



A U S T R A L I A N
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GEOTECHNICAL & ENVIRONMENTAL SERVICES

Validation Report



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Address: 698 RED HILLS ROAD MARULAN NSW 2579

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DOCUMENT CONTROL

STAGE 4 VALIDATION ASSESSMENT

LOT 40 DP 882293,

698 RED HILLS ROAD MARULAN NSW 2579

PREPARED FOR A Bader

AG DOCUMENT REFERENCE: AG-1367_1rev0

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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
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
IAA	Recommendations from Interim Auditor Advice
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 the Stage 4 – Validation Report for LOT 40 DP 882293, 698 RED HILLS ROAD MARULAN NSW 2579 (the site). Based on site history, the site has been utilised for residential purposes. The site has received filling material of unknown quality.

The object of the Validation Assessment was to determine whether the remaining on-site material meets National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013 criteria. Laboratory testing was undertaken to re-inforce the results of the Investigation. The scope of work included a documentary review, a site investigation, chemical analyses of six (6) soils samples (inclusive of QA/QC samples) collected from the walls and floor of the excavation of contaminated materials, together with preparation of this report.

During the remediation activities the following was completed:

- Off-site disposal of grossly contaminated soils;
- All waste documentation and tracking were kept on record for inclusion in the validation report.

Test results revealed levels of asbestos below the adopted assessment criteria (HILs (A)). The results of the chemical analyses indicate that the validated area does not present a risk to human health in a 'Residential A'; setting.

The contaminated material was transported to a licenced facility for disposal.

This report is a Site Validation 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.

1.0 INTRODUCTION

AG has been engaged by A. Bader to prepare a Stage 4 Validation Report to address previously identified contaminated material and facilitate the removal of any contamination for the site; LOT 40 DP 882293, 698 RED HILLS ROAD MARULAN NSW 2579 (the site).

This report has been prepared in general accordance with the following regulatory requirements;

- State Environmental Planning Policy (Resilience and Hazards) 2021,
- Guidelines for Consultants Reporting on Contaminated Sites 2020,
- Guidelines for the NSW Site Auditor Scheme, 4th Edition 2020,
- National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended 2013,

1.1 Previous Investigations

Australian GeoEnviro Pty Ltd. *Contamination Assessment*, (Ref. AG-1163_1rv1, dated 20th October 2023);

The Contamination Assessment comprised:

- Site inspection and excavation of thirteen (13) test pits to identify the subsurface profile and identify material impacted by contamination;
- Nineteen (19) soil samples were collected as part of the investigation; and
- Some form of remediation will need to be undertaken at the location of SS1, SS2, SS3, SS4 and SS5.

2.0 SITE DESCRIPTION AND OBJECTIVES

The subject site is irregular in shape, legally defined as LOT 40 in Deposited Plan 882293. The site is bounded by rural residential allotments to the north, south and west with Red Hills Road bordering to the east. The target study area is approximately 5000m² in area (refer to site survey enclosed in Appendix A).

The objectives of this Validation Report are to:

- To determine whether the remaining 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 additional remediation of impacted soils.

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

- Review of previous investigation reports detailed in section 4.2;
- Preparation of an updated CSM for the remaining site material and subsequent site validation
- Identification of data gaps and data quality issues from the previous investigations;
- 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 validation in accordance with the requirements of AG Remedial Action Plan and NEPM (NEPC 2013).

2.1 Land Use and Remediation Goal

For this RAP, the land use and associated remedial goals is for future use.

Areas of Environmental Concern detailed in the AG report, likely as a result of importation of filling material, are to be delineated where required and remediated in accordance with relevant assessment criteria.

2.2 Site Condition

A qualified environmental consultant inspected the site on the 13th March 2024. Observations noted during the inspection are summarised below:

- Grass and vegetation covered majority of the site, the vegetation which appeared to be in good condition;
- No surface standing water was noticed at the site; and

- All material at the location of SS2, SS3, SS4 and SS5 had been removed to the depth of top of bedrock

3.0 SUMMARY OF CONTAMINATION ASSESSMENT REPORT

AG conducted an intrusive soil investigation on the site to identify any potential sources of contamination before continued development works. The following items were considered as part of the site investigation:

- Site History and description of the current site conditions;
- Assessment of unidentified contamination within the site;
- Statement of works undertaken in accordance with the relevant assessment criteria, with recommendations for remediation where required.

A total of nineteen (19) samples were collected from test pit excavations within the site in a judgemental sampling pattern, to identify and delineate the extent of contamination.

Samples were forwarded to SGS NATA accredited laboratories, under strict chain of custody (COC) conditions. The COC identified the date, location, sampler and sample ID of material collected.

3.1 Heavy Metals

Heavy metal concentrations for Arsenic, Cadmium, Copper, Zinc, Chromium, Lead, Mercury, and Nickel are presented in Table 10. The concentrations of all metals were below the relevant assessment criteria with the exception of SS1, SS4 and SS5 which exceeded the EIL threshold for Arsenic, Copper, Lead and Zinc.

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

The TPH, PAH and BTEX concentrations, were less than the relevant assessment criteria adopted.

3.3 Asbestos Test Results

No asbestos was detected within screening samples at the limit of reporting <0.01%w/w with the exception of SS4.

3.4 Groundwater

Groundwater was not intercepted or assessed as part of the AG Report.

3.5 Extent of impacted material

The contamination assessment has concluded that additional areas of environmental concern (AEC) contain contamination above the adopted assessment criteria. The AEC identified are:

- To the full depth of filling material at SS1, SS2, SS3, SS4 and SS5.

4.0 RELIABILITY OF PREVIOUS DATA

The data provided in the previous report has been assessed and, based on information regarding quality assurance and quality control, it is considered that the quality objectives for field procedures and laboratory results are reliable and of an acceptable quality.

5.0 REMEDIATION ASSESSMENT CRITERIA

This office has established applicable remediation criteria in order to demonstrate that the site is suitable (with respect to land contamination) for future land use in accordance with its existing zoning.

This RAP outlines the site specific validation assessment criteria (VAC). The VAC have been derived from The National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013. Additionally, Schedule B1 of NEPM documents the acceptance criteria for asbestos in soil (section 4.7 and 4.8).

The HIL and HSL have been adopted in accordance with the Validation Assessment, and are:

- HIL-A – residential with garden accessible soil;
- HSL- A – residential with garden accessible soil; and
- Health and Ecological Screening Levels;

Table 1 – Remediation Assessment Criteria

Contaminant	Assessment Criteria (mg/kg)			
	Health Based Investigation Level (HIL 'A')	Ecological Investigation Levels (EIL's)*^	Health Screening Levels (HSL's)*	Ecological screening levels (ESL's)*^
Inorganics (Heavy Metals)				
Arsenic (total)	100	20		
Cadmium	20	3		
Chromium (VI)	100	400		
Copper	6000	60		
Lead	300	600		
Mercury	40	1		
Nickel	400	15		
Zinc	7400	200		
Organics				
TPH				
C6 to C10			50	180
>C10 to C16			130	120
>C16 to C34				300
>C34				2800
Benzene			0.6	50
Toulene			190	85
Ethylbenzene			390	70
BaP				20
BaP (TEQ)	3			
Xylene			45	105
Napthalene		170	3	
Phenol	3000			
PAH	300			
PCB	1			
Asbestos	0.001% ACM	-	-	

Notes: * Sandy texture 0m-0.5m has been adopted for assessing the upper fill soil horizon.

^ Conservative and generic EIL adopted.

6.0 CONCEPTUAL SITE MODEL

6.1 Potential Areas of Environmental Concern

SS1-SS5 exceeded the HILs and EILs outlined within the National Environment Protection (Assessment of Site Contamination) Measure –National Environmental Protection Council 2013.

6.2 Potential for Migration

Potential contaminant migration at the site include:

- Wind-blown dust;
- Surface water run-off and infiltration.

The proposed remediation of contaminated material, following successful validation of impacted material, will remove the potential for offsite migration as impacted material is to be removed from site.

6.3 Potential Exposure Pathways

Based on the COPCs identified, potential exposure pathways at the site include:

- Potential dermal, inhalation and oral exposure to impacted soils present at shallow depths and/or accessible by future interaction and excavations at the site;

6.4 Data Gaps

The data gaps identified as part of the review of the previous investigation and identified as part of this investigation, have been incorporated and are presented below:

- Vertical and lateral delineation of contamination at SS1;

7.0 REMEDIAL ACTION PLAN

7.1 Remediation Objective

The goal for the remediation and/or ongoing management of potential environmental concerns is outlined below in order to prevent exposure of human populations working on and using the site or impacting soils within the site;

- Remove overlying fill material to natural ground level (whichever is greater). Initially 3m x 3m laterally.
- Validate the exposed underlying and surrounding soil within the remaining AEC and stockpile locations, post excavation, to identify any potential impact as a result of site contamination;
- Document the validation process;
- Preparation of a validation report documenting remedial works undertaken and assessment of remaining site material in accordance with the adopted assessment criteria, in relation to the proposed development works outlined in the RAP.

7.2 Extent of Remediation

The contamination assessment has concluded that multiple areas of environmental concern (AEC) contain contamination above the adopted assessment criteria. The AEC identified are:

- Location of SS1, SS2, SS3, SS4 and SS5.

Validation sampling was carried out to confirm that remaining in-situ material within structures/hardstand footprints and remaining in-situ soil locations, post-excavation and offsite disposal, is within the adopted assessment criteria.

Excavations and stripped areas were left open and fenced off to prevent access until validation results have been obtained. The contractor will need to maintain the excavations and stripped areas according to NSW Safe Work regulations.

7.2.1 Remediation Process

To remediate the site for the proposed land use, AG has determined the process for remediation will be:

1. Hot Spot excavations and removal of material will be undertaken at the identified locations (see figure 1 attached) by suitably licenced contractor. The hot spot excavations will be initially 3m x 3m by the full depth of filling exposed filling material where natural ground conditions are exposed. Excavated material will be temporarily stored for material classification and offsite disposal. The hot spot must also be screened for foreign and deleterious material as clean up goals must also meet the aesthetic criteria outlined within the National Environment Protection (Assessment of Site Contamination) Measure – National Environmental Protection Council 2013.
2. In the event of validation samples collected exceeding the adopted assessment criteria, controlled excavation is to continue under the direction of AG environmental consultant, with additional samples collected as per section 10.2. In the event of unexpected finds, section 9.4 procedures are to be followed.

7.3 Data Quality Objectives

The DQO derived for this RAP have been developed in accordance with AS4482.1-2005, “Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil” and from data gaps identified from previous site investigation. The DQO process is outlined as follows:

- **State the Problem-** SS1, SS2, SS3, SS4 and SS5 are outside assessment criteria. The lateral and vertical extent is unknown at this stage.
- **Identify the Decision-** Will the proposed remedial works remove identified contaminated material and, what is the extent of excavation and validation required prior to construction works commencing.

- **Identify Inputs to the Decision-** Site specific Validation Assessment Criteria (VAC) has been derived from The National Environment Protection Council (NEPC) National Environment Protection Measure (Assessment of Site Contamination) 2013. Additionally, Schedule B1 of NEPM documents the acceptance criteria for asbestos in soil (section 4.7 and 4.8).

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

- HIL-A – residential with garden accessible soil;
- HSL- A – residential with garden accessible soil; and
- Health and Ecological Screening Levels;
- **Define the Study Boundaries-** Site investigation is limited to the site boundaries with samples collected from the exposed fill/natural material within AEC excavations and stockpiled material generated during remedial works.

The extent of potential contaminated is to be determined during remedial works as part of the RAP validation process and subsequent waste classification of fill material and underlying natural material.

- **Develop a Decision Rule-** The results obtained from previous investigation will be compared to the site assessment regulatory criteria as outlined above. Material for offsite disposal will include previous analytical data to determine material classification;

Specify Limits on Decision Errors- Use of laboratory duplicate results, recovery of matrix spikes, RPD and laboratory quality assurance targets are to be met. Sampling rate is to be determined using industry standards. The methodology, sampling procedures and QA/QC procedures are to be reviewed to determine their suitability for use in previous site investigations.

If inconsistencies are identified, they will be recorded as a data gap and will need to be sufficiently addressed as part of this investigation.

- **Optimize the Design for Obtaining Data-** Samples are to be collected within the proposed development, post excavation and stockpiling of material prior to offsite disposal. Laboratory analysis will be required to determine the extent, if any, of contamination migration post excavation.

8.0 REGULATORY AND PLANNING REQUIREMENTS

8.1 Planning Context

Environment Planning and Assessment Act

The remediation works are classified as Category 2 Remediation Works as per the meaning provided in *State Environmental Planning Policy (Resilience and Hazards) 2021* and will not require development consent under the *Environment Planning and Assessment Act 1997*. The nature of remediation works is relatively straightforward and it is considered most appropriate that development applications for remediation works are included with development application documentation for the associated earthworks as ancillary to other development.

Protection of the Environment Operations Act 1997

The proposed remediation/validation activities are not required to be licensed under the *Protection of the Environment Operation Act 1997*. None of the individual work stages are found to be greater than 3 hectares in area and hence do not trigger the licensing requirements.

Protection of the Environment Operations (Waste) Regulation and POEO Amendment (Scheduled Activities and Waste) Regulation 2008

The regulations make requirements relating to non-licensed waste activities and waste transporting. The proposed works on the site will not require to be licensed. Section 48 of the Reg. requires that wastes are stored in an environmentally safe manner. It is also stipulates that vehicles used to transport waste must be covered when loaded. Provision is provided in the Regulation and DECCW (2014) guidelines for the NSW EPA to approve the immobilisation of contaminants in waste (if required with unexpected finds). The 2008 Regulation also imposes requirements for the transportation, disposal re-use or recycling of asbestos containing waste including that asbestos contaminated soil must be wetted down and transported in a covered leak-proof vehicle. Asbestos waste must be disposed of to a facility lawfully able to accept the waste and cannot be reused or recycled. Transportation of the waste is required to be tracked.

Waste Classification Guidelines (DECCW 2014)

All wastes generated and proposed to be disposed off-site shall be assessed, classified and managed in accordance with this guideline. Where wastes require immobilisation prior to off-site disposal (to reduce waste classifications) an immobilisation approval shall be sought. Immobilisations are only anticipated to be required with unexpected finds.

9.0 REMEDIAL PLAN

9.1 Remedial Options

The *Contaminated Sites Guidelines for the NSW Auditor Scheme* (2020) lists the following order of preference for soil remediation and management:

1. On-site treatment of the soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level;
2. Off-site treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site;
3. Removal of contaminated soil to an approved site or facility followed, where necessary, by replacement with clean fill; and
4. Consolidation and isolation of the soil on-site by containment within a properly designed barrier.

In addition, it is also a requirement that remediation should not proceed in the event that it is likely to cause a greater adverse effect than leaving the site undisturbed. And, where there are large quantities of soil with low levels of contamination, alternative strategies are required to be considered or developed.

Following assessment of remedial strategies detailed above and from review of previous investigation works undertaken, removal of contaminated soil (preference 3) to an approved site or facility was considered the suitable option.

9.2 Selected Remedial Option

9.2.1 Evaluation of Remedial Option (IAA)

On-site Treatment

It is possible to treat hydrocarbon impacted soil onsite, however the presence and extent of ACM impacted soil presents potential risk to surrounding properties and site workers during the treatment process.

Metal impacted soil can be treated on site, however; treatment options for metals (i.e. washing) generally result in significant waste by-products generated which would require management. Additionally, the cost effectiveness of treatment is not practical.

Off-site Treatment

It is possible to transport and treat the hydrocarbon and metal impacted soil to an appropriately licenced facility for treatment and, following successful treatment, return to site for re-use. However, due to the considerable amount of handling and treatment required, this option is not considered cost-effective.

Removal of Contaminated Soil

Off-site disposal of impacted areas to an approved licenced facility is less sustainable, due to material being transported to landfill, however; due to the limited volume of material to be generated and the cost of disposal, this option is considered reasonably cost-effective and practical to implement. Additionally, following successful off-site disposal and validation, the site does not require ongoing monitoring and assessment.

Consolidation and Isolation

The ACM, hydrocarbon and metal impacted soil could be contained on-site, adopting a 'capping' methodology, however; the site would require long term management, involving an environmental management plan (EMP) which would be added to the title deed of the property. An EMP is not the preferred option for site remediation.

9.2.2 Preferred Remedial Option (IAA)

Based on the information available, the preferred remedial strategy is Removal of Contaminated Soil. Contaminated soil is to be excavated and disposed of at an approved waste facility.

Material excavated during the remediation of contaminated areas outlined in section 7.2 will be checked visually and chemically assessed. Soil excavated is to be stockpiled and covered with plastic sheeting to avoid contamination migration as a result of rainfall or surface runoff.

While the excavation works are being undertaken, a suitably qualified environmental professional will guide the excavation of potentially contaminated soils. The excavations will be extended until visual, olfactory and chemical and physical analysis, undertaken by an environmental professional, indicate that the contaminated soil above the site remediation criteria is likely to have been removed.

9.3 Extent of Remediation/Management

The extent of contaminated soil detected through excavation, site observations and analysis are outlined in section 7.2 above. In-situ classification of overlying fill material may be considered with assessment undertaken of underlying soils, at the discretion of the environmental consultant.

10.0 VALIDATION

Validation of the remedial works was completed to demonstrate that remedial works have been undertaken in accordance with the requirements outlined in the RAP, and that the remediation objectives have been achieved.

In broad terms, validation will be required to address the following aspects of the remedial works:

- Removal and screening of impacted overlying fill material where encountered; and
- Validation sampling confirming the contaminated soil has been removed from site and, soil remaining onsite meets the National Environment Protection (Assessment of Site Contamination) Measure (NEPM, 2013) Health Investigation Levels (HIL) for the exposure setting; 'standard residential with garden/accessible soil' ('A'), which is considered suitable for residential properties with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools, which is considered suitable for the proposed residential development.

10.1 Validation Plan

Validation data is required to be collected to verify the effectiveness of the remedial works and document the final site condition as being suitable for the proposed future use. Where validation programs are required to be designed for additional unexpected finds, then consideration shall be given to the validation sampling requirements identified below.

10.2 Sampling Methodology

Following removal of contaminant locations identified in section 7.2, the number and location of soil samples collected in accordance with industry standards.

Samples were collected from the base of the excavation with a minimum sampling frequency of 2 samples minimum per hotspot. Samples are to be collected using new pair of nitrile disposable gloves.

Soil samples were collected from the upper soil profile (i.e. at a depth ranging between 0-1.0m) and at the base and will be placed immediately into laboratory prepared glass jars. However, if a distinct change in the underlying geology is noted, additional soil samples will be collected from these horizons.

Samples collected from areas where uncontrolled fill has been stripped were collected from the upper soil profile (i.e. at a depth ranging between 0-01.0m), six (6) samples were collected as per NSW EPA Sampling Design Guidelines.

Sample labels shall record sample identification number and date and time of sampling. Sample containers shall be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. If contamination is detected above the Remediation Assessment Criteria (section 5.0 above), the non-conforming area is to be excavated an additional 0.2m (base, wall etc.) and another sampling round conducted as per the above mentioned frequency until contaminant levels are within the adopted assessment criteria.

10.3 Sampling QA/QC

A chain of custody form shall be completed and forwarded with the samples to the testing laboratory, containing the following information:

Sample identification;

- Signature of sampler;
- Date of collection;
- Type of sample;
- Number and type of container;
- Inclusive dates of possession; and
- Signature of receiver.

NATA accredited laboratories shall be used for all analysis of samples. Appropriate methods and LORs are required for comparison to relevant criteria. Laboratory methods and laboratory limits of reporting (LOR) as summarised are proposed to be adopted for analysis of soil samples collected during remediation/validation activities.

10.5 Validation Criteria

Soil validation criteria to be applied in the validation of the site will be, as identified in the decision rules, based on the applicable human health and ecological investigation levels published in NEPM (2013):

- HIL-A – residential with garden accessible soil;
- HSL- A – residential with garden accessible soil;
- EIL- urban/residential

11.0 QUALITY ASSESSMENT AND QUALITY CONTROL DATA EVALUATION

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

11.1 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

11.2 Data Completeness

- Analysis of contaminants of concern
- Duplicate and split samples within RPD recommended by the RAP and NEPM where required

11.3 Data Representativeness

This is achieved by the following:

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

11.4 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 where required.

11.5 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 where required.
- Acceptable RPD for duplicate and split samples overall.
- Acceptable laboratory performance based on results of blank, matrix spike, control, duplicate and surrogate samples where required.

11.6 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 2 – 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

12.0 LABORATORY TEST RESULTS

Test results are tabulated and presented below in table 3 along with the relevant assessment criteria. Laboratory test certificates are located in Appendix C.

Table 3 –Test Results

Contaminant	Maximum Concentration mg/kg	Health Based Investigation Levels HIL 'A' mg/kg	Ecological Investigation Levels (EIL's)*^A	Health/ Ecological Screening Levels (HSL) mg/kg	95% Upper Confidence Limit (UCL)
Arsenic (total)	4	100	20	-	<SAC
Cadmium	0.4	20	3	-	<SAC
Chromium (VI)	6.8	100	400	-	<SAC
Copper	13	6000	60	-	<SAC
Lead	140	300	600	-	<SAC
Mercury	0.05	40	1	-	<SAC
Nickel	2.5	400	15	-	<SAC
Zinc	96	7400	200	-	<SAC
Benzene	<0.1	4	-	0.6	<SAC
Toluene	<0.1	NA	-	190	<SAC
Ethyl Benzene	<0.1	NA	-	390	<SAC
Xylenes (total)	<0.3	NA	-	-	<SAC
Benzo (a) Pyrene	<0.1	-	-	-	<SAC
BaP (TEQ)	<0.1	3	-	-	<SAC
Polynuclear Aromatic Hydrocarbons (PAH's)	<0.8	300	-	-	<SAC
Petroleum Hydrocarbon Components – C6-10	<25	-	-	50	<SAC
Petroleum Hydrocarbon Components – >C10 to C16	46	-	-	130	<SAC
Petroleum Hydrocarbon Components – >C34	<120	-	-	2800	<SAC
Petroleum Hydrocarbon Components – C16-34	220	-	-	300	<SAC
Asbestos		0.001%	-	-	-

Note (A): For statistical assessment sample concentrations, less than the PQL are considered equal to the PQL.

12.1 HEAVY METALS

Heavy metal concentrations for Arsenic, Cadmium, Copper, Zinc, Chromium, Lead, Mercury, and Nickel are presented in Table 3. The concentrations of all metals were below the relevant assessment criteria.

12.2 TOTAL PETROLEUM HYDROCARBONS (TPH), POLYCYCLIC AROMATIC HYDROCARBONS (PAH) AND BTEX

The TPH, PAH and BTEX concentrations in table 3, were less than the relevant assessment criteria.

12.3 ASBESTOS TEST RESULTS

No asbestos was detected within screening samples at the limit of reporting <0.001%w/w.

13.0 SITE CHARACTERISATION

As can be seen in the previous Section 12.0 (Laboratory Test Results), the samples analyzed revealed levels below the adopted acceptance criteria and indicates the remediated areas of the site assessed pose no threat to human health and/or the environment and is suitable for the continued use.

14.0 CONCLUSION

Objectives in section 2.0 have been achieved. The results of the material analyses for the soil samples collected on site have indicated no contamination is present. The data quality objectives of the report have been fulfilled.

14.1 Remedial Works Undertaken

The AEC assessed during the investigation which have been addressed are:

- SS2, SS3, SS4 and SS5 were validated against site assessment criteria. Results are less than the adopted assessment criteria. This determination is in accordance with the National Environment Protection Measure (Assessment of Site Contamination) 2013. The location of SS2, SS3, SS4 and SS5 have been successfully remediated.

For and on behalf of
Australian GeoEnviro Pty Ltd

A handwritten signature in blue ink, appearing to read 'N. Smith', with a long horizontal stroke extending to the right.

N. Smith
Principal
LAA001568

Limitations

AG 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, AG 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 AG services are described in the report and are subject to restrictions and limitations. AG 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 AG 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 AG 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.

REFERENCES:

- State Environmental Planning Policy (Resilience and Hazards) 2021,
- Guidelines for Consultants Reporting on Contaminated Sites 2020,
- Guidelines for the NSW Site Auditor Scheme, 4rd Edition 2020,
- National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended 2013,
- AS4482.1-2005 Guide to the Sampling and Investigation of Potentially Contaminated Soil Part 1

APPENDIX A

FIGURE 1 – VALIDATION AREA AND PLANS



APPENDIX B

TIP DOCKETS

Tax Invoice**Rocky Hill Recycled Sand & Soil**

27 Hetherington Street

Goulburn NSW 2580

PHONE : 02 48214219

ABN : 34 646 496 666

Docket No. : 38161
Load Type : Second
Operator : RHRSS.User
Rego No. : DF93UG
Time In : 19/02/2024 10:27:33 AM
Time Out : 19/02/2024 10:40:40 AM
Order Number: NA
Customer : CREDITCARD/EFTPOS
Direction : OUT
Product : CONCRETE RUBBLE

Gross : 7.82 t
Tare : 3.70 t
Net : 4.12 t

Price/t : \$35.00
Min. Cost : \$0.00
Cost : \$131.09
GST : \$13.11

Amount Due : \$144.20

Paid By : CREDITCARD

Signature : _____

Carter's Declaration -

I declare to the best of my knowledge,
that the product mentioned above to
be tipped is free from any form of
asbestos or contaminants.

Tax Invoice (Reprint)

Rocky Hill Recycled Sand & Soil

27 Hetherington Street
Goulburn NSW 2580

PHONE : 02 48214219
ABN : 34 646 496 666

Docket No. : 38167
Load Type : Second
Operator : RHRSS.User
Rego No. : DF93UG
Time In : 19/02/2024 12:29:41 PM
Time Out : 19/02/2024 12:41:29 PM
Order Number: NA
Customer : CREDITCARD/EFTPOS
Direction : OUT
Product : CONCRETE RUBBLE

Gross : 8.62 t
Tare : 3.72 t
Net : 4.90 t

Price/t : \$35.00
Min. Cost : \$0.00
Cost : \$155.91
GST : \$15.59

Amount Due : \$171.50

Paid By : CREDITCARD

Signature : _____

Carter's Declaration -
I declare to the best of my knowledge,
that the product mentioned above to
be tipped is free from any form of
asbestos or contaminants.

ROCKY HILL
27 HETHERINGTON STREET
GOULBURN NSW 2580

816134
26220
E/TIME 19/02/24 12

013611
.....0030
191242013
AUTH 45

DEBIT
Visa Debit

A0000000031
0000000000 ATC 0
71EC5426C2ECF9

ASE AUD 171.5

IED 0000

CUSTOMER COPY
EFTPOS

CONCRETE RUBBLE

62 t
72 t
90 t

5.00

00

5.91

59

1.50

DITCARD

my knowledge,
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Sig

Carter's
I declar
that the
be tipped

ank you

Tax Invoice

Rocky Hill Recycled Sand & Soil

27 Hetherington Street

Goulburn NSW 2580

PHONE : 02 48214219

ABN : 34 646 496 666

Docket No. : 38182

Load Type : Second

Operator : RHRSS.User

Rego No. : DF93UG

Time In : 19/02/2024 03:20:05 PM

Time Out : 19/02/2024 03:34:39 PM

Order Number: NA

Customer : CREDITCARD/EFTPOS

Direction : OUT

Product : CONCRETE RUBBLE

Gross : 6.76 t

Tare : 3.68 t

Net : 3.08 t

Price/t : \$35.00

Min. Cost : \$0.00

Cost : \$98.00

GST : \$9.80

Amount Due : \$107.80

Paid By : CREDITCARD

Signature : _____

Carter's Declaration

I declare to the best of my knowledge,
that the product mentioned above to
be tipped is free from any form of
asbestos or contaminants.

Thank you

Tax Invoice**Rocky Hill Recycled Sand & Soil**

27 Hetherington Street
Goulburn NSW 2580
PHONE : 02 48214219
ABN : 34 646 496 666

Docket No. : 38161
Load Type : Second
Operator : RHRSS.User
Rego No. : DF93UG
Time In : 19/02/2024 10:27:33 AM
Time Out : 19/02/2024 10:40:40 AM
Order Number: NA
Customer : CREDITCARD/EFTPOS
Direction : OUT
Product : CONCRETE RUBBLE

Gross : 7.82 t
Tare : 3.70 t
Net : 4.12 t

Price/t : \$35.00
Min. Cost : \$0.00
Cost : \$131.09
GST : \$13.11

Amount Due : \$144.20
Paid By : CREDITCARD

Signature : _____

Carter's Declaration -
I declare to the best of my knowledge,
that the product mentioned above to
be tipped is free from any form of
asbestos or contaminants.



Veolia Recycling & Recovery Pty Ltd
Your waste management services are
now managed by Veolia. We may have
a new name, but we'll continue to
deliver quality services to our
customers.

Davis Road Waste Management Centre
20 Davis Road
Wetherill Park NSW 2164

Phone: 1300 651 116
ABN: 70 002 902 650

Tax Invoice
REPRINT

Ticket No: DR150224280.0
Time In: 15/05/2024 12:40:53 PM
Time Out: 15/05/2024 12:49:29 PM
Vehicle Rego: AYP54Q
Vehicle Config: Light vehicle

Client: 802308 - BANK CLEARING DAVIS
ROAD

Carrier:
Trans Ref:
Order No: mir. charge \$162.03 / 260k

Asbestos
0.04t @ \$536.61/t \$147.30

Source: External
Dest: Davis Road WMC

GROSS: 2.32t
TARE: 2.28t
NET Weight: 0.04t

Chargeable Weight: 0.04t
Each Item Weight: 0.00t

Total (ex GST): \$147.30
GST: \$14.73

Total Price: \$162.03

----- Payment Details -----
EFTPOS AUTH:461642 \$162.03

=====
Total Price: \$162.03
=====

The Total Price Includes GST

Total Amount Tendered: \$162.03
Change Given: \$0.00

Driver:

Operator:

WOLCB

APPENDIX C

LABORATORY TEST CERTIFICATES AND IMAGES

CLIENT DETAILS

Contact Info
Client AUSTRALIAN GEOENVIRO PTY LTD
Address PO BOX 4153
DENISTONE EAST NSW 2112

Telephone (Not specified)
Facsimile (Not specified)
Email info@austgeo.com.au

Project **AG-1367**
Order Number **AG-1367**
Samples 9

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 **SE262238 R0**
Date Received 14/3/2024
Date Reported 21/3/2024

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES



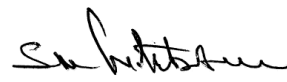
Kamrul AHSAN
Senior Chemist



Ly Kim HA
Organic Section Head



Shane MCDERMOTT
Inorganic/Metals Chemist



Yusuf KUTHPUDIN
Asbestos Analyst

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 18/3/2024

			SS1	SS2	SS3	SS4	SS5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			13/3/2024	13/3/2024	13/3/2024	13/3/2024	13/3/2024
PARAMETER	UOM	LOR	SE262238.001	SE262238.002	SE262238.003	SE262238.004	SE262238.005
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	0.2
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	0.2
Pyrene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

			SS6
			SOIL
			-
			13/3/2024
PARAMETER	UOM	LOR	SE262238.006
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	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
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

VOC's in Soil [AN433] Tested: 18/3/2024

PARAMETER	UOM	LOR	SS1	SS2	SS3	SS4	SS5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			13/3/2024 SE262238.001	13/3/2024 SE262238.002	13/3/2024 SE262238.003	13/3/2024 SE262238.004	13/3/2024 SE262238.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	SS6	Spike	Blank
			SOIL	SOIL	SOIL
			-	-	-
			13/3/2024 SE262238.006	13/3/2024 SE262238.008	13/3/2024 SE262238.009
Benzene	mg/kg	0.1	<0.1	[99%]	<0.1
Toluene	mg/kg	0.1	<0.1	[97%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	[97%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	[97%]	<0.2
o-xylene	mg/kg	0.1	<0.1	[97%]	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	-	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	-	<0.3
Total BTEX*	mg/kg	0.6	<0.6	-	<0.6

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 18/3/2024

PARAMETER	UOM	LOR	SS1	SS2	SS3	SS4	SS5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			13/3/2024 SE262238.001	13/3/2024 SE262238.002	13/3/2024 SE262238.003	13/3/2024 SE262238.004	13/3/2024 SE262238.005
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	SS6
			SOIL
			-
			13/3/2024 SE262238.006
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 18/3/2024

PARAMETER	UOM	LOR	SS1	SS2	SS3	SS4	SS5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			13/3/2024 SE262238.001	13/3/2024 SE262238.002	13/3/2024 SE262238.003	13/3/2024 SE262238.004	13/3/2024 SE262238.005
TRH C10-C14	mg/kg	20	38	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	130	51	<45	<45	<45
TRH C29-C36	mg/kg	45	110	48	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	46	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	46	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	220	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	280	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	270	<210	<210	<210	<210

PARAMETER	UOM	LOR	SS6
			SOIL
			-
			13/3/2024 SE262238.006
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	55
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 18/3/2024

PARAMETER	UOM	LOR	SS1	SS2	SS3	SS4	SS5
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 13/3/2024 SE262238.001	- 13/3/2024 SE262238.002	- 13/3/2024 SE262238.003	- 13/3/2024 SE262238.004	- 13/3/2024 SE262238.005
Arsenic, As	mg/kg	1	3	4	4	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.4	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.5	6.7	6.8	5.2	5.8
Copper, Cu	mg/kg	0.5	1.9	9.3	13	4.6	3.4
Lead, Pb	mg/kg	1	9	45	140	9	19
Nickel, Ni	mg/kg	0.5	1.1	2.5	2.5	1.5	1.2
Zinc, Zn	mg/kg	2	12	45	96	13	25

PARAMETER	UOM	LOR	SS6	Spilt
			SOIL	SOIL
			- 13/3/2024 SE262238.006	- 13/3/2024 SE262238.007
Arsenic, As	mg/kg	1	2	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.3	6.3
Copper, Cu	mg/kg	0.5	2.9	4.0
Lead, Pb	mg/kg	1	9	27
Nickel, Ni	mg/kg	0.5	1.1	1.4
Zinc, Zn	mg/kg	2	14	28



ANALYTICAL RESULTS

SE262238 R0

Mercury in Soil [AN312] Tested: 18/3/2024

			SS1	SS2	SS3	SS4	SS5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			13/3/2024	13/3/2024	13/3/2024	13/3/2024	13/3/2024
PARAMETER	UOM	LOR	SE262238.001	SE262238.002	SE262238.003	SE262238.004	SE262238.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			SS6	Spilt
			SOIL	SOIL
			-	-
			13/3/2024	13/3/2024
PARAMETER	UOM	LOR	SE262238.006	SE262238.007
Mercury	mg/kg	0.05	<0.05	<0.05



ANALYTICAL RESULTS

SE262238 R0

Moisture Content [AN002] Tested: 18/3/2024

			SS1	SS2	SS3	SS4	SS5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			13/3/2024	13/3/2024	13/3/2024	13/3/2024	13/3/2024
PARAMETER	UOM	LOR	SE262238.001	SE262238.002	SE262238.003	SE262238.004	SE262238.005
% Moisture	%w/w	1	4.9	2.3	2.2	11.3	2.3

			SS6	Spilt	Blank
			SOIL	SOIL	SOIL
			-	-	-
			13/3/2024	13/3/2024	13/3/2024
PARAMETER	UOM	LOR	SE262238.006	SE262238.007	SE262238.009
% Moisture	%w/w	1	10.1	2.3	<1.0



ANALYTICAL RESULTS

SE262238 R0

Fibre Identification in soil [AS4964/AN602] Tested: 20/3/2024

			SS1	SS2	SS3	SS4	SS5
			SOIL - 13/3/2024 SE262238.001	SOIL - 13/3/2024 SE262238.002	SOIL - 13/3/2024 SE262238.003	SOIL - 13/3/2024 SE262238.004	SOIL - 13/3/2024 SE262238.005
PARAMETER	UOM	LOR					
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
Date Analysed*	No unit	-	21/03/2024 00:00	21/03/2024 00:00	21/03/2024 00:00	21/03/2024 00:00	21/03/2024 00:00

			SS6
			SOIL - 13/3/2024 SE262238.006
PARAMETER	UOM	LOR	
Asbestos Detected	No unit	-	No
Estimated Fibres*	%w/w	0.01	<0.01
Date Analysed*	No unit	-	21/03/2024 00:00

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting.
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/AS4964	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/AS4964	Fibres/material that cannot be unequivocally 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	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/reporting limit (RL) 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/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) 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.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

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

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

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

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

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

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

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

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

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.

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STATEMENT OF QA/QC PERFORMANCE

SE262238 R0

CLIENT DETAILS

Contact Info
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Project **AG-1367**
Order Number **AG-1367**
Samples 9

LABORATORY DETAILS

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SGS Reference **SE262238 R0**
Date Received 14 Mar 2024
Date Reported 21 Mar 2024

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

SAMPLE SUMMARY

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	14/3/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	4.9°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	

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

Fibre Identification in soil

Method: ME-(AU)-[ENV]AS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307347	13 Mar 2024	14 Mar 2024	13 Mar 2025	20 Mar 2024	13 Mar 2025	21 Mar 2024
SS2	SE262238.002	LB307347	13 Mar 2024	14 Mar 2024	13 Mar 2025	20 Mar 2024	13 Mar 2025	21 Mar 2024
SS3	SE262238.003	LB307347	13 Mar 2024	14 Mar 2024	13 Mar 2025	20 Mar 2024	13 Mar 2025	21 Mar 2024
SS4	SE262238.004	LB307347	13 Mar 2024	14 Mar 2024	13 Mar 2025	20 Mar 2024	13 Mar 2025	21 Mar 2024
SS5	SE262238.005	LB307347	13 Mar 2024	14 Mar 2024	13 Mar 2025	20 Mar 2024	13 Mar 2025	21 Mar 2024
SS6	SE262238.006	LB307347	13 Mar 2024	14 Mar 2024	13 Mar 2025	20 Mar 2024	13 Mar 2025	21 Mar 2024

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307107	13 Mar 2024	14 Mar 2024	10 Apr 2024	18 Mar 2024	10 Apr 2024	20 Mar 2024
SS2	SE262238.002	LB307107	13 Mar 2024	14 Mar 2024	10 Apr 2024	18 Mar 2024	10 Apr 2024	20 Mar 2024
SS3	SE262238.003	LB307107	13 Mar 2024	14 Mar 2024	10 Apr 2024	18 Mar 2024	10 Apr 2024	20 Mar 2024
SS4	SE262238.004	LB307107	13 Mar 2024	14 Mar 2024	10 Apr 2024	18 Mar 2024	10 Apr 2024	20 Mar 2024
SS5	SE262238.005	LB307107	13 Mar 2024	14 Mar 2024	10 Apr 2024	18 Mar 2024	10 Apr 2024	20 Mar 2024
SS6	SE262238.006	LB307107	13 Mar 2024	14 Mar 2024	10 Apr 2024	18 Mar 2024	10 Apr 2024	20 Mar 2024
Spilt	SE262238.007	LB307107	13 Mar 2024	14 Mar 2024	10 Apr 2024	18 Mar 2024	10 Apr 2024	20 Mar 2024

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024
SS2	SE262238.002	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024
SS3	SE262238.003	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024
SS4	SE262238.004	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024
SS5	SE262238.005	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024
SS6	SE262238.006	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024
Spilt	SE262238.007	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024
Blank	SE262238.009	LB307097	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	23 Mar 2024	20 Mar 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS2	SE262238.002	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS3	SE262238.003	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS4	SE262238.004	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS5	SE262238.005	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS6	SE262238.006	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307106	13 Mar 2024	14 Mar 2024	09 Sep 2024	18 Mar 2024	09 Sep 2024	20 Mar 2024
SS2	SE262238.002	LB307106	13 Mar 2024	14 Mar 2024	09 Sep 2024	18 Mar 2024	09 Sep 2024	20 Mar 2024
SS3	SE262238.003	LB307106	13 Mar 2024	14 Mar 2024	09 Sep 2024	18 Mar 2024	09 Sep 2024	20 Mar 2024
SS4	SE262238.004	LB307106	13 Mar 2024	14 Mar 2024	09 Sep 2024	18 Mar 2024	09 Sep 2024	20 Mar 2024
SS5	SE262238.005	LB307106	13 Mar 2024	14 Mar 2024	09 Sep 2024	18 Mar 2024	09 Sep 2024	20 Mar 2024
SS6	SE262238.006	LB307106	13 Mar 2024	14 Mar 2024	09 Sep 2024	18 Mar 2024	09 Sep 2024	20 Mar 2024
Spilt	SE262238.007	LB307106	13 Mar 2024	14 Mar 2024	09 Sep 2024	18 Mar 2024	09 Sep 2024	20 Mar 2024

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS2	SE262238.002	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS3	SE262238.003	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS4	SE262238.004	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS5	SE262238.005	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024
SS6	SE262238.006	LB307079	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Apr 2024	20 Mar 2024

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS2	SE262238.002	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS3	SE262238.003	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS4	SE262238.004	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS5	SE262238.005	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024

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

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

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

VOC's in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS6	SE262238.006	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
Spike	SE262238.008	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
Blank	SE262238.009	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE262238.001	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS2	SE262238.002	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS3	SE262238.003	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS4	SE262238.004	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS5	SE262238.005	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
SS6	SE262238.006	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
Spike	SE262238.008	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024
Blank	SE262238.009	LB307084	13 Mar 2024	14 Mar 2024	27 Mar 2024	18 Mar 2024	27 Mar 2024	20 Mar 2024

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier 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)	SS1	SE262238.001	%	70 - 130%	104
	SS2	SE262238.002	%	70 - 130%	101
	SS3	SE262238.003	%	70 - 130%	98
	SS4	SE262238.004	%	70 - 130%	98
	SS5	SE262238.005	%	70 - 130%	95
	SS6	SE262238.006	%	70 - 130%	96
d14-p-terphenyl (Surrogate)	SS1	SE262238.001	%	70 - 130%	103
	SS2	SE262238.002	%	70 - 130%	101
	SS3	SE262238.003	%	70 - 130%	103
	SS4	SE262238.004	%	70 - 130%	103
	SS5	SE262238.005	%	70 - 130%	100
	SS6	SE262238.006	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	SS1	SE262238.001	%	70 - 130%	104
	SS2	SE262238.002	%	70 - 130%	104
	SS3	SE262238.003	%	70 - 130%	102
	SS4	SE262238.004	%	70 - 130%	95
	SS5	SE262238.005	%	70 - 130%	98
	SS6	SE262238.006	%	70 - 130%	92

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SS1	SE262238.001	%	60 - 130%	78
	SS2	SE262238.002	%	60 - 130%	90
	SS3	SE262238.003	%	60 - 130%	86
	SS4	SE262238.004	%	60 - 130%	83
	SS5	SE262238.005	%	60 - 130%	84
	SS6	SE262238.006	%	60 - 130%	78
	Spike	SE262238.008	%	60 - 130%	82
	Blank	SE262238.009	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	SS1	SE262238.001	%	60 - 130%	98
	SS2	SE262238.002	%	60 - 130%	101
	SS3	SE262238.003	%	60 - 130%	103
	SS4	SE262238.004	%	60 - 130%	104
	SS5	SE262238.005	%	60 - 130%	105
	SS6	SE262238.006	%	60 - 130%	97
	Spike	SE262238.008	%	60 - 130%	91
	Blank	SE262238.009	%	60 - 130%	104
d8-toluene (Surrogate)	SS1	SE262238.001	%	60 - 130%	93
	SS2	SE262238.002	%	60 - 130%	97
	SS3	SE262238.003	%	60 - 130%	98
	SS4	SE262238.004	%	60 - 130%	98
	SS5	SE262238.005	%	60 - 130%	98
	SS6	SE262238.006	%	60 - 130%	92
	Spike	SE262238.008	%	60 - 130%	84
	Blank	SE262238.009	%	60 - 130%	99

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SS1	SE262238.001	%	60 - 130%	78
	SS2	SE262238.002	%	60 - 130%	90
	SS3	SE262238.003	%	60 - 130%	86
	SS4	SE262238.004	%	60 - 130%	83
	SS5	SE262238.005	%	60 - 130%	84
	SS6	SE262238.006	%	60 - 130%	78
d4-1,2-dichloroethane (Surrogate)	SS1	SE262238.001	%	60 - 130%	98
	SS2	SE262238.002	%	60 - 130%	101
	SS3	SE262238.003	%	60 - 130%	103
	SS4	SE262238.004	%	60 - 130%	104
	SS5	SE262238.005	%	60 - 130%	105
	SS6	SE262238.006	%	60 - 130%	97
d8-toluene (Surrogate)	SS1	SE262238.001	%	60 - 130%	93
	SS2	SE262238.002	%	60 - 130%	97

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier 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)	SS3	SE262238.003	%	60 - 130%	98
	SS4	SE262238.004	%	60 - 130%	98
	SS5	SE262238.005	%	60 - 130%	98
	SS6	SE262238.006	%	60 - 130%	92

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB307107.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB307079.001	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)	%	-	106
	2-fluorobiphenyl (Surrogate)	%	-	103
	d14-p-terphenyl (Surrogate)	%	-	107

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

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

Sample Number	Parameter	Units	LOR	Result
LB307106.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN430

Sample Number	Parameter	Units	LOR	Result
LB307079.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB307084.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	98
		Bromofluorobenzene (Surrogate)	%	-	89
	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
LB307084.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1 2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262238.003	LB307107.014	Mercury	mg/kg	0.05	<0.05	<0.05	198	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262238.003	LB307097.011	% Moisture	%w/w	1	2.2	2.2	75	2
SE262274.003	LB307097.023	% Moisture	%w/w	1	6.7	6.3	45	5

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262238.003	LB307079.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0.1	128	19
		Pyrene	mg/kg	0.1	<0.1	0.1	126	20
		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&i)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	112	83
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	13
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	5
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
SE262274.003	LB307079.024	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&i)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	4
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262274.003	LB307079.024	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30
								4

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

Method: ME-(AU)-[ENV]AN40/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262238.003	LB307106.014	Arsenic, As	mg/kg	1	4	3	57	20
		Cadmium, Cd	mg/kg	0.3	0.4	<0.3	132	21
		Chromium, Cr	mg/kg	0.5	6.8	8.1	37	17
		Copper, Cu	mg/kg	0.5	13	13	34	3
		Nickel, Ni	mg/kg	0.5	2.5	2.7	49	7
		Lead, Pb	mg/kg	1	140	130	31	8
		Zinc, Zn	mg/kg	2	96	110	32	13

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262238.003	LB307079.014	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
SE262274.003	LB307079.024	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

VOC's in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262238.003	LB307084.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200
			o-xylene	mg/kg	0.1	<0.1	<0.1	200
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	9.8	50
			d8-toluene (Surrogate)	mg/kg	-	9.8	9.4	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.3	50
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200
SE262274.003	LB307084.026	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200
			o-xylene	mg/kg	0.1	<0.1	<0.1	200
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	9.2	50
			d8-toluene (Surrogate)	mg/kg	-	8.6	8.4	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	7.3	50
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate	Parameter	Units	LOR
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Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262238.003	LB307084.014	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	9.8	50	5
		d8-toluene (Surrogate)	mg/kg	-	9.8	9.4	50	4
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.3	50	4
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
SE262274.003	LB307084.026	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
		TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	9.2	50	2
		d8-toluene (Surrogate)	mg/kg	-	8.6	8.4	50	3
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	7.3	50	2
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB307107.002	Mercury	mg/kg	0.05	0.20	0.2	80 - 120	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB307079.002	Naphthalene	mg/kg	0.1	5.0	4	60 - 140	126
	Acenaphthylene	mg/kg	0.1	4.8	4	60 - 140	120
	Acenaphthene	mg/kg	0.1	5.1	4	60 - 140	127
	Phenanthrene	mg/kg	0.1	5.0	4	60 - 140	124
	Anthracene	mg/kg	0.1	4.9	4	60 - 140	122
	Fluoranthene	mg/kg	0.1	4.9	4	60 - 140	124
	Pyrene	mg/kg	0.1	4.8	4	60 - 140	120
	Benzo(a)pyrene	mg/kg	0.1	5.0	4	60 - 140	125
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	109
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96

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 %
LB307106.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	110
	Cadmium, Cd	mg/kg	0.3	5.1	4.81	70 - 130	106
	Chromium, Cr	mg/kg	0.5	44	38.31	80 - 120	114
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	111
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	104
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	104
	Zinc, Zn	mg/kg	2	280	273	80 - 120	102

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB307079.002	TRH C10-C14	mg/kg	20	46	40	60 - 140	115
	TRH C15-C28	mg/kg	45	46	40	60 - 140	115
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	89
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	46	40	60 - 140	116
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	109
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	88

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB307084.002	Monocyclic	Benzene	mg/kg	0.1	4.8	5	60 - 140	97
	Aromatic	Toluene	mg/kg	0.1	5.0	5	60 - 140	99
		Ethylbenzene	mg/kg	0.1	5.0	5	60 - 140	100
		m/p-xylene	mg/kg	0.2	10	10	60 - 140	101
		o-xylene	mg/kg	0.1	5.1	5	60 - 140	102
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	10	70 - 130	103
		d8-toluene (Surrogate)	mg/kg	-	10.1	10	70 - 130	101
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.9	10	70 - 130	99

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB307084.002	TRH C6-C10	mg/kg	25	74	92.5	60 - 140	80	
	TRH C6-C9	mg/kg	20	64	80	60 - 140	80	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	10	70 - 130	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.9	10	70 - 130	99
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	ma/ka	25	44	62.5	60 - 140	70

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE262225.001	LB307107.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	95

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE262225.001	LB307079.004	Naphthalene	mg/kg	0.1	5.0	<0.1	4	125
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.7	<0.1	4	118
		Acenaphthene	mg/kg	0.1	5.0	<0.1	4	125
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.8	<0.1	4	120
		Anthracene	mg/kg	0.1	4.8	<0.1	4	120
		Fluoranthene	mg/kg	0.1	4.8	<0.1	4	121
		Pyrene	mg/kg	0.1	4.5	<0.1	4	113
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.5	<0.1	4	113
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.5	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.6	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.7	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	38	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	107
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	107
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	95

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%
SE262225.001	LB307106.004	Arsenic, As	mg/kg	1	49	4	50	90
		Cadmium, Cd	mg/kg	0.3	40	<0.3	50	79
		Chromium, Cr	mg/kg	0.5	53	7.6	50	91
		Copper, Cu	mg/kg	0.5	51	5.8	50	91
		Nickel, Ni	mg/kg	0.5	50	4.8	50	91
		Lead, Pb	mg/kg	1	52	8	50	88
		Zinc, Zn	mg/kg	2	84	37	50	95

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE262225.001	LB307079.004	TRH C10-C14	mg/kg	20	51	<20	40	123
		TRH C15-C28	mg/kg	45	55	<45	40	127
		TRH C29-C36	mg/kg	45	<45	<45	40	86
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
	TRH F Bands	TRH >C10-C16	mg/kg	25	52	<25	40	124
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	52	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	115
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE262225.001	LB307084.004	Monocyclic	Benzene	mg/kg	0.1	4.8	<0.1	5	97
			Toluene	mg/kg	0.1	5.1	<0.1	5	101
		Aromatic	Ethylbenzene	mg/kg	0.1	5.1	<0.1	5	101
			m/p-xylene	mg/kg	0.2	10	<0.2	10	102
			o-xylene	mg/kg	0.1	5.2	<0.1	5	103

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE262225.001	LB307084.004	Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9	10	99
			d8-toluene (Surrogate)	mg/kg	-	9.8	9.9	98
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	8.9	93
		Totals	Total BTEX*	mg/kg	0.6	30	<0.6	-
			Total Xylenes*	mg/kg	0.3	15	<0.3	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE262225.001	LB307084.004	TRH C6-C10	mg/kg	25	76	<25	92.5	82
			mg/kg	20	66	<20	80	82
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9	10	99
			d8-toluene (Surrogate)	mg/kg	-	9.8	9.9	98
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	8.9	93
		VPH F	Benzene (F0)	mg/kg	0.1	4.8	<0.1	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	46	<25	62.5
								73

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

- * NATA accreditation does not cover the performance of this service .
- ** Indicative data, theoretical holding time exceeded.
- *** Indicates that both * and ** apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to relevant report comments for further information.

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ANALYTICAL REPORT



Accreditation No. 2562

CLIENT DETAILS

Contact Info
Client AUSTRALIAN GEOENVIRO PTY LTD
Address PO BOX 4153
DENISTONE EAST NSW 2112

Telephone (Not specified)
Facsimile (Not specified)
Email info@austgeo.com.au

Project **AG-1367**
Order Number **AG-1367**
Samples 6

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 **SE262238 R0**
Date Received 14 Mar 2024
Date Reported 21 Mar 2024

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Yusuf KUTHPUDIN
Asbestos Analyst

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE262238.001	SS1	Soil	321g Clay, Sand, Soil, Rocks	13 Mar 2024	21 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE262238.002	SS2	Soil	347g Clay, Sand, Soil, Rocks	13 Mar 2024	21 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE262238.003	SS3	Soil	298g Clay, Sand, Soil, Rocks	13 Mar 2024	21 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE262238.004	SS4	Soil	259g Clay, Sand, Soil, Rocks	13 Mar 2024	21 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE262238.005	SS5	Soil	207g Clay, Sand, Soil, Rocks	13 Mar 2024	21 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE262238.006	SS6	Soil	291g Clay, Sand, Soil, Rocks	13 Mar 2024	21 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01

METHOD

METHODOLOGY SUMMARY

AN602/AS4964	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/AS4964	Fibres/material that cannot be unequivocally 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	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/reporting limit (RL) 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/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres); (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg; and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

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

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

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CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 1

SGS Environmental Services

Unit 16, 33 Maddox Street

Alexandria NSW 2015

Telephone No: (02) 85940400

Facsimile No: (02) 85940499

Email: au.samplerreceipt.sydney@sgs.com

Company Name: Australian GeoEnviro

Address: PO Box 4153, Denistone East, NSW, 2112

Contact Name:

Project Name/No: AG-1367

Purchase Order No: AG-1367

Results Required By: 5 day TAT

Telephone:

Facsimile:

Email Results: info@austgeo.com.au

[illegible]

SGS EHS Sydney COC

SE262238



Relinquished By: NS

Date/Time:14-03-24

Received By:

Date/Time	Location	Activity	Notes
10/10/2023 10:00	Room 101	Meeting with Mr. Smith	Discussed project progress
10/10/2023 14:30	Room 202	Training session	Completed module 3
10/11/2023 09:15	Room 101	Meeting with Mr. Jones	Reviewed contract terms
10/11/2023 16:00	Room 303	Workshop	Brainstorming ideas for Q4
10/12/2023 11:45	Room 101	Meeting with Mr. Brown	Finalized action items
10/12/2023 15:30	Room 202	Training session	Completed module 4
10/13/2023 10:30	Room 101	Meeting with Mr. Green	Discussed budget review
10/13/2023 14:00	Room 303	Workshop	Developed marketing plan
10/14/2023 09:00	Room 101	Meeting with Mr. White	Reviewed client feedback
10/14/2023 13:15	Room 202	Training session	Completed module 5
10/15/2023 10:45	Room 101	Meeting with Mr. Black	Discussed team performance
10/15/2023 15:00	Room 303	Workshop	Finalized project timeline
10/16/2023 11:00	Room 101	Meeting with Mr. Grey	Reviewed project status
10/16/2023 14:45	Room 202	Training session	Completed module 6
10/17/2023 09:30	Room 101	Meeting with Mr. Yellow	Discussed future plans
10/17/2023 13:00	Room 303	Workshop	Developed new product ideas
10/18/2023 10:15	Room 101	Meeting with Mr. Purple	Reviewed project progress
10/18/2023 14:30	Room 202	Training session	Completed module 7
10/19/2023 11:30	Room 101	Meeting with Mr. Blue	Discussed team performance
10/19/2023 15:45	Room 303	Workshop	Finalized project timeline
10/20/2023 09:45	Room 101	Meeting with Mr. Red	Reviewed project status
10/20/2023 13:30	Room 202	Training session	Completed module 8
10/21/2023 10:00	Room 101	Meeting with Mr. Orange	Discussed future plans
10/21/2023 14:15	Room 303	Workshop	Developed new product ideas
10/22/2023 11:15	Room 101	Meeting with Mr. Pink	Reviewed project progress
10/22/2023 15:00	Room 202	Training session	Completed module 9
10/23/2023 09:00	Room 101	Meeting with Mr. Brown	Discussed team performance
10/23/2023 13:45	Room 303	Workshop	Finalized project timeline
10/24/2023 10:30	Room 101	Meeting with Mr. Green	Reviewed project status
10/24/2023 14:00	Room 202	Training session	Completed module 10
10/25/2023 11:00	Room 101	Meeting with Mr. White	Discussed future plans
10/25/2023 15:15	Room 303	Workshop	Developed new product ideas
10/26/2023 09:30	Room 101	Meeting with Mr. Black	Reviewed project progress
10/26/2023 13:00	Room 202	Training session	Completed module 11
10/27/2023 10:45	Room 101	Meeting with Mr. Grey	Discussed team performance
10/27/2023 14:30	Room 303	Workshop	Finalized project timeline
10/28/2023 11:30	Room 101	Meeting with Mr. Yellow	Reviewed project status
10/28/2023 15:45	Room 202	Training session	Completed module 12
10/29/2023 09:45	Room 101	Meeting with Mr. Purple	Discussed future plans
10/29/2023 13:30	Room 303	Workshop	Developed new product ideas
10/30/2023 10:15	Room 101	Meeting with Mr. Blue	Reviewed project progress
10/30/2023 14:00	Room 202	Training session	Completed module 13
10/31/2023 11:00	Room 101	Meeting with Mr. Red	Discussed team performance
10/31/2023 15:00	Room 303	Workshop	Finalized project timeline

Relinquished By:

Date/Time:

Received By:

	Date/Time
--	-----------

Samples Intact: Yes/ No

Temperature: Ambient / Chilled

Sample Cooler Sealed:	Yes/ No
-----------------------	---------

Laboratory Quotation No:

Uncontrolled template when printed

Comments:



SAMPLE RECEIPT ADVICE

SE262238

CLIENT DETAILS

Contact Info
Client AUSTRALIAN GEOENVIRO PTY LTD
Address PO BOX 4153
DENISTONE EAST NSW 2112

Telephone (Not specified)
Facsimile (Not specified)
Email info@austgeo.com.au

Project **AG-1367**
Order Number **AG-1367**
Samples 9

LABORATORY DETAILS

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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 Thu 14/3/2024
Report Due Thu 21/3/2024
SGS Reference **SE262238**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Thursday 14/3/2024. Results are expected to be ready by COB Thursday 21/3/2024. Please quote SGS reference SE262238 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	14/3/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	4.9°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	

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

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SAMPLE RECEIPT ADVICE

SE262238

CLIENT DETAILS

Client AUSTRALIAN GEOENVIRO PTY LTD

Project AG-1367

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	SS1	1	26	7	10	11	7
002	SS2	1	26	7	10	11	7
003	SS3	1	26	7	10	11	7
004	SS4	1	26	7	10	11	7
005	SS5	1	26	7	10	11	7
006	SS6	1	26	7	10	11	7
007	Spilt	1	-	7	-	-	-
008	Spike	-	-	-	-	11	-
009	Blank	-	-	-	-	11	-

CONTINUED OVERLEAF

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



SAMPLE RECEIPT ADVICE

SE262238

CLIENT DETAILS

Client AUSTRALIAN GEOENVIRO PTY LTD

Project AG-1367

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
001	SS1	3	1
002	SS2	3	1
003	SS3	3	1
004	SS4	3	1
005	SS5	3	1
006	SS6	3	1
007	Spilt	-	1
009	Blank	-	1

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



