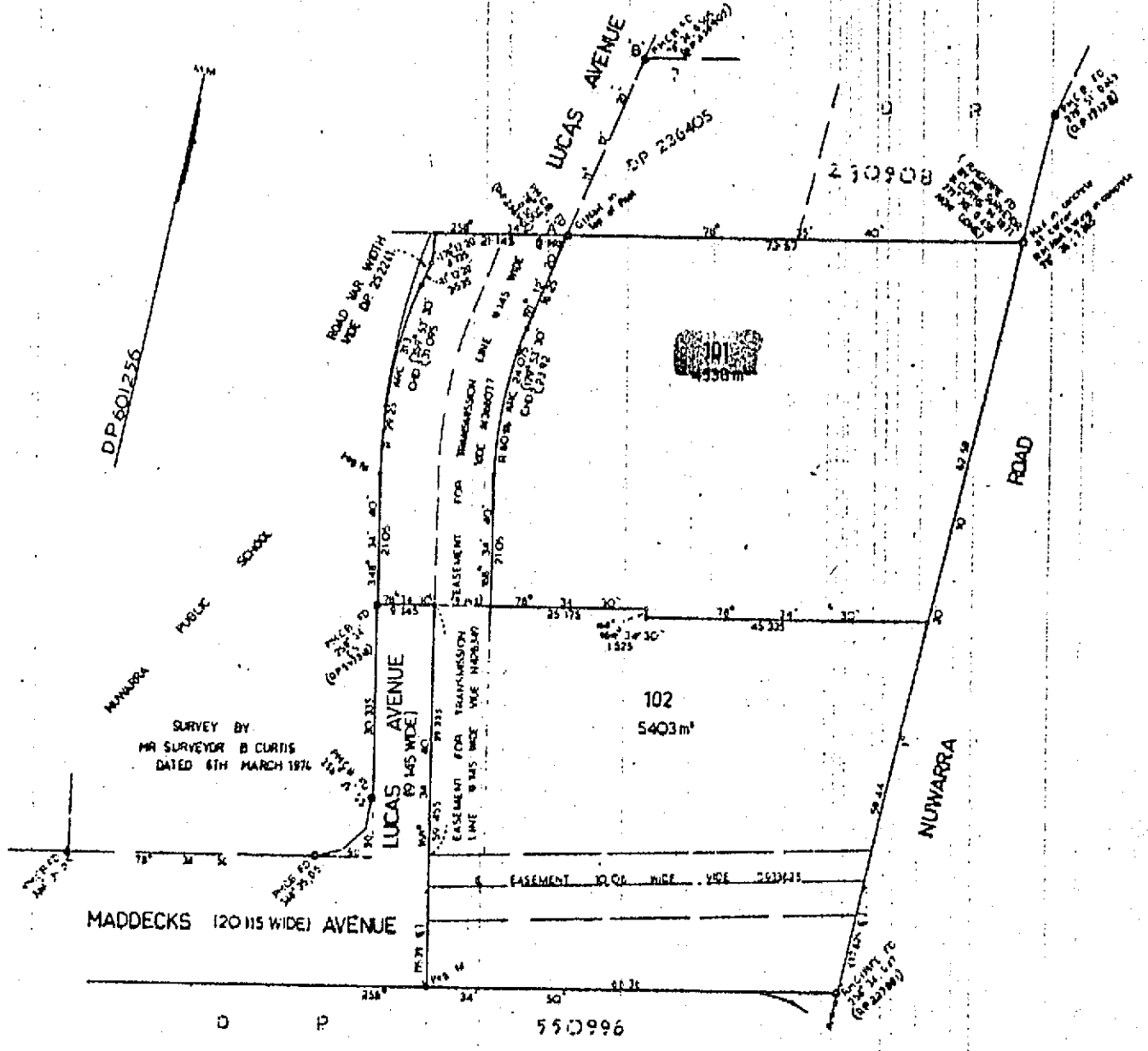
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

101 Nuwarra Rd,
Moorebank

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 101 in Deposited Plan 601256 at Moorebank in the City of Liverpool Parish of Holsworthy and County of Cumberland being part of Portion 31 granted to Thomas Moore on 26-11-1818.

FIRST SCHEDULE

~~GIUSEPPE VARTULI, Fruiterer, ROSINA VARTULI, his wife, FRANCESCO VARTULI, Insurance Clerk and BRUNO VARTULI, Jeweller and DOMENICO VARTULI, Plasterer, all of Gabramatta as tenants in common in equal shares.~~

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. N366037 Easement for transmission line affecting the part of the land above described shown so burdened in Deposited Plan 601256.
3. ~~N856749 Mortgage to The Commercial Banking Company of Sydney Limited.~~ V851094

Vol. 13875 Fol. 222

Vol ..... Fol .....

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Registrar General
Allenby Dadisho George by Transfer V851095. Registered 28-11-1985.				
CANCELLED See new edition issued 25-5-1989 Vide 62M7000 (435) FILED IN LIEU OF MISSING REGISTER				

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	NOTATIONS AND UNREGISTERED DEALINGS
~~Mortgage~~	~~R697197~~	~~to The Commercial Banking Company of Sydney Limited~~	~~2-5-1980~~		Discharged	W13800
~~R697197~~		~~Caveat by Robert Graham Robinson, Margaret Alice Robinson, Christen Trembath Robinson, Steven Trembath Robinson, Steven, and Kerry Margaret Robinson. Registered 26-2-1982~~			Withdrawn	T756837
~~W13801~~		~~Mortgage to Commonwealth Bank of Australia. Registered 28-11-1985.~~				
~~(W13800)~~		~~Mortgage to Commonwealth Bank of Australia. Registered 28-11-1985.~~				

(Page 2 of 2 pages)

INSTRUMENT NATURE	INSTRUMENT NUMBER	Shop	SECOND SCHEDULE (continued) LESSEES	DATE OF EXPIRY	REGISTERED	Seal of the Registrar General	CANCELLATION
			~~BEING PART OF THE SHOPPING CENTRE ERECTED ON LAND IN CERTIFICATE OF TITLE VOLUME 11595 FOLIO 148~~ TOGETHER WITH RIGHTS.				
Lease	N701424	7	to Henry George Piggott of Moorebank, Master Butcher, with option for renewal.	30-12-1976	4-4-1974		
~~Lease~~	~~N701426~~	~~3~~	~~to Dave Demertzis of Liverpool and John Demertzis of Strathfield, both Shopkeepers, with option for renewal.~~	~~10-9-1976~~	~~4-4-1974~~		Expired 17-11-1983
Lease	N701434	101A 101B	to Coco's Self Service Pty.Limited.	30-4-1983	4-4-1974		
~~T662981~~ Lease	T662981	9	to George Toutounji and Georgette Toutounji as joint tenants, together with option of renewal.	3-11-1988	26-9-1983		
Lease	T845081	1 & 2	to Patricia Wang, together with option of renewal	27-6-1987	17-11-1983		
Lease	T845082	3	to Telpom Pty.Limited, together with option of renewal	31-7-1985	17-11-1983		
Lease	T845083	6	to John Vartuli and Anna-Maria Vartuli as joint tenants, together with option of renewal	30-6-1985	17-11-1983		
Lease	V102110	5	to Mieneke Wilhelmina Lau and Rowena Lai Yuen Lai as tenants in common, together with an option of renewal.	7-3-1988	15-5-1984		
Lease	V103799	4	to Peris Harris and Catherine Harris as joint tenants.	30-6-1986	29-5-1984		
Lease	V103800	8	to Robbs Bulk-Food Discount Centre Pty. Limited, together with an option of renewal.	30-4-1989	29-5-1984		
Lease	T662981	V698913) V698914)	Transfersof Lease to Rocco Alati.		20-5-1985		
Lease	V103800	V951600	Mortgage to Westpac Banking Corporation.	--	28-11-1985		

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

SECOND SCHEDULE (continued)

INSTRUMENT			LESSEES	DATE OF EXPIRY	REGISTERED	Seal of the Registrar General	CANCELLATION
NATURE	NUMBER						

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

Historical Search
29/11/2018 11:06 PM

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

29/11/2018 11:06PM

FOLIO: 1/230908

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 10420 FOL 71

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
6/4/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
18/4/1988	X281866	DISCHARGE OF MORTGAGE	
18/4/1988	X281867	MORTGAGE	EDITION 1
9/7/1992	E595442	DISCHARGE OF MORTGAGE	
9/7/1992	E595444	TRANSFER	
9/7/1992	E595445	MORTGAGE	EDITION 2
21/3/1994		AMENDMENT: LOCAL GOVT AREA	
25/11/2004	AB117946	DISCHARGE OF MORTGAGE	
25/11/2004	AB117947	TRANSFER	
25/11/2004	AB117948	MORTGAGE	EDITION 3
4/7/2012	AH68937	DISCHARGE OF MORTGAGE	EDITION 4
13/7/2012	AH107195	TRANSFER	EDITION 5
5/11/2015	AJ961199	TRANSFER	EDITION 6

*** END OF SEARCH ***

1 historical PRINTED ON 29/11/2018

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:23 PM

Form: 01T
Release: 6·1

TRANSFER

New South Wales
Real Property Act 1900

AJ961199H

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar-General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY Office of State Revenue use only

Client No: 3323749 4541
Duty: $10.00 Trans No: 839682609
Asset details:

(A) **TORRENS TITLE** Certificates of Title Folio Identifiers 101/601256 & 1/230908

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODES
124E	GlobalX Legal Solutions Pty Ltd Level 3, 175 Castlereagh Street SYDNEY 2000 LLPN : 123820V Ph. 13 5669 Reference: FOTFC 3616303	T TW

(C) **TRANSFEROR** Fabcot Pty Limited ABN 55 002 960 983

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 6,600,000.00 and as regards

(E) **ESTATE** the abovementioned land transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** OAR2 Pty Ltd ACN 607 961 357

(I) **TENANCY:**

DATE 3 November 2015.

(J) I certify that I am an eligible witness and that the transferor's attorney signed this dealing in my presence. [See note* below].

Signature of witness:

Name of witness: ALISON PORTEOUS
Address of witness: 1 WOOLWORTHS WAY
BELLA VISTA, NSW

Certified correct for the purposes of the Real Property Act 1900 by the transferor's attorney who signed this dealing pursuant to the power of attorney specified.

Signature of attorney:

Attorney's name: RODNEY ALBINO BORDIGNON
Signing on behalf of: Fabcot Pty Ltd
Power of attorney-Book: 4674
-No.: 186

Certified correct for the purposes of the Real Property Act 1900 on behalf of the transferee by the person whose signature appears below.

Signature:

Signatory's name: Suzanne Dobinson
Signatory's capacity: licensed conveyancer

(K) The transferee's solicitor certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. 911830 Full name: Suzanne Dobinson Signature:

** s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.*

ALL HANDWRITING MUST BE IN BLOCK CAPITALS

1303

Form: 01T
Release: 6·0

TRANSFER

New South Wales
Real Property Act 1900

AH107195J

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the [illegible] by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY Office of State Revenue use only

Office of State Revenue
NSW Treasury
Client No: 117754406 3479
Duty: ~~$19,440~~ $10 Trans No: 6740389
Asst details: ~~FS~~
~~Ref#~~

(A) **TORRENS TITLE** 1/230908 and 101/601256

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODES
IW	Herbert Geer Lawyers Level 12, 77 King Street, Sydney DX 95 Sydney Phone: 9239 4500 Reference: EYW:1352527	T TW

(C) **TRANSFEROR** JOBEMA DEVELOPMENTS PTY LIMITED ACN 053 203 964

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 3,600,000.00 and as regards

(E) **ESTATE** the abovementioned land transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** FABCOT PTY LTD ACN 002 960 983

(I) **TENANCY:**

DATE

(J) Certified correct for the purposes of the Real Property Act 1900 and executed on behalf of the corporation named below by the authorised person(s) whose signature(s) appear(s) below pursuant to the authority specified.

Corporation: JOBEMA DEVELOPMENTS PTY LIMITED ACN 053 203 964
Authority: section 127 of the Corporations Act 2001

Signature of authorised person: E Messih
Name of authorised person: EDWARD MESSIH.
Office held: SECRETARY

Signature of authorised person:
Name of authorised person: EDWARD ZACAROPOULOS
Office held: DIRECTOR

Certified correct for the purposes of the Real Property Act 1900 on behalf of the transferee by the person whose signature appears below.

Signature:

Signatory's name: Erica Rees
Signatory's capacity: solicitor

(K) The transferee's agent certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. 281216 Full name: ~~Erica Rees~~ Barbara Chong Signature:

* *s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.*

ALL HANDWRITING MUST BE IN BLOCK CAPITALS

1111

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:27 PM

Form: 01T
Release: 2.1
www.lpi.nsw.gov.au

(2) **TRANSFER**

New South Wales
Real Property Act 1900

AB117947E

PRIVACY NOTE: this information is legally required and will become part of the public record

STAMP DUTY

Office of State Revenue use only
NSW Treasury
S26
VENDOR DUTY ENDORSED
ID: NOT LIABLE

NEW SOUTH WALES DUTY
11-08-2004 0002115622-001
SECTION 18(2)
DUTY $ ********2.00

(A) **TORRENS TITLE**

Folio Identifier 101/601256 AND 1/230908

(B) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone	CODES
45A	LLPN: 1230110 National Australia Bank Limited 197 Prospect Highway Seven Hills NSW 2147 Tel: (02) 8825 0898 Reference: S4C29002	T TW (Sheriff)

(C) **TRANSFEROR**

RAGI PTY LIMITED ACN 001452384

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 2,000,000.00 and as regards

(E) **ESTATE** the land specified above transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE**

JOBEMA DEVELOPMENTS PTY LIMITED ACN 053203964

(I) **TENANCY:**

(J) **DATE**

I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness:
Address of witness:

Certified correct for the purposes of the Real Property Act 1900 by the transferor.

Signature of transferor:

See Annexure "A"

Certified for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatory's name: Warwick Van Ede
Signatory's capacity: transferee's solicitor

All handwriting must be in block capitals.

REC 32
3 m

ANNEXURE "A"

Certified correct for the purposes of the Real Property Act 1900 by the corporation named below the common seal of which was affixed pursuant to the authority specified and in the presence of the authorised person(s) whose signature(s) appear(s) below.
Corporation:
Authority: Section 127 of the corporations Act 2001

Signature of authorised person:

Name of authorised person:
Office held:

Signature of authorised person: Henri Zacarpoulos

Name of authorised person:
Office held: SOLE DIRECTOR / SECRETARY

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:29 PM

RP13

TRANSFER

Real Property Act, 1900

E 595444 L

Office of State Revenue use only

B

(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

FOLIO IDENTIFIER 101/601256 & 1/230908

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
45A	NATIONAL AUSTRALIA BANK LIMITED National Australia Bank Limited 2nd George Street, Sydney REFERENCE (max. 15 characters): [illegible] FAX 237-1284 JY 1903

(C) **TRANSFEROR** ALLENBY DADISHO GEORGE

(D) acknowledges receipt of the consideration of $1,500,000.00

and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. SEE SCHEDULE ONE ANNEXED 2. 3.

(F) **TRANSFEREE**

T

(G)

RAGI PTY LTD ACN. 001 452 384

551 KING GEORGES ROAD, PENSHURST

as joint tenants/tenants in common

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. **DATE OF EXECUTION** 19.6.1992

Signed in my presence by the transferor who is personally known to me.

SIGNED by ALLENBY DADISHO GEORGE by his Receiver HUGH CHARLES THOMAS pursuant to deed of appointment registered book 3865 no.116 in the presence of:

Signature of Witness

Janette Hummelstad

Name of Witness (BLOCK LETTERS)

13 Empire Bay Drive, Kincumber South

Address of Witness

Signature of Transferor

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferee 's Solicitor

TATIANA A. LENTON

CHECKED BY (office use only) ZB

☞ **INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE**

B

SCHEDULE ONE

Transfer from ALLENBY DADISHO GEORGE to

RAGI PTY LIMITED A.C.N. 001 452 384

Land comprised in Folio Identifier 101/601256 and 1/230908

Subject to the following encumbrances:

N366037 easement for transmission line

V102110 lease to M.W. LAU and R.L.Y. LAI of shop 5

Y616308 lease to Safeway Stores Pty Ltd of shop 8(b)

E432346 lease to D. & L. SURRIDGE of shop 3

E432347 lease to M. ALAM of shop 6

E.482856 lease to O.R. & R. LANDICHO of shop 8(A)

E.491125 lease to P. WANG of shops 1 & 2.

[redacted]

TIFICATE OF TITLE

NEW SOUTH WALES — PERTY ACT, 1900, as amended.

Application No.7206

Prior Title Vol.5603 Fol. 29

MA

Vol. 10420 Fol. 71

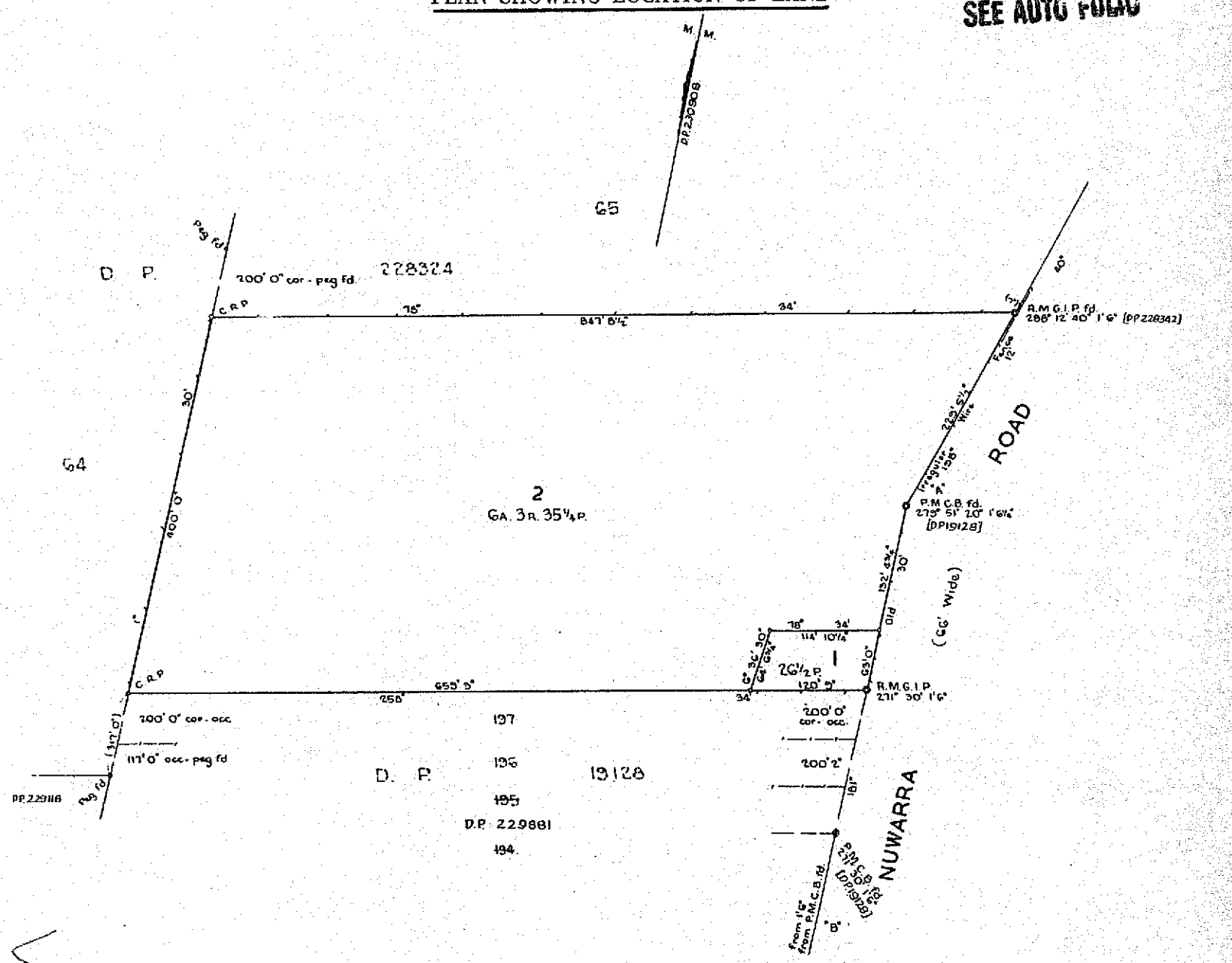
Edition issued 20-10-1966

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness J. Sullivan.

Registrar General.

PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 230908 at Moorebank in the City of Liverpool Parish of Holsworthy and County of Cumberland being part of Portion 31 granted to Thomas Moore on 26-11-1818.

FIRST SCHEDULE (continued overleaf)

~~DAPHNE MAUD PASHLEY, wife of Charles Joseph Nelson Pashley, of Moorebank, Poultry Farmer.~~

Registrar General.

SECOND SCHEDULE (continued overleaf)

GRY

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Registrar General.

PT 1, 17 V.C.N. Blight, Government Printer

Vol. 10420 Fol 71

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
~~Giuseppe Zara of Moorebank, Market Gardener and Teresa Zara~~, his wife as joint tenants	Transfer	K711434	9-6-1967	26-6-1967	
Moorebank Liquor Supply Pty. Limited	Transfer	M759615	29-5-1972	16-6-1972	
~~Giuseppe Vartuli, Fruiterer, Rosina Vartuli his wife, Francesco Vartuli, Insurance Clerk, Bruno Vartuli, Jeweller and Domenico Vartuli, Plasterer, all of Gambra~~ Cabramatta, as tenants in common in equal shares	Transfer	N856746	26-3-1974	12-9-1974	

Allenby Dadisho George by Transfer V851095. Registered 28-11-1985.

M759615 T
M844925
N856745 D/M 6 te 9 m
C.T. 2.9.82
V851094 DM
V851095 Te
~~V965114~~
W13801 M
Q unmade
X281866 D/m 67m 68m

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
Mortgage	M844925	6-6-1972	to The Commercial Banking Company of Sydney Limited	15-8-1972		Discharged	N856745	
~~Mortgage~~	~~N856749~~	~~11-2-1974~~	~~to The Commercial Banking Company of Sydney Limited~~	12-9-1974		Discharged	V851094	
ME W13801 P	Mortgage to Commonwealth Bank of Australia. Registered 28-11-1985.							

CANCELLED

SEE AUTO FOLIO

(Page 2 of 2 pages)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

LAND REGISTRY SERVICES

Direct Info
Quick and easy online

29/11/2018 11:54 PM

201

Appn. No. 7206
Reference to last certificate
Vol. 5169 Fol. 183

New South Wales.

93273—1 11.45

[CERTIFICATE OF TITLE.]

CANCELLED IV
REGISTER BOOK.
Vol. 5603 Fol. 29

GLEN WILLIAM GARDNER, of Port Kembla Iron Worker, Transferee under Instrument of Transfer No.D499258 is now the proprietor of an Estate in Fee Simple subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in that piece of land situated in the Municipality of Liverpool Parish of Holsworthy, and County of Cumberland containing Three acres one rood thirty eight and one quarter perches or thereabouts as shown in the plan hereon and therein edged red being Lot 198 in Deposited Plan No. 19128 and being part of 600 acres (Portion 31 of Parish) originally granted to Thomas Moore by Crown Grant dated the 26th day of November, 1818.

In witness whereof I have hereunto signed my name and affixed my Seal, this Fourth day of September, 19 46.

Signed in the presence of W.P. Friend

J. Wells
Registrar General.

Separate C/T issuing on DP230908 no dealings to be regd until ref to S.O.B.

This deed is cancelled as to the whole
New Certificates of Title have issued on 20.10.1966
for lots in Deposited Plan No. 230908 as follows:-
Lots 192 Vol. 10420 Fol 71972 respectively.

REGISTRAR GENERAL

D499258

Scale:- 400 feet to one inch

Re Notification Referred To
No. 075563 TRANSFER dated 14th October 19 57
from the said Glen William Gardner to Dayton
Maude Oakley wife of Charles Joseph Nelson
Parsley & Mary Elizabeth Pawling Spinner
of the land within described
Produced and entered 7th November 19 57.
at 47 mins. pe N o'clock in the forn noon.
J. Wells
REGISTRAR GENERAL.

DP230908
C.T.
08.12.10.66
Part Portion DP230908 included