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Stage 2 Detailed Site Investigation

Proposed Residential Aged Care Facilities

13 Booralla Road, Edensor Park NSW

Report Number 610.15583-R3

7 July 2016

Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust

PO Box 1419

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Version: Revision 0

Stage 2 Detailed Site Investigation

Proposed Residential Aged Care Facilities

13 Booralla Road, Edensor Park NSW

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Executive Summary

SLR Consulting Pty Ltd (SLR) was engaged by Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust (the Client) to prepare a Stage 2 Detailed Site Investigation (DSI) for 19-25 Booralla Road, Edensor Park, New South Wales (NSW) (the site).

The assessment was undertaken in accordance with SLR's offer of services dated 20 May 2016 (ref: 610.15583 Offer of Services 20160330.docx).

SLR had previously prepared a Stage 1 Preliminary Site Investigation (PSI) to assess the potential for contamination to be present at the site and the suitability of the site for the proposed residential aged care facilities. The Stage 1 PSI report (SLR, 2016) concluded that there was a low potential for contamination to be present on the site, and that the site can be made suitable for the proposed development, subject to the undertaking of a stage 2 DSI and associated remedial works (if warranted).

SLR understands that the development will include construction of two – two storey buildings with one level of basement and lower ground floor levels. Excavation of up to 7 metre (m) soil and rock is expected as part of basement construction.

A Stage 2 DSI is required to satisfy the Council's approval condition.

The objectives of this project were to:

- Make an assessment of the contamination status of areas of environment concern (AEC) identified by the Stage 1 PSI (SLR, 2016) report;
- Provide advice on the suitability of the land (with respect to contamination) for the proposed residential aged care facilities;
- Provide recommendations on further investigations or remediation/management of identified contamination (if required).

SLR undertook the following scope of work to address the project objectives:

- review of the Stage 1 PSI (SLR, 2016) report;
- preparation of a sampling, analytical and quality plan (SAQP) (SLR, 2016A);
- excavation of 25 test pits to depths ranging between 0.5 metre (m) to 0.9m below ground level (bgl);
- logging soil observations made during borehole drilling;
- headspace screening of soil samples for the presence of ionisable volatile organic compounds (VOC);
- collection of soil samples at appropriate depth and laboratory analysis of selected soil samples for a range of contaminants of concern; and
- data assessment and preparation of this stage 2 DSI report.

Based on a review of information presented in the Stage 1 PSI (SLR, 2016), observations made during fieldwork, results of laboratory analysis and the proposed redevelopment of the site, SLR concludes that:

- Potential for the site soils to contain significant, widespread contamination is low to negligible. SLR considers that the contamination status of the soils are unlikely to pose an unacceptable risk to human health, in the context of the proposed residential land use;

Executive Summary

- SLR considers that the site is suitable for the proposed residential land use, subject to the following recommendations being addressed at the construction phase.

SLR recommends that the following be conducted prior to site clearing works, to minimise potential pose a contamination risk to construction workers and site users:

- The removal of fragments of fibrous cement sheeting observed along the site surface along the boundaries; and
- The removal of asbestos impacted surficial soils at TP20 (on a 5m radius around the location of TP20, to a depth of 200mm).

The above works should be conducted by appropriately licensed asbestos contractors, under the supervision of a qualified environmental consultant. Asbestos clearance certificates should be issued by a qualified occupational hygienist for areas where asbestos or asbestos impacted soils have been removed, prior to the commencement of site clearance or bulk excavation works.

This report must be read in conjunction with the limitations set out in Section 13.

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1 INTRODUCTION

SLR Consulting Pty Ltd (SLR) was engaged by Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust (the Client) to prepare a Stage 2 Detailed Site Investigation (DSI) for 19-25 Booralla Road, Edensor Park, New South Wales (NSW) (the site).

The assessment was undertaken in accordance with SLR's offer of services dated 20 May 2016 (ref: 610.15583 Offer of Services 20160330.docx).

1.1 Background

SLR had previously prepared a Stage 1 Preliminary Site Investigation (PSI) to assess the potential for contamination to be present at the site and the suitability of the site for the proposed residential aged care facilities. A Stage 1 PSI report (SLR, 2016[1]) concluded that the potential to contain unacceptable soil contamination is low, and that the site can be made suitable for the proposed development, subject to the undertaking of a stage 2 DSI, and associated remedial works (if warranted).

SLR understands that the Client is proposing to undertake the proposed development work over two stages which will include construction of two – two storey buildings with one level of basement and lower ground floor levels. Excavation of up to 7 metre (m) soil and rock is expected as part of basement construction.

A Stage 2 DSI is required to satisfy the development consent conditions.

1.2 Objectives

The objectives of this project were to:

- Make an assessment of the contamination status of areas of environment concern (AEC) identified by the Stage 1 PSI (SLR 2016) report;
- Provide advice on the suitability of the land (with respect to contamination) for the proposed residential aged care facilities;
- Provide recommendations on further investigations or remediation/management of identified contamination (if required).

1.3 Scope of Works

SLR undertook the following scope of work to address the project objectives:

- Review of the Stage 1 PSI (SLR, 2016) report;
- Preparation of a sampling, analytical and quality plan (SAQP) (SLR, 2016A[2]);
- Excavation of 25 test pits to depths ranging between 0.5 metre (m) to 0.9m below ground level (bgl);
- Logging soil observations made during borehole drilling;
- Headspace screening of soil samples for the presence of ionisable volatile organic compounds (VOC);
- Collection of soil samples at appropriate depth intervals, or where there were signs of contamination, or the evidence of high volatile organic compounds;

[1] SLR 2016, 'Stage 1 Preliminary Site Investigation, Residential Aged Care Facilities, 19-25 Booralla Road, Edensor Park NSW', Report Number: 610.15583-R1 dated 11 February 2016, Version: Revision 1.

[2] SLR 2016A, 'Sampling, Analytical and Quality Plan, Proposed Stage 2 Detailed Site Investigation, 19-25 Booralla Road, Edensor Park', dated 3 June 2016, report number: 610.15583-R2, version: Revision 0

- Laboratory analysis of selected soil samples for:
  - Total Recoverable Hydrocarbons (TRH);
  - Benzene, Toluene Ethylbenzene and Xylene (BTEX);
  - Polycyclic Aromatic Hydrocarbon;
  - Metals;
  - Organochlorine Pesticides (OPP);
  - Organophosphorus Pesticides (OPP);
  - Polychlorinated Biphenyls (PCB);
  - Cation Exchange Capacity;
  - % Clay Content;
  - pH; and
  - Asbestos
- Data assessment and preparation of this stage 2 DSI report.

2 SITE IDENTIFICATION

The locality of the site is presented in Figure 1.

The site is legally identified as Lot 2 in DP 833184.

The site is irregular in shape and occupies an approximate area of 1.5 hectares (ha).

A site layout plan is presented in Figure 2.

3 SITE SETTING

3.1 Geology

The Geological Survey of NSW Penrith 1:100,000 Geological Series Sheet 9030 Edition I (1991) indicates that the site is located within Triassic period Wianamatta group lithology known as "Bringelly Shale". The lithology of this group of shale consists of shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff.

3.2 Landscape

Reference to the Soil Conservation Service of NSW Penrith 1:100,000 Soil Landscape Series Sheet 9030 indicates that the site is located within the close vicinity of three landscape groups of soils:

- Luddenham group of soils (lu);
- Blacktown group of soils (bt); and
- South Creek group of soils (sc).

The Luddenham group landscape typically comprises of undulating to rolling low hills on Wianamatta Group of shales, often associated with Minchinbury Sandstone. Local relief 50-80m, slopes 5-20%, narrow ridges, hillcrest and valleys.

The Blacktown group landscape typically comprises of gently undulating rises on Wianamatta Group shales and Hawkesbury shale. Local relief to 30m, slopes are usually <5%, broad rounded crests and ridges with gently inclined slopes.

The South Creek group landscape typically comprises of floodplains, valleys flats and drainage depressions of the channels on the Cumberland Plain.

3.3 Topography

Reference to the Soil Conservation Service of NSW Penrith 1:100,000 Soil Landscape Series Sheet 9030 indicates that the topography of the site is likely to consist of flat to gently sloping alluvial plain with occasional terraces to gently undulating rises on Wianamatta Shale, slopes between <5 to 20% and local relief between <10m to 80m.

Elevation profile on the Google Earth indicated that the topography of the site is sloping gently towards south and southwest with approximately 5m drop in elevation. The northern and northern eastern portions of the site had elevations of 54 and 56 m Australian Height Datum (AHD) while the southern and southwestern portions of the site had elevations of 49 to 50m AHD. Locally, the site is located on a slight crest, with elevation decreasing both to the north and the south. There is a local relief to the west.

3.4 Hydrogeology

The nearest surface water body is Orphan School Creek located approximately 700m to the north and northeast of the site. Clear Paddock Creek is located approximately 800m to the south. Both these creeks flow east prior to merging and flowing into Prospect Creek, which then flows into the Chipping Norton Lake located approximately 7 kilometres (km) from the site.

Based on the topography surrounding the site, the location of the nearest surface water body and the flow direction of the nearest surface water body, it is considered that the surface water flow and the groundwater flow at the site is likely to be towards the south or south east, though being situated on a crest creates difficulty in assessing the direction of flow of water.

A search of the NSW Department of Primary Industries – Office of Water Groundwater Map (http://waterinfo.nsw.gov.au/gw/) conducted on 13 October 2015 did not locate any groundwater features within 500m from the site.

3.5 Acid Sulfate Soils

Information obtained from Australian Soil Resource Information System (www.asris.csiro.au) indicated that the site has no known occurrence of acid sulfate soils.

The NSW Office and Environment and Heritage (OEH) do not provide Acid Sulfate Soil (ASS) Risk Map coverage for the site.

The Fairfield City Council's Fairfield Local Environmental Plan 2013 – Combined Local Map 1 - Acid Sulfate Soils map does not apply to the site.

Based on the information reviewed, SLR considers that the risk of encountering acid sulfate soils during construction works as part of the proposed development is low.

4 PREVIOUS CONTAMINATION ASSESSMENTS

SLR understands that the following contamination assessment report has previously been prepared for the site:

- SLR 2016, 'Stage 1 Preliminary Site Investigation, Residential Aged Care Facilities, 19-25 Booralla Road, Edensor Park NSW', Report Number: 610.15583-R1 dated 11 February 2016, Version: Revision 1.

The objectives of the Stage 1 PSI (SLR 2016) were to:

- Assess the potential for contamination to be present on the site, as a result of past and present land use activities;
- Provide advice on the suitability of the land (with respect to contamination) for the proposed residential land use; and
- Provide recommendations on further contamination assessment, management or remediation works (if required).

SLR undertook the following scope of works to address the project objectives:

- A desktop review;
- A site walkover; and
- Data assessment and reporting.

Based on a review of the available site history data and observations made during the site walkover, SLR concludes the following:

- The potential for significant widespread contamination to be present on site soils that will be located outside the proposed building footprint, as a result of past and present land use activities, is considered to be low. However, asbestos contamination associated with the current and former sheds was observed on site during the site walkover. The potential for isolated chemical contamination (pesticides etc.) in the vicinity of the former and current sheds cannot be precluded;
- Given the sensitivity of the proposed land use (direct access to site soils), the site in its current condition is not suitable, with respect to contamination, for the proposed land use;
- It is considered that the site can be made suitable for the proposed development, subject to the undertaking of a stage 2 detailed site investigation, and associated remedial works (if warranted). The investigation should include the proposed building footprint area as well as the areas outside of the proposed building footprint. Based on the nature of contaminants of potential concern identified for the site, there are well established means of remediation and/or management that could be implemented to allow the proposed development to proceed, regardless of the findings of a stage 2 detailed site investigation.

SLR also recommended that the additional work be included as a condition of development consent and if required a remedial action plan (RAP) and a site validation report will be submitted to the Council.

5 CONCEPTUAL SITE MODEL

5.1 Areas of Environmental Concern and Contaminants of Potential Concern

The Stage 1 PSI (SLR 2016) identified two main areas of environmental concern (AEC) and its contaminants of potential concern (COPC) which may be present on the site. These AEC and COPC are presented in Table 1.

Table 1 Areas of Environmental Concern and Contaminants of Potential Concern

ID	Area of Environmental Concern	Contaminants of Potential Concern
AEC 01	Agricultural land use in the past	Pesticides, heavy metals, polychlorinated biphenyls
AEC 02	Potential asbestos containing material	Asbestos

5.2 Receptors and Pathways

5.2.1 Proposed Land Use Scenario

It is understood that the proposed development of the site includes the following:

- Demolition of existing dwelling and sheds;
- Construction of two, two storey buildings with one level of basement and lower ground floor levels;
- Excavation of up to 7m of soil and rock beneath the proposed building footprints;
- Landscaping and paved areas; and
- Continuation of Sweethaven Road through the north-eastern portion of the site towards the southern portion of the site.

Copies of the proposed development plan are provided in Appendix A.

5.2.2 Human Health – Direct Contact

If contamination is present in the site soils, it is possible that site users may be exposed to such contamination via direct contact with the contamination. It is considered appropriate to assess whether a direct contact source for future site users, site workers and visitors may be present on the site.

5.2.3 Human Health – Inhalation

If asbestos is present in the fill material, it is possible that construction workers may be exposed to such contamination via inhalation. It is considered appropriate to assess whether an asbestos source may be present on the site. If friable asbestos is present, both construction workers and future site users including residents may be exposed to asbestos.

5.2.4 Ecological – Terrestrial

If contamination is present in the soil, terrestrial ecosystems could be exposed to such contamination. NEPC (1999) requires a pragmatic risk-based approach be taken in applying ecological investigation and screening levels in a residential land use settings such as the site.

It is noted that the proposed redevelopment will include construction of residential aged care facility with basement and lower ground floor that requires excavation of up to 7m of soil and rock. Site improvement works including landscaping and garden areas are also prosed on site. In redevelopment scenarios of this nature, vegetation clearing, stripping of existing top soil and significant earthworks occurs.

It is also noted that observations made during the site walkover did not identify evidence of phytotoxic impact arising from contaminated soils.

Given the likelihood of topsoil stripping and proposed earthworks, and the lack of terrestrial ecosystem impact observed during the site walkover, it is considered reasonable that further assessment of unacceptable risk to terrestrial ecosystems from current site soils, is not warranted.

6 DATA QUALITY OBJECTIVES

Data quality objectives (DQO) for this stage 2 detailed site investigation have been developed using the seven step processes described in

- NSW DEC 2006, Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition).

Based on the DQOs, SLR prepared a sampling, analytical and quality plan (SAQP) (SLR 2016A) that presents the sampling rationale, methodology, analysis and quality control measures for the DSI. The SAQP (SLR, 2016A) is attached in Appendix B for reference. However, the following important points should be noted:

- The horizontal boundary of the project is defined by the site boundaries, as shown on Figure 2;
- The vertical boundary of the project is defined by the depth of potentially impacted material;
- The site covers an area of approximately 1.5 Ha. As such, SLR excavated a total of 25 test pits targeting the areas of environmental concern identified by the Stage 1 PSI (SLR 2016) to characterise the site. The number of sampling points chosen was in accordance with the numbers outlined in the NSW EPA 1995, 'Contaminated Sites: Sampling Design Guidelines' for a site this size;
- Soil samples from each test pit location were collected using the bucket of a 5.5 tonne track mounted excavator;
- Soil samples were collected from each sampling point at the surface and at regular depths thereafter, or at every identified change in soil lithology, or where there was evidence of contamination, or where the soil headspace screening result for ionisable volatile organic compounds (VOC) indicated the presence of petroleum hydrocarbon contamination;
- Materials encountered during sampling was logged in general accordance with the Unified Soil Classification System (UCS); and
- Soil samples were screened in the field for ionisable volatile organic compounds (VOC) using a calibrated photo-ionisation detector (PID).

6.1 Adopted Investigation Levels

6.1.1 Human Health - Direct Contact

The relevant direct contact:

- Health-Based Investigation Levels (HILs) for residential listed in Table 1A (1) in NEPC (1999); and
- Health Screening Levels (HSL) for residential listed in Table B4 of Friebel, E & Nadebaum, P (2011);

have been adopted for this assessment.

6.1.2 Human Health – Asbestos

NEPC (1999) provides health screening levels for asbestos contamination in soil, which are based on specific land use exposure scenarios, for three forms of asbestos: bonded asbestos containing material (ACM), friable asbestos (FA) and asbestos fines (AF). These health screening levels are provided in Table 2.

Table 2 Health Screening Levels for asbestos contamination in soil

Form of asbestos	Health Screening Level (W/W)			
	Residential A	**Residential B**	**Recreational C**	**Commercial/Industrial**

ACM	0.01%	0.04%	0.02%	0.05%
FA and AF	0.001%			
All forms of asbestos	No visible asbestos in surface soil			

The laboratory method for analysis of asbestos in bulk materials is based on AS 4964-2004. Consequently, a practical quantification limit equal to or less than 0.001% by weight was not adopted and the limit is 0.1g/kg (equivalent to 0.01% w/w). For the purposes of this project, criteria of “no visible asbestos containing materials in surface soils (top 10cm)” and “no asbestos fibres detected in samples” has been adopted as initial screening criteria.

7 FIELDWORK SUMMARY

7.1 Service Clearance

The underground service clearance survey was undertaken on 20 June 2016. The service clearance was carried out by Ashleigh Ferris (Down Under Consulting), under the supervision of a suitably experienced SLR environmental engineer (Abanish Nepal).

The purpose of the service clearance was to assess the presence of underground services at the proposed intrusive sampling points. No underground services were identified near the proposed sampling points.

7.2 Test Pits Excavation

A total of 25 test pits were excavated across the site and targeting the identified areas of environmental concern. Test pits were excavated using a 5.5 tonne track mounted excavator. The work was undertaken on 20 June 2016 under the supervision of suitably experienced SLR environmental engineer (Abanish Nepal).

A summary of the test pitting works is presented in Table 3. The test pit locations are presented in Figure 3.

Table 3 Soil Drilling Works Summary

Sampling Point	AEC	Depth Excavated (m)	Comments
TP01	Potential asbestos containing fill	0.7	Target depth - 0.3m into natural
TP02	Potential asbestos containing fill	0.6	Target depth - 0.4m into natural
TP03	Potential asbestos containing fill	0.5	Target depth - 0.3m into natural
TP04	Potential asbestos containing fill	0.6	Target depth - 0.55m into natural
TP05	Potential asbestos containing fill and possible past agricultural land use	0.6	Target depth - 0.6m into natural
TP06	Potential asbestos containing fill and possible past agricultural land use	0.6	Target depth - 0.6m into natural
TP07	Possible past agricultural land use	0.6	Target depth - 0.6m into natural
TP08	Possible past agricultural land use	0.6	Target depth - 0.6m into natural
TP09	Possible past agricultural land use	0.5	Target depth - 0.3m into natural
TP10	Possible past agricultural land use	0.9	Target depth - 0.3m into natural
TP11	Possible past agricultural land use	0.7	Target depth - 0.3m into natural
TP12	Possible past agricultural land use	0.6	Target depth - 0.3m into natural
TP13	Possible past agricultural land use	0.7	Target depth - 0.3m into natural

Sampling Point	AEC	Depth Excavated (m)	Comments
TP14	Possible past agricultural land use	0.6	Target depth - 0.3m into natural
TP15	Potential asbestos containing fill and possible past agricultural land use	0.8	Target depth - 0.35m into natural
TP16	Potential asbestos containing fill and possible past agricultural land use	0.6	Target depth - 0.6m into natural
TP17	Possible past agricultural land use	0.6	Target depth - 0.6m into natural
TP18	Possible past agricultural land use	0.6	Target depth - 0.4m into natural
TP19	Possible past agricultural land use	0.6	Target depth - 0.6m into natural
TP20	Potential asbestos containing fill and possible past agricultural land use	0.7	Target depth - 0.4m into natural
TP21	Possible past agricultural land use	0.7	Target depth - 0.4m into natural
TP22	Possible past agricultural land use	0.5	Target depth - 0.5m into natural
TP23	Possible past agricultural land use	0.6	Target depth - 0.3m into natural
TP24	Possible past agricultural land use	0.6	Target depth - 0.4m into natural
TP25	Potential asbestos containing fill and possible past agricultural land use	0.7	Target depth - 0.3m into natural

Observations of soils encountered at each test pit location were logged. These logs are presented in Appendix C.

7.3 Soil Sampling

Soil sampling during test pitting was undertaken by a suitably experienced SLR environmental engineer (Abanish Nepal). Samples were collected in accordance with SLR standard operating procedures, which are based on industry accepted practices. Collected samples were placed into laboratory prepared jars (with Teflon lined lids) and zip lock bags. Jars and bags were labelled with a project number, sampling point and depth interval, and the date.

Replicate soil samples were collected (in zip lock bags) for headspace screening using a calibrated photo-ionisation detector (PID).

A total of 40 soil samples and one sample of potential asbestos containing material were collected during the fieldwork.

8 RESULTS

8.1 Sub-Surface Conditions

8.1.1 Lithology

The subsurface conditions encountered during the test pitting work suggested only a low potential for fill material to be present at the site. Most of the test pits, with the exception of test pits excavated within the close proximity to the site's boundaries (TP01, TP02, TP03, TP09, TP10, TP11, TP13, TP14, TP15, TP20 and TP25), encountered natural topsoil or clay at the surface. Shallow fill material (between 0.2m to 0.6m below ground level) comprising of gravelly clay and traces of concrete, brick and asphalt fragments were encountered within the test pits excavated close to the site's boundaries. The fill material was underlain by natural clay. All test pits were terminated within the natural clay profile.

The lithology encountered within the boreholes is presented in test pit logs attached in Appendix C. Other observations are outlined below.

8.1.2 VOC monitoring and Odours

No odours were observed in test pits or the samples collected. The PID readings were 0.0 parts per million (ppm) in all samples, indicating the absence of ionisable volatile organic contaminants in the samples collected.

8.1.3 Staining

No visual evidence of staining was observed in the soil samples collected.

8.1.4 Asbestos Containing Materials

A fragment of asbestos containing materials (ACM) was observed within the fill profile in test pit TP20. Asbestos was also detected in a soil sample collected from test pit TP20.

No potential asbestos containing materials were observed in the other soil samples collected or the soils removed from the test pits.

8.2 Laboratory Results

A total of 30 selected soil samples and one sample of the fragment of fibrous cement sheeting were scheduled for laboratory analysis, based on field observations and the contaminants of concern identified for the relevant areas of environmental concern.

Copies of the laboratory certificates of analysis are presented in Appendix D. Tabulated laboratory analytical results are presented in Table LR1.

The analytical results are summarised below:

- The concentrations of heavy metals were less than the adopted acceptance criteria for all samples analysed;
- The concentrations of hydrocarbons including (TRH and BTEX) were less than the adopted acceptance criteria for all samples analysed;
- The concentrations of other organic contaminants and pesticides (PAH, OCP, OPP and PCB) were less than the adopted acceptance criteria for all samples analysed; and

- Asbestos was not reported in the samples analysed except for fill sample TP20/0-0.2 and the fragment of fibrous cement sheeting sample TP20/PACM, where 2-6mm fibre bundle and an asbestos containing material fragment were identified respectively.

9 QUALITY ASSURANCE / QUALITY CONTROL

9.1 Fieldwork

9.1.1 Soil Sampling

The sampling was undertaken

- in accordance with SLR's standard operating procedures (SOP). These procedures are based on accepted industry practice for projects of this kind; and
- by a suitably experienced SLR environmental engineer (Abanish Nepal);

Soil samples were collected from the centre of the excavator bucket. Samples were placed directly into sample jars. To mitigate potential loss of volatile contaminants from samples, the following procedures were used:

- care was taken not to homogenise soils prior to sampling;
- soils were lightly compacted into each sample jar and sealed with a Teflon lined lid, to minimise headspace; and
- samples were stored and transported in insulated containers with ice.

It is considered that the appropriate media (soil) was sampled.

It is considered that all critical soil sampling points were sampled.

Sample sizes were the same during the sampling event.

Target sampling depths were achieved, and exceeded at a number of locations.

9.1.2 Sample Identification, Storage and Transport

Soil samples were placed in acid rinsed glass jars with Teflon lined lids and zip lock plastic bags, and stored in eskies with ice, for transportation to the analytical laboratory, under chain of custody (COC) protocol. The following information was recorded on the COC:

- project job number;
- date of sampling;
- sample identifier;
- sample matrix and container type;
- preservation methods used;
- analysis requirements for each sample;
- turnaround times required for analysis; and
- names and signatures of sender and receiving laboratory.

Sample receipt advice from the receiving laboratories confirmed that the samples were received chilled.

Copies of the chain of custody documentation are presented in Appendix D for the primary and the secondary laboratories.

9.1.3 Field Duplicates

Selected samples were split in the field and placed in separate sample containers. Samples were not mixed or homogenised prior to splitting, to reduce the risk of volatile contaminant losses.

Intra-laboratory duplicates were dispatched to the primary lab and inter-laboratory triplicates were dispatched to the secondary laboratory.

A total of thirty (30) primary soil samples were analysed for the project.

Sample duplicates were analysed at a rate of 10.0% for TRH, BTEX, OCP, OPP and PCB and at a rate of 7.0% PAH and heavy metals of the total primary samples analysed. This rate exceeds the minimum analysis rate of 5%.

Sample triplicates were analysed at a rate of 10.0% for TRH, BTEX, OCP, OPP and PCB and at a rate of 7.0% PAH and heavy metals of the total primary samples analysed. This rate exceeds the minimum analysis rate of 5%.

The parent / duplicate sample relationships and associated laboratory analytical data, is presented in Table LR2.

The relative percentage difference (RPD) between the parent sample and duplicates analysed, were all within the RPD acceptance criteria.

9.1.4 Trip Blanks and Trip Spikes

One trip spike was used during the fieldwork and scheduled for BTEXN analysis. The recovery results of the spike analysis were within the adopted acceptance criterion, indicating that sample preservation procedures during storage and transport were adequate for the mitigation of volatile sample losses from sample containers.

One trip blank was used during the fieldwork and scheduled for BTEXN analysis. The results of the blank analysis were within the adopted acceptance criterion, indicating that the potential for cross contamination of volatile contaminants between samples, during storage and transport, was negligible.

The trip blank and trip spike laboratory analytical data, is summarised in Table LR3.

9.1.5 Rinsate Blanks

Disposable sampling equipment were used during the fieldwork eliminating the need to collect a rinsate blank sample. Also, given that the soil samples were collected from the centre of the excavator bucket, the excavator bucket was not decontaminated between the sampling points. The likelihood of cross contamination between each test pit location was negligible as the soils sampled from the excavator bucket was not in contact with the walls of the bucket nor with the soils that have fallen from the side walls of the test pit.

9.1.6 Calibration

One photo-ionisation detector (PID) was used during the fieldwork. A copy of the daily calibration record for the PID is presented in Appendix E.

9.2 Laboratory

Copies of the laboratory certificates of analysis, data quality objective reports, sample receipt advice and chain of custody records for the primary and secondary laboratories are presented in Appendix D.

The results of an assessment of laboratory analytical data quality indicate that:

- Laboratory analysis of the samples was undertaken by NATA accredited environmental testing laboratories (SGS Environmental, Alexandria NSW and Eurofins MGT, Lane Cove West NSW);
- The identified contaminants of potential concern were analysed for;
- The laboratory analytical methods and laboratory limits of reporting were appropriate for the objective of this project;
- The laboratory analytical methods and laboratory limits of reporting were consistent between the primary and secondary analytical laboratories;
- The same analytical laboratory was used for analysing all primary samples;
- Same analytical laboratory was used for analysing all duplicate samples;
- Same analytical laboratory was used for analysing all triplicate samples
- Samples were extracted and analysed within applicable laboratory holding times;
- The laboratory sample surrogate recoveries were within laboratory acceptance criteria;
- The laboratory method blank analytical results were less than the laboratory limit of reporting;
- The relative percentage differences (RPD) between samples and laboratory prepared duplicates, were within the laboratories adopted acceptance criteria;
- The laboratory control sample recoveries were within the laboratory's adopted acceptance criteria;
- The laboratory matrix spike recoveries were within the laboratory's adopted acceptance criteria, with the following exception:
    - Two metal analyses in SGS batch SE153806. The laboratory reported that recovery failed acceptance criteria due to matrix interference.

A copy of the laboratory data quality indicators is presented in Appendix D.

9.3 Data Quality Indicators

The assessment of field and laboratory data was compared to the data quality indicators adopted for the project. This assessment is presented in Table 4.

Table 4 Data Quality Indicator Assessment Results

Completeness		
Field Considerations	*Laboratory Considerations*	*Comment*
All critical locations sampled All samples collected (from grid and at depth) SOPs appropriate and complied with Experienced sampler Documentation correct	All critical samples analysed in accordance with the data quality objectives All analytes analysed in accordance with the data quality objectives Appropriate methods and LORs Sample documentation complete Sample holding times complied with	Acceptable
Comparability		

Field Considerations	*Laboratory Considerations*	*Comment*
Same SOPs used on each occasion Experienced sampler Climatic conditions (temperature, rainfall, wind) Same types of samples collected (filtered, size fractions)	Sample analytical methods used (including clean-up) Sample LORs (justify/quantify if different) Same laboratories (justify/quantify if different) Same units (justify/quantify if different)	Acceptable
Representativeness		
Field Considerations	*Laboratory Considerations*	*Comment*
Appropriate media sampled in accordance with the data quality objectives All media identified in DQO sampled	All samples analysed in accordance with the data quality objectives	Acceptable
Precision		
Field Considerations	*Laboratory Considerations*	*Comment*
SOPs appropriate and complied with	Analysis of: • laboratory and inter laboratory duplicates • field duplicates • laboratory-prepared volatile trip spikes	Acceptable
Accuracy (bias)		
Field Considerations	*Laboratory Considerations*	*Comment*

SOPs appropriate and complied with	Analysis of: • field blanks • rinsate blanks • reagent blanks • method blanks • matrix spikes • matrix spike duplicates • surrogate spikes • reference materials • laboratory control samples • laboratory-prepared spikes	Acceptable

The data is therefore considered to be adequately complete, comparable, representative, precise and accurate for the purpose of interpretation within the objective of this project.

10 DISCUSSION

The field observations and laboratory analytical results have been used for the purposes of assessing the contamination status of the site, in the context of the proposed re-development (residential land use scenario).

10.1 Presence of Contaminants

10.1.1 Contaminants in Soil

Asbestos fibre bundles were detected in the fill material sample collected from test pit TP20. One fragment of ACM was also observed in test pit TP20. No other samples reported asbestos. A number of fragments of fibrous cement sheet that have the potential to contain asbestos were also observed along the site's southern, south-western, western and south-eastern boundaries during the site walkover. SLR considers that the potential for asbestos to be present in the site soils is low given that:

1) there is limited fill material has been observed on the site, and

2) the fill material observed did not contain significant demolition rubble.

The concentrations of chemical contaminants (heavy metals, petroleum hydrocarbon, pesticides, polyaromatic hydrocarbons and polychlorinated biphenyls) reported in the samples were below the adopted soil investigation levels for the proposed residential land use.

Based on the field observations and laboratory analytical results, SLR considers that the potential for the site soils to contain significant widespread contamination is low to negligible. However, the observed fragments of fibrous cement sheeting observed on the soil surface, along the site boundaries should be noted.

10.2 Risk to Human Health

10.2.1 Contaminants in Soil

The concentrations of organic and inorganic contaminants of potential concern reported in the soil samples analysed were below the adopted soil investigation levels for the proposed residential land use. As such, SLR considers that these contaminants are unlikely to pose a risk to human health.

The identification of fibre bundles in the soil sample collected from test pit TP20 is unlikely to pose a significant risk to future site users or construction workers for the following reasons:

- The reported asbestos is likely to be an isolated surficial occurrence, and is unlikely to represent widespread asbestos contaminated soils;
- Given that the test pit location TP20 is located within the very close proximity to the proposed building foot print near the southern boundary of the site, the presence of fibre bundles and the asbestos impacted soils in test pit TP20 is likely to be excavated and removed from site as part of the foundation excavation; and
- The site is subject to undergo extensive redevelopment comprising of excavation of up to 7m of soils and rock. Site clearance works are likely to take place prior to the commencement of construction excavation on site. In construction scenarios of this nature, all site soils to depths up to 0.2m from the existing ground level surface are likely to be disturbed, stripped and taken offsite for disposal suggesting that all asbestos fragments is likely to be removed from the site.

Additionally, fragments of fibrous cement sheeting were observed on the site surface, along the site boundaries. Whilst they are unlikely to pose a risk of harm in its current condition, if not removed appropriately these fragments and sheet could break during the proposed development works and pose a risk to construction workers and future site users. SLR recommends that fragments of fibrous cement sheeting be removed offsite by a licensed asbestos contractor, and an Asbestos Clearance Certificate be issued by a qualified occupational hygienist.

Overall, SLR considers that the contamination status of the soils is unlikely to pose an unacceptable risk to human health, in the context of the proposed residential land use, subject to the removal of the identified asbestos impacted soils at test pit TP20 and the fragments of fibrous cement sheeting.

10.3 Site Suitability

SLR considers that the site is suitable for the proposed residential land use, subject to the following (refer to the recommendations in Section 11):

- The removal of fragments of fibrous cement sheeting observed along the site surface along the boundaries, **prior to site clearing works**; and
- The removal of asbestos impacted surficial soils at TP20, **prior to site clearing works**.

11 CONCLUSIONS AND RECOMMENDATIONS

Based on a review of information presented in the Stage 1 PSI (SLR, 2016), observations made during fieldwork, results of laboratory analysis and the proposed redevelopment of the site, SLR concludes that:

- Potential for the site soils to contain significant, widespread contamination is low to negligible. SLR considers that the contamination status of the soils are unlikely to pose an unacceptable risk to human health, in the context of the proposed residential land use;
- SLR considers that the site is suitable for the proposed residential land use, subject to the following recommendations being addressed at the construction phase.

SLR recommends that the following be conducted prior to site clearing works, to minimise potential pose a contamination risk to construction workers and site users:

- The removal of fragments of fibrous cement sheeting observed along the site surface along the boundaries; and
- The removal of asbestos impacted surficial soils at TP20 (on a 5m radius around the location of TP20, to a depth of 200mm).

The above works should be conducted by appropriately licensed asbestos contractors, under the supervision of a qualified environmental consultant. Asbestos clearance certificates should be issued by a qualified occupational hygienist for areas where asbestos or asbestos impacted soils have been removed, prior to the commencement of site clearance or bulk excavation works.

This report must be read in conjunction with the limitations set out in Section 13.

12 REFERENCES

Friebel, E & Nadebaum, P 2011, 'Health screening levels for petroleum hydrocarbons in soil and groundwater. Part 2: Application document', CAC CARE Technical Report No. 10

National Environment Protection Council (NEPC) 1999a, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'.

NSW DEC 2006, 'Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition)'.

NSW OEH 2011, 'Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites'.

SLR 2016, 'Stage 1 Preliminary Site Investigation, Residential Aged Care Facilities, 19-25 Booralla Road, Edensor Park NSW', Report Number: 610.15583-R1 dated 11 February 2016, Version: Revision 1.

NSW DECCW, 'Vapour Intrusion: Technical Practice Note', dated 2010.

13 LIMITATIONS

This report is for the exclusive use of Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR Consulting.

This report has been prepared based on the scope of services (see below). SLR Consulting cannot be held responsible to the Client and/or others for any matters outside the agreed scope of services. Other parties should not rely upon this report and should make their own enquiries and obtain independent advice in relation to such matters.

This report has been prepared by SLR Consulting with reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client. Information reported herein is based on the interpretation of data collected (data, surveys, analyses, designs, plans and other information), which has been accepted in good faith as being accurate and valid.

It should be noted that many investigations are based upon an assessment of potentially contaminating processes which may have occurred historically on the site. This assessment is based upon historical records associated with the site. Such records may be inaccurate, absent or contradictory. In addition documents may exist which are not readily available for public viewing.

Except where it has been stated in this report, SLR Consulting has not verified the accuracy or completeness of the data relied upon. Statements, opinions, facts, information, conclusions and/or recommendations made in this report ("conclusions") are based in whole or part on the data obtained, those conclusions are contingent upon the accuracy and completeness of the data. SLR Consulting cannot be held liable should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to SLR Consulting leading to incorrect conclusions.

Should the report be reviewed for any reason, the report must be reviewed in its entirety and in conjunction with the associated Scope of Services. It should be understood that where a report has been developed for a specific purpose, for example a due diligence report for a property vendor, it may not be suitable for other purposes such as satisfying the needs of a purchaser or assessing contamination risks for classifying the site. The report should not be applied for any purpose other than that originally specified at the time the report was issued.

Report logs, figures, laboratory data, drawings, etc. are generated for this report by SLR consultants (unless otherwise stated) based on their individual interpretation of the site conditions at the time the site visit was undertaken. Although SLR consultants undergo training to achieve a standard of field reporting, individual interpretation still varies slightly. Information should not under any circumstances be redrawn for inclusion in other documents or separated from this report in any way.

			Description	TP01/0.0-0.2	TP02/0.0-0.2	TP03/0.0-0.2	TP04/0.05-0.25	TP05/0.05-0.25	TP06/0.0-0.2	TP07/0.0-0.2	TP08/0.05-0.25	TP09/0.0-0.2	TP09/0.2-0.4	TP10/0.0-0.2	TP11/0.0-0.2
			Sample Date	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016
			Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte Name	**Units**	**Direct Contact HIL - Residential D (mg/kg)**	**Reporting Limit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Heavy Metals															
Arsenic, As	mg/kg	100	3	**17**	**34**	**6**	**6**	**5**	**7**	**8**	**4**	**7**	**5**	**7**	**8**
Cadmium, Cd	mg/kg	20	0.3	**0.6**	**0.8**	**0.3**	**0.5**	**0.3**	**0.4**	**0.5**	<0.3	**0.4**	**0.4**	**0.4**	**0.4**
Chromium, Cr	mg/kg	100	0.3	**15**	**17**	**11**	**14**	**13**	**15**	**15**	**12**	**16**	**13**	**13**	**16**
Copper, Cu	mg/kg	6000	0.5	**43**	**96**	**14**	**18**	**17**	**17**	**24**	**18**	**16**	**22**	**22**	**18**
Lead, Pb	mg/kg	300	1	**53**	**100**	**20**	**26**	**17**	**18**	**21**	**13**	**18**	**16**	**19**	**19**
Nickel, Ni	mg/kg	400	0.5	**8.9**	**7.5**	**6.1**	**8.1**	**13**	**4.5**	**5.1**	**3.5**	**5.7**	**5.1**	**6.5**	**6.9**
Zinc, Zn	mg/kg	7400	0.5	**54**	**52**	**28**	**49**	**36**	**62**	**33**	**22**	**27**	**36**	**41**	**32**
Mercury	mg/kg	40	0.01	**0.03**	**0.05**	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01	**0.02**	<0.01	<0.01	**0.01**
BTEX															
Benzene	mg/kg	100	0.1	<0.1	--	<0.1	--	--	--	<0.1	--	--	--	--	<0.1
Toluene	mg/kg	14000	0.1	<0.1	--	<0.1	--	--	--	<0.1	--	--	--	--	<0.1
Ethylbenzene	mg/kg	4500	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
o-xylene	mg/kg		0.1	<0.1	--	<0.1	--	--	--	<0.1	--	--	--	--	<0.1
Total Xylenes	mg/kg	12000	0.3	<0.3	--	<0.3	--	--	--	<0.3	--	--	--	--	<0.3
TRH															
TRH C6-C9	mg/kg		20	<20	--	<20	--	--	--	<20	--	--	--	--	<20
TRH C6-C10	mg/kg	4400	25	<25	--	<25	--	--	--	<25	--	--	--	--	<25
TRH C6-C10 minus BTEX (F1)	mg/kg		25	<25	--	<25	--	--	--	<25	--	--	--	--	<25
TRH >C10-C16 (F2)	mg/kg		25	<25	--	<25	--	--	--	<25	--	--	--	--	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	3300	25	<25	--	<25	--	--	--	<25	--	--	--	--	<25
TRH >C16-C34 (F3)	mg/kg	4500	90	<90	--	<90	--	--	--	<90	--	--	--	--	<90
TRH >C34-C40 (F4)	mg/kg	6300	120	<120	--	<120	--	--	--	<120	--	--	--	--	<120
PAH															
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total PAH (18)	mg/kg	300	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg		8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Total OCP	mg/kg	6-300	0.1-0.2	<0.1	--	<0.1	--	--	--	<0.1	--	--	--	--	<0.1
Total OPP	mg/kg		0.2-0.5	<0.2	--	<0.2	--	--	--	<0.2	--	--	--	--	<0.2
Total PCBs (Arochlors)	mg/kg	1	1	<1	--	<1	--	--	--	<1	--	--	--	--	<1
Asbestos	No Unit	Non detect	Detection	No	No	No	No	No	No	No	No	No	No	No	No

Analyte Name	Units	Direct Contact HIL - Residential D (mg/kg)	Reporting Limit	Description	TP12/0.05-0.25	TP13/0.0-0.2	TP14/0.0-0.2	TP15/0.0-0.2	TP15/0.45-0.65	TP16/0.0-0.2	TP17/0.0-0.2	TP18/0.0-0.2	TP18/0.2-0.4	TP19/0.0-0.2	TP20/0.0-0.2	TP21/0.0-0.2
				Sample Date	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016
				Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Heavy Metals																
Arsenic, As	mg/kg	100	3		**9**	**7**	**8**	**8**	**6**	**7**	**6**	**7**	**7**	**8**	**7**	**9**
Cadmium, Cd	mg/kg	20	0.3		**0.5**	**0.4**	**0.6**	**0.6**	**0.3**	**0.4**	**0.4**	**0.5**	**0.5**	**0.5**	**0.9**	**0.7**
Chromium, Cr	mg/kg	100	0.3		**16**	**15**	**15**	**18**	**12**	**14**	**13**	**13**	**14**	**17**	**22**	**20**
Copper, Cu	mg/kg	6000	0.5		**26**	**25**	**31**	**28**	**24**	**17**	**29**	**28**	**25**	**29**	**26**	**29**
Lead, Pb	mg/kg	300	1		**25**	**18**	**23**	**48**	**16**	**38**	**18**	**27**	**21**	**25**	**73**	**25**
Nickel, Ni	mg/kg	400	0.5		**9.2**	**7.4**	**7.0**	**9.4**	**5.2**	**5.2**	**8.5**	**8.2**	**7.8**	**11**	**15**	**10**
Zinc, Zn	mg/kg	7400	0.5		**36**	**41**	**56**	**99**	**41**	**61**	**44**	**67**	**37**	**64**	**430**	**47**
Mercury	mg/kg	40	0.01		<0.01	**0.04**	**0.02**	**0.04**	<0.01	**0.03**	**0.02**	**0.03**	<0.01	**0.01**	**0.05**	**0.03**
BTEX																
Benzene	mg/kg	100	0.1		--	--	<0.1	<0.1	<0.1	--	--	--	--	<0.1	--	--
Toluene	mg/kg	14000	0.1		--	--	<0.1	<0.1	<0.1	--	--	--	--	<0.1	--	--
Ethylbenzene	mg/kg	4500	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	--	--
o-xylene	mg/kg		0.1		--	--	<0.1	<0.1	<0.1	--	--	--	--	<0.1	--	--
Total Xylenes	mg/kg	12000	0.3		--	--	<0.3	<0.3	<0.3	--	--	--	--	<0.3	--	--
TRH																
TRH C6-C9	mg/kg		20		--	--	<20	<20	<20	--	--	--	--	<20	--	--
TRH C6-C10	mg/kg	4400	25		--	--	<25	<25	<25	--	--	--	--	<25	--	--
TRH C6-C10 minus BTEX (F1)	mg/kg		25		--	--	<25	<25	<25	--	--	--	--	<25	--	--
TRH >C10-C16 (F2)	mg/kg		25		--	--	<25	<25	<25	--	--	--	--	<25	--	--
TRH >C10-C16 (F2) - Naphthalene	mg/kg	3300	25		--	--	<25	<25	<25	--	--	--	--	<25	--	--
TRH >C16-C34 (F3)	mg/kg	4500	90		--	--	<90	<90	<90	--	--	--	--	<90	--	--
TRH >C34-C40 (F4)	mg/kg	6300	120		--	--	<120	<120	<120	--	--	--	--	<120	--	--
PAH																
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	3	0.3		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total PAH (18)	mg/kg	300	0.8		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg		8		<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Total OCP	mg/kg	6-300	0.1-0.2		--	--	<0.1	<0.1	<0.1	--	--	--	--	<0.1	--	--
Total OPP	mg/kg		0.2-0.5		--	--	<0.2	<0.2	<0.2	--	--	--	--	<0.2	--	--
Total PCBs (Arochlors)	mg/kg	1	1		--	--	<1	<1	<1	--	--	--	--	<1	--	--
Asbestos	No Unit	Non detect	Detection		No	No	No	No	--	No	No	No	--	No	**Yes**	No

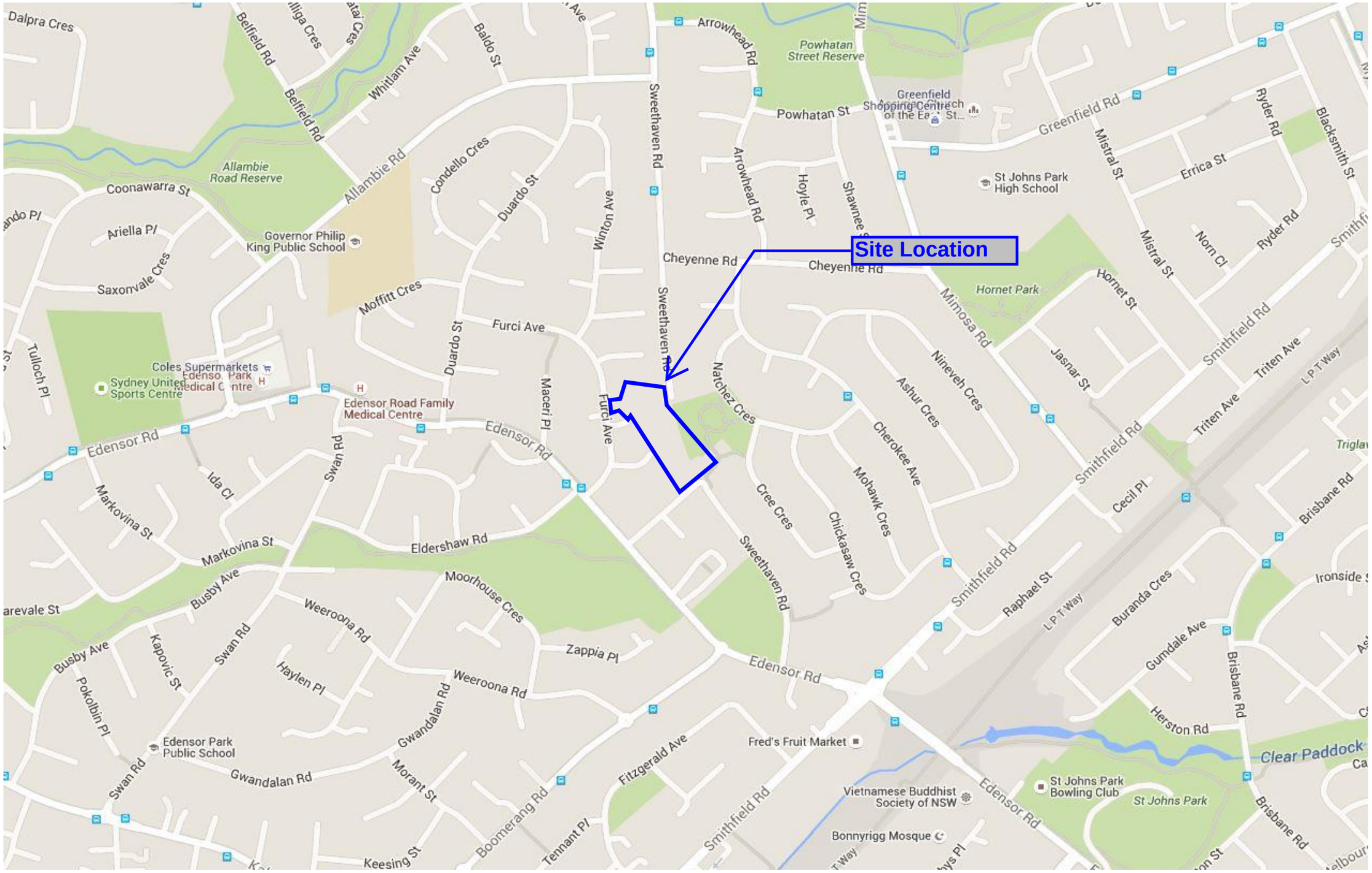
			Description	TP22/0.0-0.2	TP23/0.0-0.2	TP24/0.0-0.2	TP25/0.0-0.2	TP25/0.4-0.6	TP20/PACM	DUP01	Dup03
			Sample Date	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016	20-6-2016
			Matrix	Soil	Soil	Soil	Soil	Soil	Material	Soil	Soil
Analyte Name	**Units**	**Direct Contact HIL - Residential D (mg/kg)**	**Reporting Limit**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Heavy Metals											
Arsenic, As	mg/kg	100	3	**7**	**7**	**8**	**8**	**7**	--	**7**	**6**
Cadmium, Cd	mg/kg	20	0.3	**0.5**	**0.7**	**0.5**	**0.5**	<0.3	--	**0.7**	**0.3**
Chromium, Cr	mg/kg	100	0.3	**15**	**13**	**15**	**14**	**15**	--	**16**	**14**
Copper, Cu	mg/kg	6000	0.5	**25**	**21**	**22**	**17**	**15**	--	**29**	**15**
Lead, Pb	mg/kg	300	1	**21**	**25**	**21**	**27**	**15**	--	**60**	**15**
Nickel, Ni	mg/kg	400	0.5	**7.1**	**8.7**	**7.7**	**8.9**	**6.7**	--	**9.7**	**6.5**
Zinc, Zn	mg/kg	7400	0.5	**34**	**45**	**45**	**57**	**27**	--	**110**	**30**
Mercury	mg/kg	40	0.01	**0.02**	**0.04**	**0.03**	**0.03**	**0.01**	--	**0.03**	**0.01**
BTEX											
Benzene	mg/kg	100	0.1	<0.1	--	<0.1	--	--	--	<0.1	--
Toluene	mg/kg	14000	0.1	<0.1	--	<0.1	--	--	--	<0.1	--
Ethylbenzene	mg/kg	4500	0.1	<0.1	--	<0.1	--	--	--	<0.1	--
m/p-xylene	mg/kg		0.2	<0.2	--	<0.2	--	--	--	<0.2	--
o-xylene	mg/kg		0.1	<0.1	--	<0.1	--	--	--	<0.1	--
Total Xylenes	mg/kg	12000	0.3	<0.3	--	<0.3	--	--	--	<0.3	--
TRH											
TRH C6-C9	mg/kg		20	<20	--	<20	--	--	--	<20	--
TRH C6-C10	mg/kg	4400	25	<25	--	<25	--	--	--	<25	--
TRH C6-C10 minus BTEX (F1)	mg/kg		25	<25	--	<25	--	--	--	<25	--
TRH >C10-C16 (F2)	mg/kg		25	<25	--	<25	--	--	--	<25	--
TRH >C10-C16 (F2) - Naphthalene	mg/kg	3300	25	<25	--	<25	--	--	--	<25	--
TRH >C16-C34 (F3)	mg/kg	4500	90	<90	--	<90	--	--	--	<90	--
TRH >C34-C40 (F4)	mg/kg	6300	120	<120	--	<120	--	--	--	<120	--
PAH											
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	--	<0.3	<0.3
Total PAH (18)	mg/kg	300	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg		8	<8	<8	<8	<8	<8	--	<8	<8
Total OCP	mg/kg	6-300	0.1-0.2	<0.1	--	<0.1	--	--	--	<0.1	--
Total OPP	mg/kg		0.2-0.5	<0.2	--	<0.2	--	--	--	<0.2	--
Total PCBs (Arochlors)	mg/kg	1	1	<1	--	<1	--	--	--	<1	--
Asbestos	No Unit	Non detect	Detection	No	No	No	No	No	**Yes**	--	--

		Sample Name	SE153862.016	SE153862.032				SE153862.030	SE153862.035			
		Description	TP15/0.0-0.2	DUP01		DUP01A		TP25/0.4-0.6	DUP03		DUP03A	
		Sample Date	20-6-2016	20-6-2016	RPD (%)	20-6-2016	RPD (%)	20-6-2016	20-6-2016	RPD (%)	20-6-2016	RPD (%)
		Matrix	Soil	Soil		Soil		Soil	Soil		Soil	
Analyte Name	**Units**	**Reporting Limit**	**Result**	**Result**		**Result**		**Result**	**Result**		**Result**	
Metals												
Arsenic, As	mg/kg	1	8	7	13%	9.3	15%	7	6	15%	7.7	10%
Cadmium, Cd	mg/kg	0.3	0.6	0.7	15%	< 0.4	--	<0.3	0.3	--	< 0.4	--
Chromium, Cr	mg/kg	0.5	18	16	12%	19	5%	15	14	7%	16	6%
Copper, Cu	mg/kg	0.5	28	29	4%	28	0%	15	15	0%	16	6%
Lead, Pb	mg/kg	1	48	60	22%	61	24%	15	15	0%	15	0%
Nickel, Ni	mg/kg	0.5	9.4	9.7	3%	11	16%	6.7	6.5	3%	7.3	9%
Zinc, Zn	mg/kg	2	99	110	11%	130	27%	27	30	11%	28	4%
Mercury	mg/kg	0.05	0.04	0.03	29%	0.05	22%	0.01	0.01	0%	<0.05	--
BTEX												
Benzene	mg/kg	0.1	<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	--	<0.1	--
Ethylbenzene	mg/kg	0.1	<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	--	<0.2	--
o-xylene	mg/kg	0.1	<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	--	<0.3	--
							--					
TRH												
TRH C6-C9	mg/kg	20	<20	<20	--	<20	--	<20	<20	--	<20	--
TRH C6-C10	mg/kg	25	<25	<25	--	<20	--	<25	<25	--	<20	--
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	--	<20	--	<25	<25	--	<20	--
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	--	<50	--	<25	<25	--	<50	--
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	--	<50	--	<25	<25	--	<50	--
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	--	<100	--	<90	<90	--	<100	--
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	--	<100	--	<120	<120	--	<100	--
PAH												
Naphthalene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	--	--	--	<0.1	<0.1	--	--	--
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	--	--	--	<0.1	<0.1	--	--	--
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Acenaphthene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Fluorene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Phenanthrene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Anthracene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Fluoranthene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Pyrene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Chrysene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	--	<0.5	--	<0.1	<0.1	--	<0.5	--
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.3	<0.3	<0.3	--	<0.5	--	<0.3	<0.3	--	<0.5	--
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	--	0.6	--	<0.3	<0.3	--	0.6	--
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	--	1.2	--	<0.2	<0.2	--	1.2	--
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	--	<0.5	--	<0.8	<0.8	--	<0.5	--
Total PAH (NEPM/WHO 16)	mg/kg	8	<8	<8	--	--	--	<8	<8	--	--	--
Total OCP	mg/kg	0.05-0.2	ND	ND	--	ND	--	--	--	--	--	--
Total OPP	mg/kg	0.2-2.0	ND	ND	--	ND	--	--	--	--	--	--
Total PCB	mg/kg	0.5-1.0	ND	ND	--	ND	--	--	--	--	--	--

-- not applicable
ND non detect

		Sample Name	SE153862.033	SE153862.034
		Description	TRIP BLANK	TRIP SPIKE
		Sample Date	16-6-2016	16-6-2016
		Matrix	Soil	Soil
Analyte Name	**Units**	**Reporting Limit**	**Result**	**Result**
Benzene	mg/kg	0.1	<0.1	[90%]
Toluene	mg/kg	0.1	<0.1	[99%]
Ethylbenzene	mg/kg	0.1	<0.1	[82%]
m/p-xylene	mg/kg	0.2	<0.2	[87%]
o-xylene	mg/kg	0.1	<0.1	[91%]

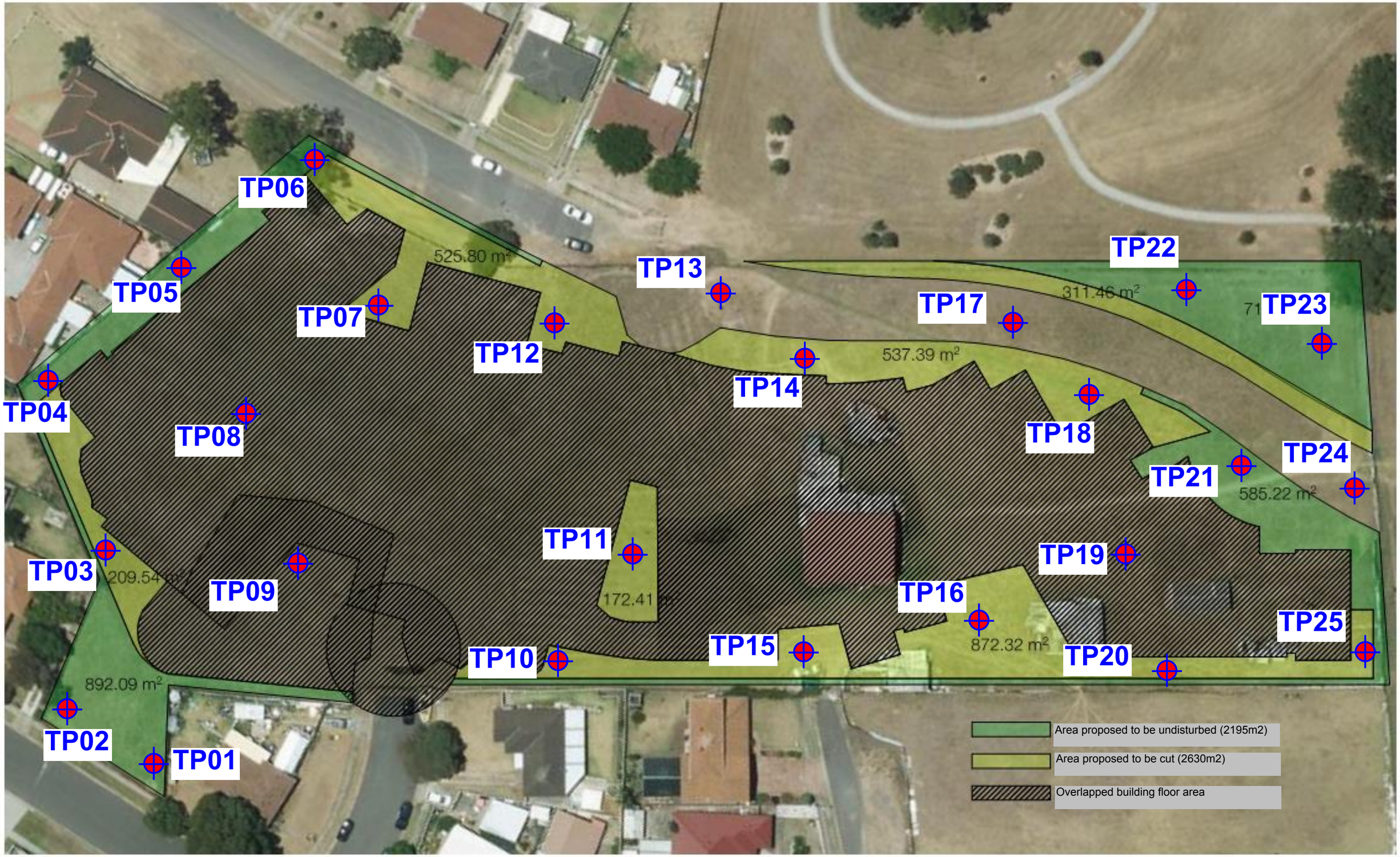
Figure 1 – Site Locality
Report Number 610.15583-R3



SLR	2 Lincoln Street, Lane Cove, NSW 2066 Australia	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	**Stage 2 DSI** 610.15583.00200	**19-25 Booralla Road, Edensor Park NSW** **Lot 2 in DP 833184**	1 July 2016	N	**Figure 1** **Site Location Plan**

SLR	2 Lincoln Street, Lane Cove, NSW 2066 Australia	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	**Stage 2 DSI** 610.15583.00200	**19-25 Booralla Road, Edensor Park NSW** **Lot 2 in DP 833184**	1 July 2016	N	**Figure 2** **Site Layout**

Figure 3 – Test Pit Locations
Report Number 610.15583-R3



SLR	2 Lincoln Street, Lane Cove, NSW 2066 Australia	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	**Stage 2 DSI** 610.15583.00200	**19-25 Booralla Road, Edensor Park NSW** **Lot 2 in DP 833184**	1 July 2016	N	**Figure 3** **Test Pits Location**

COPIES OF THE PROPOSED DEVELOPMENT PLANS

preliminary not for construction

SWEETHAVEN ROAD

missing section sweethaven road to be built by council or as negotiated with the applicant

secure staff parking
visitor parking
maintanace
store
ambulance bay
bus parking 20 seat
delivery
fire stair
lobby
lift
gate
pump room
OSD TANK
A: 125.63 m²
RL 46,890
RL 46,700
RL 50,300
1:40
1:12
1:6.5
1:8
1:20 MAX
1:5
1:10
1:1

D.P. 264351
D.P. 148801
D.P. 263240
D.P. 12929
FURCI AVENUE
PLACE

parking calculation

Level	Description	stage 1	stage 2	proposed	required
Basement					
	Visitor Parking	28	0	28	28
	Secure Staff Parking	43	0	38	38
	Ambulance Parking	1	0	1	1
	Bus parking (20 seat)	1	0	1	0
	Delivery Bays	2	0	2	2

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general notes

1. figured dimensions take precedence over scaled drawings.
2. contractors to check and verify all levels datum and dimensions on site
3. all materials and workmanship to be in accordance with current written manufacturers instructions local regulations and SAA codes
4. conflicting information to be brought to notice of the architect and clarification sought before proceeding with any works
5. all drawings are not for construction and are subject to further design development, consultant input, council and legislative requirements.

finishes

BDRY	boundary	DPMS	downpipe & sprayder
BOE	brick on edge	EGL	existing ground line
BPB	bagged paint brickwork	EMS	electrical meterboard
CCR	corrugated steel roof	FB	face brick
CF	compressed fibre	FC	fibre cement
CFC	comp. fibre cement	FFL	finished floor level
CONC	concrete	F	fixed glass
CJ	control joint	FGL	finished ground line
CT	ceramic tile	GM	gas meter
CPT	carpet	HWS	hot water service
CRT	concrete roof tile	PB	plasterboard
CQG	colorbond quad gutter	PCR	painted cement render
DP	downpipe	PFB	painted face brick
PFC	painted fibre cement	
PWB	painted weatherboard	
SC	soldier course	
TFB	timber floor boards	
TRC	terracotta roof tiles	
v	vinyl	

fixtures

b	basin	o/h	overhead
b/head	bulkhead	p	pantry
cs	cavity sliding door	ref	refrigerator
dry	dryer	rh	rangehood
dw	dishwasher	sd	sliding door
exh	exhaust fan	sh	soap holder
fr	freezer	ss	stainless steel sink
fw	floor waste	st	stove
hc	hollow core door	shwr	shower
hr	hot rail	t	toilet
lo	letterbox	tr	towel rail
m	mirror	trh	toilet roll holder
mw	microwave	typ.	typical
wc	water closet		
wm	washing machine		
vp	vent pipe		
ub	under bench oven		
ov	oven cooker		
wo	wall oven		
rl	reduced level		
ffl	finished floor level		
sstl	structural slab level		
fow	top of wall		
typ	typical		

client

date	issue	amendment
27/11/15	a	issue for consultant coordination
19/12/15	b	issue for consultant coordination
02/02/16	c	issue for consultant coordination
16/02/16	d	issued for DA

title

basement plan

edensor garden aged care
client | Edensor Park

project ref: KRE14090
drawn: dh | qc | ja
checked: st
scale: 1:100 @ a0

DA 1000

ISSUE D

preliminary not for construction



SWEETHAVEN ROAD

missing section sweethaven road to be built by council or as negotiated with the applicant

721.75 m²

crestani place to be constructed by council

BOORALLA ROAD

FURCI AVENUE

SCARGELLA PLACE

CRESTANI PLACE

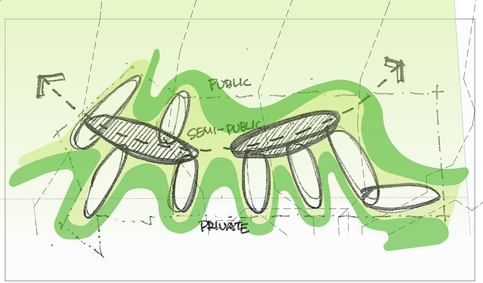
terrace

putting green

ceremonial lawn

RL 50,000 · RL 50,400 · RL 50,300 · RL 49,900

1:12 · 1:6.5 · 1:8 · 1:20 MAX



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general notes

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finishes

BDRY	boundary	DPdS	downpipe & spreader
BOE	brick on edge	EGL	existing ground line
CBW	concrete block brickwork	FC	fibre cement weatherboard
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DP	downpipe	PFB	painted face brick
PFC	painted fibre cement
PWB	painted weatherboard
RW	rainwater
TFB	timber floor boards
TRC	terracotta roof tiles
V	vinyl

fixtures

b	basin	o/h	overhead
b/head	bulkhead	p	pantry
cb	cupboard under	pg	pergola/pot
dry	dryer	rh	rangehood
dw	dishwasher	sc	solid core door
exh	exhaust fan	sh	soap holder
f	freezer	ss	stainless steel sink
fe	fire hose reel	st	shelf
hc	hollow core door	shwr	shower
hr	hairdryer	t	tub
in	intertenancy	tr	towel rail
m	microwave	tph	toilet roll holder
mw	microwave	tph	hybrid

wc	water closet
wm	washing machine
ub	under bench
ubl	under bench oven
wm	water meter
ws	wall oven
#	reduced level
ffl	finished floor level
sstl	structural slab level
tow	top of wall
typ	typical

client

date	issue	amendment
27/11/15	a	issue for consultant coordination
18/12/15	b	issue for consultant coordination
02/02/16	c	issue for consultant coordination
16/02/16	d	issued for DA

title

lower ground floor plan

edensor garden aged care
client | Edensor Park

project ref:	KRE14090
drawn:	dh | qc | js
checked:	st
scale:	1:100 @ a0

DA 1100 · issue D

SAQP

global environmental solutions

Sampling, Analytical and Quality Plan

Proposed Stage 2 Detailed Site Investigation

19-25 Booralla Road, Edensor Park NSW

Report Number 610.15583 - R2

3 June 2016

Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust

Suite 1, 355 New South Head Road

Double Bay, NSW 2023

Version: Revision 0

Sampling, Analytical and Quality Plan

Proposed Stage 2 Detailed Site Investigation

19-25 Booralla Road, Edensor Park NSW

PREPARED BY:

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DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
610.15583 - R2	Revision 0	3 June 2016	Abanish Nepal	Nalin De Silva	

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TABLES

FIGURES

APPENDICES

1 INTRODUCTION

SLR Consulting Australia Pty Ltd (SLR) was engaged by Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust (the client) to undertake a Stage 2 Detailed Site Investigation (DSI) at the site located at 19-25 Booralla Road, Edensor Park, New South Wales (NSW) (the site).

This report presents a Sampling, Analytical and Quality Plan (SAQP), which includes the relevant background information, proposed sampling strategy, rationale for the sampling and analysis, methodology, and quality assurance and quality control measures applicable for the proposed Stage 2 DSI contamination assessment.

2 BACKGROUND

2.1 Site identification

The site is formerly identified as Lot 2 in DP 833184. The site location and site layout are illustrated on Figure 1 and Figure 2 (attached). The site occupies an area of approximately 1.5Hectares (Ha).

2.2 Project Background

SLR had previously provided a consultancy services to the Client in undertaking a Stage 1 Preliminary Site Investigation (PSI) to assess the potential for contamination to be present at the site and the suitability of the site for the proposed residential aged care facilities. A Stage 1 PSI report (SLR, 2016[1]) concluded that the site can be made suitable for the proposed development, subject to the undertaking of a stage 2 DSI, and associated remedial works (if warranted). The Stage 1 PSI (SLR, 2016) report further concluded that the stage 2 DSI should include the assessment of the proposed building footprint area as well as the areas outside of the proposed building footprint.

SLR understands that the Client is proposing to undertake the proposed development work over two stages which will include construction of two – two storey buildings with one level of basement and lower ground floor levels. Excavation of up to 7 metre (m) soil and rock is expected as part of basement construction.

2.3 Review of Preliminary Site Investigation (SLR, 2016)

SLR prepared a Stage 1 Preliminary Site Investigation (PSI) report in 2016. The Stage 1 PSI (SLR, 2016) identified two areas of environmental concerns mainly associated with the agricultural land use in the past and the potential asbestos containing materials observed on site.

The Stage 1 PSI (SLR, 2016) concluded the following:

- The potential for significant widespread contamination to be present on site soils that will be located outside the proposed building footprint, as a result of past and present land use activities, is considered to be low. However, asbestos contamination associated with the current and former sheds was observed on site during the site walkover. The potential for isolated chemical contamination (pesticides etc.) in the vicinity of the former and current sheds cannot be precluded;
- Given the sensitivity of the proposed land use (direct access to site soils), the site in its current condition is not suitable, with respect to contamination, for the proposed land use; and
- It is considered that the site can be made suitable for the proposed development, subject to the undertaking of a stage 2 detailed site investigation, and associated remedial works (if warranted). The investigation should include the proposed building footprint area as well as the areas outside of the proposed building footprint. Based on the nature of contaminants of potential concern identified for the site, there are well established means of remediation and/or management that could be implemented to allow the proposed development to proceed, regardless of the findings of a stage 2 detailed site investigation.

The Stage 1 PSI (SLR, 2016) is attached in Appendix A.

[1] SLR 2016, 'Stage 1 Preliminary Site Investigation, Residential Aged Care Facilities, 19-25 Booralla Road, Edensor Park NSW', Report Number: 610.15583-R1 dated 11 February 2016, Version: Revision 1.

3 OBJECTIVES

The objective of this SAQP is to define an appropriate contamination assessment strategy that would enable to adequately assess the contamination status of the site, with respect to the areas of potential environmental concern identified by the Stage 1 PSI (SLR, 2016) report.

It is important to note that contamination assessments can be iterative – if contamination is identified during the investigation scope of works proposed here, additional assessment may or will be required to further assess the issue and to ascertain the extent of contamination, such that the issue could be appropriately addressed. The scope of such further assessment will be determined by a qualified environmental consultant, and may include additional soil sampling, groundwater well installation and sampling, or even a soil vapour assessment.

This SAQP is based on the findings of the Stage 1 PSI (SLR, 2016) report.

4 SCOPE OF WORK

SLR conducted the following scope of work to prepare this SAQP:

- Review the proposed development plans for the proposed residential aged care;
- Review of the Stage 1 PSI (SLR, 2016) report; and
- Preparation of this SAQP.

5 AREAS OF ENVIRONMENTAL CONCERN

The Stage 1 PSI (SLR, 2016) identified the following in relation to the areas of environmental concern and contaminants of potential concern.

The Table presented below has been extracted from the Stage 1 PSI (SLR, 2016) report.

Table 1 Areas of Environmental Concern and Contaminant of Potential Concern

AEC ID	Source of Contamination	Area of Concern	Chemicals of Concern	Likelihood of Contamination Being Present Currently	Likelihood of Exposure following Proposed Development
AEC01	Agricultural land use in the past	Entire area of the site, but particularly in and around the former sheds.	Pesticides, heavy metals, polychlorinated biphenyls	Low	**Likely** Contamination that may be present on site soils in areas outside the proposed building footprint could remain on site and be accessible to future site users.
AEC02	Potential asbestos containing material	Former and current shed areas and areas along the western, northern and southern fences	Asbestos	Moderate to High	**Likely** Contamination that may be present on site soils in areas outside the proposed building footprint is likely to remain on site and be accessible to future site users.

6 SAMPLING, ANALYTICAL AND QUALITY PLAN

Data quality objectives (DQO) for the proposed supplementary contamination assessment have been developed using the seven step process described in

- NSW DEC 2006, Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition).

6.1 Step 1 – State the Problem

The objectives of the proposed Stage 2 DSI are to:

- Assess the contamination status of the site;
- Assess whether potential contamination in the identified areas of environmental concern present an unacceptable exposure risk, based on the adopted land use scenario;
- Assess the likelihood of widespread contamination being present on the site;
- Assess the likelihood of soil contamination that could cause significant impact to the environment; and
- Assess the suitability of the site for the proposed residential aged care land use.

The main problems are:

- How should relevant site media be assessed;
- What sampling layout should be used; and
- What contaminants should be analysed for and by what method to be useful for assessment.

6.2 Step 2 – Identify the Decision

The decisions that need to be made during this project include:

- Is the field and laboratory analytical data suitable for assessing the quality of the media being assessed;
- Does contamination in soils and groundwater on the site present an unacceptable exposure risk for the adopted land use scenario;
- Does contamination in soils on the site present an unacceptable exposure risk for environment; and
- Is the site suitable (in the context of land contamination) for the proposed residential aged care land use in its current condition, or if the site can be made suitable for the proposed land use following remediation.

6.3 Step 3 – Identify Inputs to the Decision

The primary inputs to assessing the above include:

- the Stage 1 PSI (SLR, 2016) report;
- location, distribution and intervals of sampling at the site;
- data collected during the assessment, including field measurements, field observations and laboratory analysis results;
- outcomes of the assessment of the quality of collected data; and
- adopted exposure risk assessment criteria.

Exposure risk assessment criteria will be adopted from:

- National Environment Protection Council (NEPC) 1999, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM), as amended in 2013'.
- Friebel, E & Nadebaum, P 2011, 'Health screening levels for petroleum hydrocarbons in soil and groundwater, Part 2: Application document, CRC CARE Technical Report No. 10'.

6.3.1 Human Health - Direct Contact

The relevant direct contact:

- Health-Based Investigation Levels (HILs) for residential land use in Table 1A (1) in NEPC (1999); and
- Health Screening Levels (HSL) for residential land use listed in Table B4 of Friebel, E & Nadebaum, P (2011);

are adopted for this assessment.

6.3.2 Human Health – Inhalation / Vapour Intrusion

For the proposed land use exposure scenario, the relevant soil HSL for vapour intrusion listed in Table 1A (3) in NEPC (1999), are adopted for this assessment.

Should evidence of petroleum hydrocarbon contamination be identified in site soils (e.g. significant odours, elevated PID readings), then assessment of soil vapour intrusion risk should be considered (against soil vapour HSLs for vapour intrusion in Table 1A (5) in NEPC (1999)). Additional soil assessment for volatile organic compounds or soil vapour assessment may require to be conducted.

6.3.3 Human Health – Asbestos

NEPC (1999) provides health screening levels for asbestos contamination in soil, which are based on specific land use exposure scenarios, for three forms of asbestos: bonded asbestos containing material (ACM), friable asbestos (FA) and asbestos fines (AF). These health screening levels are provided in Table 2.

Table 2 Health Screening Levels for asbestos contamination in soil

Form of asbestos	Health Screening Level (W/W)			
	Residential A	**Residential B**	**Recreational C**	**Commercial/Industrial**
ACM	0.01%	0.04%	0.02%	0.05%
FA and AF	0.001%			
All forms of asbestos	No visible asbestos in surface soil			

The laboratory method for analysis of asbestos in bulk materials is based on AS 4964-2004. Consequently, a practical quantification limit equal to or less than 0.001% by weight is not adopted and the limit is 0.1g/kg (equivalent to 0.01% w/w). For the purposes of this project, criterion of "no visible asbestos containing materials in surface soils (top 10cm)" and "no asbestos fibres or fines detected in samples using trace analysis techniques" has been adopted as initial screening criteria. If asbestos is identified in site soils, additional assessment may be required to assess the concentrations against the health screening levels for asbestos, specified above.

6.3.4 Petroleum Hydrocarbon Compounds – Management Limits

NEPC (1999) advises that management limits for petroleum hydrocarbon compounds need to be considered to minimise the potential effects of:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosive hazards; and
- Effects on buried infrastructure e.g. penetration of, or damage to, in ground services by hydrocarbons.

For the proposed land use exposure scenario, the management limits for residential land use in Table 1 B (7) of NEPC (1999), are adopted for this project. Specific management limits (relevant to soil texture) will be adopted based on field assessment of predominant soil types encountered during intrusive investigations i.e. coarse grain (sands) versus fine grain (silts and clays).

6.3.5 Aesthetics

NEPC (1999) requires that aesthetic quality of accessible soils be considered even if testing suggests that the concentrations of contaminants of concern are within acceptable limits.

No specific numerical guidelines have been assigned for aesthetics. However the NEPM 2013 indicates that professional judgement with regard to quantity, type and distribution of foreign material and/or odours in relation to the specific land use and its sensitivity should be employed.

The following circumstances are considered likely to trigger further aesthetic assessment:

- highly malodorous soils or extracted groundwater (e.g. strong residual petroleum hydrocarbon odours, hydrogen sulphide in soil or extracted groundwater, organo-sulfur compounds);
- hydrocarbon sheen on surface water;
- discoloured chemical deposits or soil staining with chemical waste other than of a very minor nature;
- large monolithic deposits of otherwise low risk material, e.g. gypsum as powder or plasterboard, cement kiln dust, or demolition rubble;
- presence of putrescible refuse including material that may generate hazardous levels of methane; and
- soils containing residue from animal burial.

There are no specific numeric aesthetic guidelines, however site assessment requires balanced

- consideration of the quantity, type and distribution of foreign material or odours in relation to the
- specific land use and its sensitivity. For example, higher expectations for soil quality would apply to residential properties with gardens compared with industrial settings.

General assessment considerations will include:

- that chemically discoloured soils or large quantities of various types of inert refuse particularly if unsightly, may cause ongoing concern to site users;
- the depth of the materials, including chemical residues, in relation to the final surface of the site; and
- the need for, and practicality of, any long-term management of foreign material.

In some cases, documentation of the nature and distribution of the foreign material may be sufficient to address concerns relating to potential land use restrictions.

In arriving at a balanced assessment, the presence of small quantities of non-hazardous inert material and low odour residue (for example, weak petroleum hydrocarbon odours) that will decrease over time will not be a cause of concern or limit the use of a site in most circumstances. Similarly, sites with large quantities of well-covered known inert materials that present no health hazard such as brick fragments and cement wastes (for example, broken cement blocks) will be of low concern for the proposed land use scenario.

However, caution will be applied when assessing large quantities of various fill types and demolition rubble are present.

6.3.6 Ecological Criteria

NEPM 2013 provides assessment criteria applicable for ecological assessment (with regard to terrestrial ecosystems) based on three generic land use exposure scenarios: 1) areas of ecological significance, 2) urban residential areas and public open space and 3) commercial and industrial land uses.

Two sets of criteria have been derived;

- Ecological investigation levels (EILs) for common contaminants of concern; and
- Ecological screening levels (ESLs) for petroleum hydrocarbons.

The assessment criteria applies to contaminants in the top 2m of soil at the finished surface/ground level which corresponds to the root zone and habitation zone of many species.

NEPM 2013 states that a pragmatic, risk based approach should be taken in applying EILs and ESLs in residential and commercial land use settings. Site soils in such areas may have poor structure and drainage, low organic content, limited topsoil depth and a limited ability to support plant growth and micro-organisms. All, or a large proportion of the soil may be removed from the site during development and/or relocated for the formation of new landforms. Commercial/industrial sites may have large building structures and extensive areas covered with concrete and thus have limited environmental values requiring consideration while in operational use.

SLR has taken the above into account and, given the nature of the proposed future land use (low density residential) those EILs and ESLs applicable to the urban residential/public open space exposure scenario have been adopted for the purposes of this assessment.

6.4 Step 4 – Define the Study Boundaries

6.4.1 Spatial Boundaries

The horizontal boundary of the project is defined by the site boundaries, as shown on Figure 2.

The vertical boundary of the project is defined by the depth of potentially impacted material.

6.4.2 Temporal Boundaries

The temporal boundaries of investigation works will be limited by:

- natural daylight working hours; and
- levels of precipitation which, in the opinion of the environmental consultant, prevents adequate visual observations to be made.

6.5 Step 5 – Develop a Decision Rule

The decision rules for the project will be as follows:

- If the results of the laboratory analytical data and field data quality assessment are acceptable (i.e. comply with the procedures, requirements and limits set out in Section 6.6, then the data will be considered suitable for the purposes of the project. Data will be assessed for completeness, comparability, representativeness, precision and accuracy.
- If the results of the laboratory analytical data are within the adopted assessment criteria and fieldwork observations are acceptable, then the level of contamination in the media assessed will be considered an acceptable exposure risk for the proposed land use.
- If the results of laboratory analytical data exceed the adopted assessment criteria or the fieldwork observations are unacceptable, then the level of contamination in the media assessed may require further assessment, management or remediation.

6.6 Step 6 – Specify Acceptable Limits on Decision Errors

There are two types of error:

- deciding that contamination on the site is an acceptable risk for the proposed land use when it is not; and
- deciding that contamination on the site is not an acceptable risk for the proposed land use when it is.

The assessment will aim to conclude with 95% confidence that media in the identified areas of environmental concern do not present an unacceptable risk. Consequently, the 95% upper confidence limit (UCL) statistic will be used to assess the mean concentrations of chemicals of potential concern in soil (where appropriate).

Confidence in the reliability of assessment methods (e.g. field observations, laboratory analysis and data review) will be based on appropriate levels of qualification and/or experience in the personnel undertaking the relevant task.

The data quality indicators set out in Table 3 will be used to assess data for completeness, comparability, representativeness, precision and accuracy.

Table 3 Data Quality Indicators

Completeness	
Field Considerations	*Laboratory Considerations*
All critical locations sampled	All critical samples analysed in accordance with the data quality objectives
All samples collected (from grid and at depth)	All analytes analysed in accordance with the data quality objectives
SOPs appropriate and complied with	Appropriate methods and LORs
Experienced sampler	Sample documentation complete
Documentation correct	Sample holding times complied with
Comparability	
Field Considerations	*Laboratory Considerations*

Same SOPs used on each occasion	Sample analytical methods used (including clean-up)
Experienced sampler	Sample LORs (justify/quantify if different)
Climatic conditions	Same laboratories (justify/quantify if different)
(temperature, rainfall, wind)	Same units (justify/quantify if different)
Same types of samples collected (filtered, size fractions)	
Representativeness	
Field Considerations	*Laboratory Considerations*
Appropriate media sampled in accordance with the data quality objectives	All samples analysed in accordance with the data quality objectives
All media identified in data quality objectives sampled	
Precision	
Field Considerations	*Laboratory Considerations*
SOPs appropriate and complied with	Analysis of: • laboratory and inter-laboratory duplicates • field duplicates • laboratory-prepared volatile trip spikes
Accuracy (bias)	
Field Considerations	*Laboratory Considerations*

SOPs appropriate and complied with	Analysis of: • field blanks • rinsate blanks • reagent blanks • method blanks • matrix spikes • matrix spike duplicates • surrogate spikes • reference materials • laboratory control samples • laboratory-prepared spikes

6.7 Step 7 – Optimise the Design for Obtaining Data

6.7.1 Sampling Frequency and Locations

The site covers an area of approximately 1.5 Ha. As such, SLR has proposed a total of 25 sampling points to characterise the site. The number of sampling points chosen is in accordance with the numbers outlined in the NSW EPA 1995, 'Contaminated Sites: Sampling Design Guidelines' for a site this size.

The proposed test pit locations are shown on the attached Figure 3 that has been prepared showing the areas of the site that will have accessible soils at the completion of proposed development. However, we note that these locations are approximately only and that they are likely to move due to onsite constraints such as presence of pet enclosures and fences.

6.7.2 Sampling Methodology

Soil samples at the proposed test pit locations are proposed to be collected using the bucket of a small excavator. The sampling methodology is described below.

6.7.2.1 Sampling from the Excavator Bucket

A small excavator will be used to excavate soil/fill material at the proposed test locations, to a depth of approximately 300mm into natural soil, bedrock or a maximum depth of 1.5m, whichever occurs first. Soil samples will be collected by hand (wearing disposable nitrile gloves), from the centre of the excavator bucket to minimise potential for cross contamination.

The excavator bucket will be cleaned using appropriate tools if gross contamination remains on the bucket after the excavation of a particular test pit, though this is considered unlikely.

6.7.2.2 Soil Sampling

Soil samples will be collected from each sampling point at the surface and then at regular depths thereafter, or where there is evidence of contamination or a change in soil lithology. Materials encountered during sampling will be logged in general accordance with the Unified Soil Classification System (UCS).

6.7.2.3 Soil Headspace Screening

Soil samples will be screened in the field for ionisable volatile organic compounds (VOC) using a calibrated photo-ionisation detector (PID) with a 10.6eV lamp. Screening results will be recorded on the relevant log.

6.7.3 Inaccessible Test Locations

Parts of the site are occupied by horses and dogs. It should be appreciated that some of the proposed test locations may not be readily accessible by excavator, without being subjected to the removal of existing fences or agitating the pets on site. In such instances, detailed records will be made regarding the access constraints, ground conditions, potential for the area to have been subjected contamination and the likelihood of contamination. The areas will be photographed and presented in the stage 2 DSI report.

In such instances, the proposed test pit locations will be moved to more accessible locations close to the proposed locations.

6.7.4 Photographic Records

Photographs of the test pits showing the soil profile and other features of interest relevant to the assessment will be taken.

The ground surface conditions within the identified areas of environmental concern will be recorded for assessment.

6.7.5 Location Records

The location of each sample point will be recorded on a site plan relative to existing features on site.

6.7.6 Sample Identification, Storage and Transport Procedures

Samples will be identified using unique sampling point identifiers and sample depth intervals (e.g. TP01/0.0-0.2).

Samples will be placed in laboratory prepared containers and zip lock bags, as appropriate. The sample containers will then be placed directly into an insulated chest containing ice, for transportation to the NATA accredited analytical laboratory with the chain of custody (COC) form recording the following information:

- project job number;
- date of sampling;
- sample identifier;
- sample matrix and container type;
- preservation methods used;
- analysis requirements for each sample;
- turnaround times required for analysis; and

- names and signatures of sender and receiving laboratory.

A copy of the chain of custody will be kept in the job file. Samples will be transported to the laboratory with sufficient time to perform analysis within the applicable holding period.

The proposed sample storage and preservation requirements for the likely contaminants of potential concern are presented in Table 4.

Table 4 Soil Sample Storage and Preservation Requirements

Analyte	Sample Volume and Container Type	Sample Container Preservative	Storage and Transport
TRH C6-C10	1 x 250mL glass	Nil	Ice and insulated container
TRH >C10-C40	1 x 250mL glass	Nil	Ice and insulated container
BTEX	1 x 250mL glass	Nil	Ice and insulated container
VOC/SVOC	1 x 250mL glass	Nil	Ice and insulated container
PAH	1 x 250mL glass	Nil	Ice and insulated container
PCB	1 x 250mL glass	Nil	Ice and insulated container
OCP	1 x 250mL glass	Nil	Ice and insulated container
Metals	1 x 250mL glass	Nil	Ice and insulated container
Asbestos	1 x 50-100g zip lock bag	Nil	Nil

6.7.7 Laboratory Analysis

Selected samples will be scheduled for analysis, based on identified contaminants of potential concern for the AEC that the sampling point is located in, field observations and headspace screening results. The proposed analytical suite will comprise of the following contaminants of concern:

- Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn);
- Total petroleum hydrocarbons (TPH);
- Benzene, toluene, ethylbenzene, xylene (BTEX);
- Polyaromatic hydrocarbons (PAH);
- Organochlorine pesticides (OCP);
- Organophosphorous pesticides (OPP);
- Cation exchange capacity (CEC);
- pH;
- % Clay content; and
- Asbestos.

Additional contaminants may be analysed for depending on field observations. For example, if odours are detected or elevated photo-ionisation detector (PID) readings are recorded, the soil samples may be analysed for volatile organic compounds (VOCs).

Based on our extensive experience in testing similar contaminated sites, we consider that the above proposed analytical suite will be sufficient to characterise the soil contamination status at the site.

6.7.8 Fieldwork Quality Assurance / Quality Control

6.7.8.1 Decontamination Procedures

Non-disposable sampling equipment will be decontaminated before and between sampling events to reduce the potential for cross contamination to occur between samples. Decontamination will include the following procedure for re-useable sampling equipment:

- washing non-disposable sampling equipment in a solution of phosphate free detergent (e.g. Decon 90) and potable water; and
- rinsing with distilled water.

6.7.8.2 Intra-laboratory Duplicates

Intra-laboratory field duplicates will be collected on an average frequency of one sample per twenty samples collected (5%), with a minimum of one per batch (excluding samples collected for asbestos analysis). The analytical results of the two spilt samples will be compared to assess the precision of the sampling protocol, and provide an indication of variability in the sample source. The relative percentage difference (RPD) acceptance limits will be:

- No limit analytical results <10 times LOR
- 50% analytical results 10-20 times LOR
- 30% analytical results >20 times LOR

The RPD exceedances (if any) will be assessed to determine whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.3 Inter-Laboratory Duplicates

Inter-laboratory field duplicates will be collected on an average frequency of one sample per twenty samples collected (5%) with a minimum of one per batch (excluding samples collected for asbestos analysis). The analytical results of the two spilt samples will be compared to assess the precision of the sampling protocol, and provide an indication of variability in the sample source. The relative percentage difference (RPD) acceptance limits will be:

- No limit analytical results <10 times LOR
- 50% analytical results 10-20 times LOR
- 30% analytical results >20 times LOR

The environmental consultant will assess RPD exceedances (if any) and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.4 Rinsate Samples

A rinsate sample will be collected and analysed for each day of field work carried out, where non-disposable sampling equipment has been used. The rinsate sample will be analysed for generally the same contaminants of potential concern that the samples are being analysed for (excluding asbestos).

The acceptance limit shall be the detected concentrations of the contaminants of concern analysed for in the sample, are less than the applicable LOR. The environmental consultant will assess the significance of the acceptance limit exceedance and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.5 Trip Blanks

Trip blanks will be used and analysed for a batch of samples provided to the laboratory, where the contaminants being analysed for, are volatile in nature (e.g. BTEX or TPH C_6-C_{10}). The trip blank will be analysed for BTEX.

The acceptance limit shall be the detected concentrations of BTEX in the trip blank, are less than the applicable LOR. The environmental consultant will assess the significance of acceptance limit exceedances and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.8.6 Trip Spikes

Trip spikes will be used and analysed for a batch of samples provided to the laboratory, where the contaminants being analysed for, are volatile in nature (e.g. BTEX or TPH C_6-C_{10}). The trip spike will be analysed for BTEX.

The acceptance limit shall be the BTEX recoveries in the trip spike are between 60% and 140%. The environmental consultant will assess the significance of acceptance limit exceedances and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.9 Laboratory Quality Assurance / Quality Control

6.7.9.1 Laboratory Selection

The primary and secondary laboratories used for this project will be NATA-accredited for the analyses being undertaken.

6.7.9.2 Laboratory Data Quality Indicators

The laboratory data quality will be assessed by checking the following:

- laboratory methods used are NATA accredited;
- laboratory limits of reporting are less than adopted assessment criteria;
- samples are extracted and analysed within holding times; and
- results of method blanks, surrogate, lab control sample, spike recoveries relative percentage differences (RPDs) between primary and duplicate laboratory samples.

Data Quality Indicators (DQI) that will be adopted for quality control samples are presented in Table 5.

Table 5 Laboratory Data Quality Indicators

Type of Quality Control Sample	Control Limit	
Method Blank	Analytical result < LOR	
Surrogate % Recovery	50% - %150%	
Labe Control Sample % Recovery	70% - 130%	
Spike % Recovery	70% - 130% for inorganics 60% - 140% for organics	
RPD	No limit 50% 30%	Analytical results <10 times LOR Analytical results 10-20 times LOR Analytical results >20 times LOR

Should the results of a laboratory quality control sample exceed the relevant adopted control limit, the laboratory will be requested assess the significance of the exceedance on the quality of the laboratory analytical data for the relevant batch. The environmental consultant will assess the significance of the control limit exceedance and whether the project DQO's can still be addressed. If not, then further sampling and/or analysis may be required.

6.7.9.3 Laboratory Limits of Reporting, Analytical Methods and Holding Times

Laboratory limits of reporting, analytical methods and holding times are presented in Table 6.

Table 6 Limits of Reporting, Methods and Holding Times

Analyte	Limit of Reporting (mg/kg)	Method	Holding Time
BTEX and TRH C6-C10	0.2-0.5	USEPA 5030, 8260B and 8020	14 days
TRH >C10-C40	20-100	USEPA 8015B & C	14 days
PAH	0.1-0.2	USEPA 8270	14 days
VOC	0.1-0.5mg/kg	USEPA8260	14 days
OCP	0.2	USEPA 8081	14 days
PCB	0.2	USEPA 8270	14 days
Metals	1	USEPA 200	6 months
OCP	0.2	USEPA 8081	14 days
Asbestos	Presence / Absence	AS4964:2004	No limit

6.8 Reporting

A stage 2 DSI report will be prepared in accordance with the relevant sections of NSW OEH 2011, 'Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites', and will include the following:

- Executive summary;
- Scope of work;
- Site identification;
- Site history summary;
- Site condition and surrounding environment summary;
- Information on geology and hydrogeology;
- Field and laboratory analytical data;
- Field and laboratory data QA/QC assessment;
- Site characterisation; and
- Conclusions and recommendations.

7 REFERENCES

- SLR 2016, 'Stage 1 Preliminary Site Investigation, Residential Aged Care Facilities, 19-25 Booralla Road, Edensor Park NSW', Report Number: 610.15583-R1 dated 11 February 2016, Version: Revision 1
- Friebel, E & Nadebaum, P 2011, 'Health screening levels for petroleum hydrocarbons in soil and groundwater. Part 2: Application document', CAC CARE Technical Report No. 10
- National Environment Protection Council (NEPC) 1999a, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'.
- National Environment Protection Council (NEPC) 1999b, 'Schedule B(2) Guideline on Site Characterisation, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'.
- NSW DEC 2006, 'Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition)'.
- NSW DEC 2007, 'Contaminated Sites: Guidelines for the Assessment and Management of Groundwater Contamination
- NSW EPA 1994, 'Contaminated Sites: Guidelines for Assessing Service Station Sites'
- NSW OEH 2011, 'Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites'.

TEST PIT LOGS

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TEST PIT NUMBER TP01

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, low plasticity, dark grey with trace shale gravels, (subangular) 5-20mm, trace asphalt, moist to wet, soft, no odour.	PID = 0.0ppm	TP01/0m - 0.2m
	▼							water seeping at 0.25m
			0.5		CH	**CLAY** low to medium plasticity, orange brown, firm, moist, no odour.	PID = 0.0ppm	TP01/0.4m - 0.6m
			1.0			Test Pit TP01 terminated at 0.7m		

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TEST PIT NUMBER TP02

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, low plasticity, dark grey with trace shale and trace gravels, moist, soft, no odour.	PID = 0.0ppm	TP02/0m - 0.2m
					CH	**CLAY:** low to medium plasticity, red brown, firm, moist, no odour.	PID = 0.0ppm	TP02/0.2m - 0.4m
			0.5					
						Test Pit TP02 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP03

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, low plasticity, dark grey with trace shale and gravels, trace charcoal, moist, soft, no odour.	PID = 0.0ppm	TP02/0m - 0.2m
					CH	**CLAY:** low to medium plasticity, orange brown, firm to stiff, moist, no odour.	PID = 0.0ppm	TP02/0.2m - 0.4m
			0.5					
						Test Pit TP03 terminated at 0.5m		
			1.0					

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TEST PIT NUMBER TP04

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL/TOPSOIL: CLAY, low plasticity, dark grey, trace shale, moist, soft, no odour.		
					CH	**CLAY:** low to medium plasticity, yellow orange, moist, firm, no odour.		TP04/0.05m - 0.25m
							PID = 0.0ppm	
	▼					colour changes to red brown, stiff.		water seeping at 0.3m
			0.5					
						Test Pit TP04 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP05

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						TOPSOIL: low plasticity, dark grey, moist, soft, no odour.		
					CH	**CLAY:** low to medium plasticity, red orange brown, moist, firm, no odour.	PID = 0.0ppm	TP05/0.05m - 0.25m
			0.5					
						Test Pit TP05 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP06

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
					CH	**CLAY:** low to medium plasticity, red-brown, moist, firm, no odour.	PID = 0.0ppm	TP06/0m - 0.2m
			0.5			becoming stiff		
						Test Pit TP06 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP07

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
					CH	**CLAY:** low to medium plasticity, red brown, moist, firm, no odour.	PID = 0.0ppm	TP07/0m - 0.2m
	▼					becoming stiff		water seeping at 0.3m
			0.5					
						Test Pit TP07 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP08

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						TOPSOIL: low plasticity, dark grey, moist, soft, no odour.		
					CH	**CLAY:** low to medium plasticity, red brown, moist, firm, no odour.		TP08/0.05m - 0.25m
							PID = 0.0ppm	
	▼					becoming stiff		water seeping at 0.4m
			0.5					
						Test Pit TP08 terminated at 0.6m		
			1.0					

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2 Lincoln Street
Lane Cove NSW 2066
Telephone: 02 9428 8100
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TEST PIT NUMBER TP09

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: TOPSOIL/CLAY, low plasticity, grey brown, trace shale gravels, moist, soft, no odour.	PID = 0.0ppm	TP09/0m - 0.2m
					CH	**CLAY:** low to medium plasticity, grey orange, firm, moist, no odour.	PID = 0.0ppm	TP09/0.2m - 0.4m
			0.5			Test Pit TP09 terminated at 0.5m		
			1.0					

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TEST PIT NUMBER TP10

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, medium plasticity, orange brown, trace shale gravels, soft, no odour.	PID = 0.0ppm	TP10/0m - 0.2m
			0.5		CH	**CLAY:** low to medium plasticity, grey brown with orange mottling, firm, moist, no odour.	PID = 0.0ppm	TP10/0.6m - 0.8m
			1.0			Test Pit TP10 terminated at 0.9m		
			1.5					

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TEST PIT NUMBER TP11

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, low to medium plasticity, orange grey brown, shale gravels, moist to soft, no odour.	PID = 0.0ppm	TP11/0m - 0.2m
			0.5		CH	**CLAY:** low to medium plasticity, orange with grey mottling, firm, moist, no odour.	PID = 0.0ppm	TP11/0.4m - 0.6m
			1.0			Test Pit TP11 terminated at 0.7m		

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TEST PIT NUMBER TP12

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						TOPSOIL: low plasticity, dark grey, trace charcoal, moist, soft.		
					CH	**CLAY:** low to medium plasticity, red brown, moist, firm, no odour.		TP12/0.05m - 0.25m
	▼						PID = 0.0ppm	water seeping at 0.2m
			0.5					
						Test Pit TP12 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP13

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, dark grey brown, with aggregates, shale gravels (subangular) 5-30mm, trace charcoal, moist, soft, no odour.	PID = 0.0ppm	TP13/0m - 0.2m
			0.5		CH	**CLAY:** low to medium plasticity, red orange brown, firm, moist, no odour.	PID = 0.0ppm	TP13/0.3m - 0.5m, DUP02, DUP02A
			1.0			Test Pit TP13 terminated at 0.7m		

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TEST PIT NUMBER TP14

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, low plasticity, dark grey brown, shale gravels, trace asphalt, moist, soft, no odour.	PID = 0.0ppm	TP14/0m - 0.2m
					CH	**CLAY:** low to medium plasticity, red brown, moist, firm to stiff, no odour.	PID = 0.0ppm	TP14/0.2m - 0.4m
			0.5					
						Test Pit TP14 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP15

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: CLAY, low to medium plasticity, orange brown, with glass fragments, plastics, ceramics and trace subangular shale gravels, moist, soft, no odour.	PID = 0.0ppm	TP15/0m - 0.2m, DUP01, DUP01A
			0.5		CH	**CLAY:** medium plasticity, brown with grey mottling, firm, moist, no odour.	PID = 0.0ppm	TP15/0.45m - 0.65m
			1.0			Test Pit TP15 terminated at 0.8m		

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TEST PIT NUMBER TP16

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
					CH	**CLAY:** low to medium plasticity, grey brown, moist, soft, no odour.	PID = 0.0ppm	TP16/0m - 0.2m
			0.5			colour changes to red brown, stiff.		
			1.0			Test Pit TP16 terminated at 0.2m		

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TEST PIT NUMBER TP17

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
			0.5		CH	**CLAY:** low to medium plasticity, red brown, moist, firm, no odour.	PID = 0.0ppm	TP17/0m - 0.2m
			1.0			Test Pit TP17 terminated at 0.6m		

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TEST PIT NUMBER TP18

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						TOPSOIL: low plasticity, dark grey brown, trace shale, moist, soft, no odour.	PID = 0.0ppm	TP18/0m - 0.2m
			0.5		CH	**CLAY:** low to medium plasticity, orange grey with brown mottling, moist, firm, no odour.	PID = 0.0ppm	TP18/0.2m - 0.4m
			1.0			Test Pit TP18 terminated at 0.6m		

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TEST PIT NUMBER TP19

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
					CH	**CLAY:** low to medium plasticity, dark grey brown, moist, firm, no odour.	PID = 0.0ppm	TP19/0m - 0.2m
			0.5					
						Test Pit TP19 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP20

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: Gravelly CLAY, grey brown, concrete, bricks (trace) metals, PACM fragments, trace sand, moist, soft, no odour.	PID = 0.0ppm	TP20/0m - 0.2m, TP20/PACM
			0.5		CH	**CLAY:** low to medium plasticity, red brown, moist, firm, no odour.	PID = 0.0ppm	TP20/0.3m - 0.5m
			1.0			Test Pit TP20 terminated at 0.7m		

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TEST PIT NUMBER TP21

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						TOPSOIL: low plasticity, dark grey, moist, soft, no odour.	PID = 0.0ppm	TP21/0m - 0.2m
			0.5		CH	**CLAY:** low to medium plasticity, orange brown, moist, firm, no odour.	PID = 0.0ppm	TP21/0.3m - 0.5m
			1.0			Test Pit TP21 terminated at 0.7m		

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TEST PIT NUMBER TP22

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
					CH	**CLAY:** low to medium plasticity, orange brown, moist, firm to stiff, no odour.	PID = 0.0ppm	TP22/0m - 0.2m
			0.5			Test Pit TP22 terminated at 0.5m		
			1.0					

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TEST PIT NUMBER TP23

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						TOPSOIL: low plasticity, dark grey, trace subangular (5-30mm) shale gravels, moist, soft, no odour.	PID = 0.0ppm	TP23/0m - 0.2m
	▼							water seeping at 0.2m
					CH	**CLAY:** low to medium plasticity, red brown, firm to stiff, moist, no odour.	PID = 0.0ppm	TP23/0.3m - 0.5m
			0.5					
						Test Pit TP23 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP24

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						TOPSOIL: low plasticity, dark grey, trace shale gravels (subangular) 5-20mm, moist, soft, no odour.	PID = 0.0ppm	TP24/0m - 0.2m
	▼				CH	**CLAY:** low to medium plasticity, orange brown, firm, moist, no odour.	PID = 0.0ppm	TP24/0.2m - 0.4m water seeping at 0.2m
			0.5					
						Test Pit TP24 terminated at 0.6m		
			1.0					

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TEST PIT NUMBER TP25

CLIENT Melaleuca Ventures Pty Ltd ATF Edensor Lands Trust **PROJECT NAME** Stage 2 DSI

PROJECT NUMBER 610.15583.00200 **PROJECT LOCATION** 19-25 Booralla Road, Edensor Park

DATE STARTED 20/6/16 **COMPLETED** 20/6/16 **R.L. SURFACE** not recorded **DATUM**

EXCAVATION CONTRACTOR Ken Coles **SLOPE** --- **BEARING** ---

EQUIPMENT YANMAR VIC 55 **TEST PIT LOCATION**

TEST PIT SIZE **LOGGED BY** AN **CHECKED BY** NDS/AN

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
						FILL: Gravelly CLAY, low plasticity, dark grey, roof tiles, bricks, concrete, trace ash, trace sand, moist, soft, no odour.	PID = 0.0ppm	TP25/0m - 0.2m
						ASH		
						FILL: Gravelly CLAY, low plasticity, dark grey, roof tiles, bricks, concrete, trace ash, trace sand, moist, soft, no odour.		
			0.5		CH	**CLAY:** low to medium plasticity, red brown, moist, firm, no odour.	PID = 0.0ppm	TP25/0.4m - 0.6m, DUP03, DUP03A
			1.0			Test Pit TP25 terminated at 0.7m		

LABORATORY CERTIFICATES

COC received 21/6/16 @ 2:30 pm

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

Company Name:	SLR Consulting	Project Name/No:	610.15583.00200 – Edensor Park
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 21055; Eurofins PO 21056
	Lane Cove NSW 2066	Results Required By:	Standard
		Telephone:	0448 178 915
Contact Name:	Abanish Nepal	Facsimile:	02 9427 8200
		Email Results:	anepal@slrconsulting.com ndesilva@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	PAH/METALS	Asbestos (Presence / Absence)		TRH/BTEX/PAH/Metals /OCP/OPP/PCB	% CLAY	CEC	PH		HOLD								Notes
TP01/0.0-0.2	20-6-16	1		X	Ice	2		X		X													
TP01/0.4-0.6	20-6-16			X	Ice	2									X								
TP02/0.0-0.2	20-6-16	2		X	Ice	2	X	X			X	X	X										
TP02/0.2-0.4	20-6-16			X	Ice	2									X								
TP03/0.0-0.2	20-6-16	3		X	Ice	2		X		X													
TP03/0.2-0.4	20-6-16			X	Ice	2									X								
TP04/0.05-0.25	20-6-16	4		X	Ice	2	X	X															
TP05/0.05-0.25	20-6-16	5		X	Ice	2	X	X															
TP06/0.0-0.2	20-6-16	6		X	Ice	2	X	X															
TP07/0.0-0.2	20-6-16	7		X	Ice	2		X		X													

SGS Alexandria Environmental
SE153862 COC
Received: 21–Jun–2015

Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By: A. Odisho	Date/Time 21/6/16 @ 3.30 pm
Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By:	Date/Time
Samples Intact: (Yes) / No	Temperature: Ambient / (Chilled)	Sample Cooler Sealed: (Yes) / No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013		Laboratory Quotation No:

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

Company Name:	SLR Consulting	Project Name/No:	610.15583.00200 – Edensor Park
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 21055; Eurofins PO 21056
	Lane Cove NSW 2066	Results Required By:	Standard
		Telephone:	0448 178 915
Contact Name:	Abanish Nepal	Facsimile:	02 9427 8200
		Email Results:	anepal@slrconsulting.com ndesilva@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	PAH/METALS	Asbestos (Presence / Absence)		TRH/BTEX/PAH/Metals /OCP/OPP/PCB	% CLAY	CEC	PH		HOLD							Notes
TP08/0.05-0.25	20-6-16	8		X	Ice	2	X	X														
TP09/0.0-0.2	20-6-16	9		X	Ice	2	X	X														
TP09/0.2-0.4	20-6-16	10		X	Ice	2	X	X														
TP10/0.0-0.2	20-6-16	11		X	Ice	2	X	X														
TP10/0.6-0.8	20-6-16			X	Ice	2									X							
TP11/0.0-0.2	20-6-16	12		X	Ice	2		X		X	X	X	X									
TP11/0.4-0.6	20-6-16			X	Ice	2									X							
TP12/0.05-0.25	20-6-16	13		X	Ice	2	X	X														
TP13/0.0-0.2	20-6-16	14		X	Ice	2	X	X														
TP13/0.3-0.5	20-6-16			X	Ice	2									X							

Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By: A. Odisno	Date/Time 21/6/16 @ 3.10pm
Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By:	Date/Time
Samples Intact: (Yes) / No	Temperature: (Ambient) / Chilled	Sample Cooler Sealed: (Yes)/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013		Laboratory Quotation No:

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

Company Name:	SLR Consulting	Project Name/No:	610.15583.00200 – Edensor Park
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 21055; Eurofins PO 21056
	Lane Cove NSW 2066	Results Required By:	Standard
		Telephone:	0448 178 915
Contact Name:	Abanish Nepal	Facsimile:	02 9427 8200
		Email Results:	anepal@slrconsulting.com ndesilva@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	PAH/METALS	Asbestos (Presence / Absence)		TRH/BTEX/PAH/Metals /OCP/OPP/PCB	% CLAY	CEC	PH		HOLD								Notes
TP14/0.0-0.2	20-6-16	15		X	Ice	2		X		X													
TP14/0.2-0.4	20-6-16			X	Ice	2									X								
TP15/0.0-0.2	20-6-16	16		X	Ice	2		X		X													
TP15/0.45-0.65	20-6-16	17		X	Ice	2				X													
TP16/0.0-0.2	20-6-16	18		X	Ice	2	X	X															
TP17/0.0-0.2	20-6-16	19		X	Ice	2	X	X															
TP18/0.0-0.2	20-6-16	20		X	Ice	2	X	X															
TP18/0.2-0.4	20-6-16	21		X	Ice	2	X																
TP19/0.0-0.2	20-6-16	22		X	Ice	2		X		X													
TP20/0.0-0.2	20-6-16	23		X	Ice	2	X	X															

Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By: A. Ochisho	Date/Time 21/6/16 @ 2.30pm
Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By:	Date/Time
Samples Intact: Yes / No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013		Laboratory Quotation No:

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

Company Name:	SLR Consulting	Project Name/No:	610.15583.00200 – Edensor Park
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 21055; Eurofins PO 21056
	Lane Cove NSW 2066	Results Required By:	Standard
		Telephone:	0448 178 915
Contact Name:	Abanish Nepal	Facsimile:	02 9427 8200
		Email Results:	anepal@slrconsulting.com ndesilva@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	PAH/METALS	Asbestos (Presence / Absence)		TRH/BTEX/PAH/Metals /OCP/OPP/PCB	% CLAY	CEC	PH		HOLD							Notes
TP20/0.3-0.5	20-6-16			X	Ice	2									X							
TP21/0.0-0.2	20-6-16	24		X	Ice	2	X	X														
TP21/0.3-0.5	20-6-16			X	Ice	2									X							
TP22/0.0-0.2	20-6-16	25		X	Ice	2		X		X												
TP23/0.0-0.2	20-6-16	26		X	Ice	2	X	X														
TP23/0.3-0.5	20-6-16	27		X	Ice	2					X	X	X									
TP24/0.0-0.2	20-6-16	28		X	Ice	2		X		X												
TP24/0.2-0.4	20-6-16			X	Ice	2									X							
TP25/0.0-0.2	20-6-16	29		X	Ice	2	X	X														
TP25/0.4-0.6	20-6-16	30		X	Ice	2	X	X														

Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By: A. Cadisho	Date/Time 21/6/16 @ 1.4p
Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By:	Date/Time
Samples Intact: (Yes) / No	Temperature: Ambient / (Chilled)	Sample Cooler Sealed: (Yes) No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013		Laboratory Quotation No:

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

Company Name:	SLR Consulting	Project Name/No:	610.15583.00200 – Edensor Park
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 21055; Eurofins PO 21056
	Lane Cove NSW 2066	Results Required By:	Standard
		Telephone:	0448 178 915
Contact Name:	Abanish Nepal	Facsimile:	02 9427 8200
		Email Results:	anepal@slrconsulting.com ndesilva@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	PAH/METALS	Asbestos (Presence / Absence)	BTEX	TRH/BTEX/PAH/Metals /OCP/OPP/PCB	% CLAY	CEC	PH		HOLD								Notes
TP20/PACM	20-6-16	31			Ice	1		X															
DUP01	20-6-16	32		X	Ice	1				X													
DUP01A	20-6-16	34		X	Ice	1				X													**Please send to Eurofins**
DUP02	20-6-16			X	Ice	1									X								
DUP02A	20-6-16			X	Ice	1									X								
DUP03	20-6-16	35		X	Ice	1	X								X								
DUP03A	20-6-16			X	Ice	1									X								
TRIP BLANK	16-6-16	33		X	Ice	1			X														
TRIP SPIKE	16-6-16	34		X	Ice	1			X														

Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By: A. Odisho	Date/Time 21/6/16 @ 3.30
Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By:	Date/Time
Samples Intact: (Yes) / No	Temperature: Ambient / (Chilled)	Sample Cooler Sealed: (Yes)/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013		Laboratory Quotation No:

AU.SampleReceipt.Sydney (Sydney)

From: Abanish Nepal [anepal@slrconsulting.com]
Sent: Wednesday, 22 June 2016 5:28 AM
To: AU.SampleReceipt.Sydney (Sydney)
Cc: Crawford, Huong (Sydney); Ellerington, Trent (Sydney)
Subject: Re: 610.14889 & 610.15583 COCs

Hi Team

Could also analyse DUP03 for PAH/Metals and send DUP03A (both samples for our project 610.15583 Esensor Park) to Eurofins for the same analysis?

Kind Regards
Abanish Nepal
Senior Consultant - Land Quality and Remediation

On 21 Jun 2016, at 2:30 PM, Abanish Nepal <anepal@slrconsulting.com> wrote:

Abanish Nepal
Senior Consultant – Land Quality and Remediation SLR Consulting Australia Pty Ltd

Email: mailto:anepal@slrconsulting.com
Mob: +61 448 178 915
Tel: +61 2 9427 8100
Fax: +61 2 9427 8200

2 Lincoln Street, Lane Cove NSW 2066, Australia

www.slrconsulting.com

SAMPLE RECEIPT ADVICE

SE153862

CLIENT DETAILS

Contact	Abanish Nepal
Client	SLR CONSULTING AUSTRALIA PTY LTD
Address	Lego Building, 2 Lincoln Street (PO Box 176 NSW LANECOVE 1595) LANE COVE NSW 2066
Telephone	02 9427 8100
Facsimile	02 9427 8200
Email	anepal@slrconsulting.com
Project	**610.15583.00200 - Edensor Park**
Order Number	**21055**
Samples	35

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 21/6/2016
Report Due	Tue 28/6/2016
SGS Reference	**SE153862**

SUBMISSION DETAILS

This is to confirm that 35 samples were received on Tuesday 21/6/2016. Results are expected to be ready by Tuesday 28/6/2016. Please quote SGS reference SE153862 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	34 Soils, 1 Material	Type of documentation received	COC
Date documentation received	21/6/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	13.0°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		

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

COMMENTS

% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.
12 soil samples have been placed on hold.

SAMPLE RECEIPT ADVICE

SE153862

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.15583.00200 - Edensor Park

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	TP01/0.0-0.2	28	13	26	11	-	10	12	8
002	TP02/0.0-0.2	-	-	26	-	1	-	-	-
003	TP03/0.0-0.2	28	13	26	11	-	10	12	8
004	TP04/0.05-0.25	-	-	26	-	-	-	-	-
005	TP05/0.05-0.25	-	-	26	-	-	-	-	-
006	TP06/0.0-0.2	-	-	26	-	-	-	-	-
007	TP07/0.0-0.2	28	13	26	11	-	10	12	8
008	TP08/0.05-0.25	-	-	26	-	-	-	-	-
009	TP09/0.0-0.2	-	-	26	-	-	-	-	-
010	TP09/0.2-0.4	-	-	26	-	-	-	-	-
011	TP10/0.0-0.2	-	-	26	-	-	-	-	-
012	TP11/0.0-0.2	28	13	26	11	1	10	12	8
013	TP12/0.05-0.25	-	-	26	-	-	-	-	-
014	TP13/0.0-0.2	-	-	26	-	-	-	-	-
015	TP14/0.0-0.2	28	13	26	11	-	10	12	8
016	TP15/0.0-0.2	28	13	26	11	-	10	12	8
017	TP15/0.45-0.65	28	13	26	11	-	10	12	8
018	TP16/0.0-0.2	-	-	26	-	-	-	-	-
019	TP17/0.0-0.2	-	-	26	-	-	-	-	-
020	TP18/0.0-0.2	-	-	26	-	-	-	-	-
021	TP18/0.2-0.4	-	-	26	-	-	-	-	-
022	TP19/0.0-0.2	28	13	26	11	-	10	12	8
023	TP20/0.0-0.2	-	-	26	-	-	-	-	-
024	TP21/0.0-0.2	-	-	26	-	-	-	-	-

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

SE153862

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.15583.00200 - Edensor Park

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	pH in soil (1:5)	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
025	TP22/0.0-0.2	28	13	26	11	-	10	12	8
026	TP23/0.0-0.2	-	-	26	-	-	-	-	-
027	TP23/0.3-0.5	-	-	-	-	1	-	-	-
028	TP24/0.0-0.2	28	13	26	11	-	10	12	8
029	TP25/0.0-0.2	-	-	26	-	-	-	-	-
030	TP25/0.4-0.6	-	-	26	-	-	-	-	-
032	DUP01	28	13	26	11	-	10	12	8
033	TRIP BLANK	-	-	-	-	-	-	12	-
034	TRIP SPIKE	-	-	-	-	-	-	9	-
035	Dup03	-	-	26	-	-	-	-	-

CONTINUED OVERLEAF

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SAMPLE RECEIPT ADVICE

SE153862

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.15583.00200 - Edensor Park

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	Fibre Identification in soil	Mercury in Soil	Moisture Content	Total Recoverable Metals in Soil/Waste
001	TP01/0.0-0.2	-	1	1	1	7
002	TP02/0.0-0.2	13	1	1	1	7
003	TP03/0.0-0.2	-	1	1	1	7
004	TP04/0.05-0.25	-	1	1	1	7
005	TP05/0.05-0.25	-	1	1	1	7
006	TP06/0.0-0.2	-	1	1	1	7
007	TP07/0.0-0.2	-	1	1	1	7
008	TP08/0.05-0.25	-	1	1	1	7
009	TP09/0.0-0.2	-	1	1	1	7
010	TP09/0.2-0.4	-	1	1	1	7
011	TP10/0.0-0.2	-	1	1	1	7
012	TP11/0.0-0.2	13	1	1	1	7
013	TP12/0.05-0.25	-	1	1	1	7
014	TP13/0.0-0.2	-	1	1	1	7
015	TP14/0.0-0.2	-	1	1	1	7
016	TP15/0.0-0.2	-	1	1	1	7
017	TP15/0.45-0.65	-	-	1	1	7
018	TP16/0.0-0.2	-	1	1	1	7
019	TP17/0.0-0.2	-	1	1	1	7
020	TP18/0.0-0.2	-	1	1	1	7
021	TP18/0.2-0.4	-	-	1	1	7
022	TP19/0.0-0.2	-	1	1	1	7
023	TP20/0.0-0.2	-	1	1	1	7
024	TP21/0.0-0.2	-	1	1	1	7

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE153862

CLIENT DETAILS

Client SLR CONSULTING AUSTRALIA PTY LTD

Project 610.15583.00200 - Edensor Park

SUMMARY OF ANALYSIS

No.	Sample ID	Exchangeable Cations and Cation Exchange Capacity	Fibre ID in bulk materials	Fibre Identification in soil	Mercury in Soil	Moisture Content	Total Recoverable Metals in Soil/Waste
025	TP22/0.0-0.2	-	-	1	1	1	7
026	TP23/0.0-0.2	-	-	1	1	1	7
027	TP23/0.3-0.5	13	-	-	-	1	-
028	TP24/0.0-0.2	-	-	1	1	1	7
029	TP25/0.0-0.2	-	-	1	1	1	7
030	TP25/0.4-0.6	-	-	1	1	1	7
031	TP20/PACM	-	1	-	-	-	-
032	DUP01	-	-	-	1	1	7
033	TRIP BLANK	-	-	-	-	1	-
035	Dup03	-	-	-	1	1	7

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

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Abanish Nepal
Client	SLR CONSULTING AUSTRALIA PTY LTD
Address	Lego Building, 2 Lincoln Street (PO Box 176 NSW LANECOVE 1595) NSW 2066
Telephone	02 9427 8100
Facsimile	02 9427 8200
Email	anepal@slrconsulting.com
Project	**610.15583.00200 - Edensor Park**
Order Number	**21055**
Samples	35

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	**SE153862 R1**
Date Received	21/6/2016
Date Reported	29/6/2016

COMMENTS

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

This report cancels and supersedes the report No.SE153862 R0 issued by SGS Environment, Heath and Safety due to amended job description.

% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.

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

Sample #23: 2-6mm length fibre bundles found in 6x4mm cement sheet fragment.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES

Dong Liang
Metals/Inorganics Team Leader

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 23/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	DUP01 SOIL - 20/6/2016 SE153862.032	TRIP BLANK SOIL - 16/6/2016 SE153862.033	TRIP SPIKE SOIL - 16/6/2016 SE153862.034
Benzene	mg/kg	0.1	<0.1	<0.1	[90%]
Toluene	mg/kg	0.1	<0.1	<0.1	[99%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	[82%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	[87%]
o-xylene	mg/kg	0.1	<0.1	<0.1	[91%]
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	<0.1	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 23/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028
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	DUP01 SOIL - 20/6/2016 SE153862.032
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: 24/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	DUP01 SOIL - 20/6/2016 SE153862.032
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-C16 (F2)	mg/kg	25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 24/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP02/0.0-0.2 SOIL - 20/6/2016 SE153862.002	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP04/0.05-0.25 SOIL - 20/6/2016 SE153862.004	TP05/0.05-0.25 SOIL - 20/6/2016 SE153862.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	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	8	<8.0	<8.0	<8.0	<8.0	<8.0

PARAMETER	UOM	LOR	TP06/0.0-0.2 SOIL - 20/6/2016 SE153862.006	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP08/0.05-0.25 SOIL - 20/6/2016 SE153862.008	TP09/0.0-0.2 SOIL - 20/6/2016 SE153862.009	TP09/0.2-0.4 SOIL - 20/6/2016 SE153862.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	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	8	<8.0	<8.0	<8.0	<8.0	<8.0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 24/6/2016 (continued)

PARAMETER	UOM	LOR	TP10/0.0-0.2 SOIL - 20/6/2016 SE153862.011	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP12/0.05-0.25 SOIL - 20/6/2016 SE153862.013	TP13/0.0-0.2 SOIL - 20/6/2016 SE153862.014	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	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	8	<8.0	<8.0	<8.0	<8.0	<8.0

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP16/0.0-0.2 SOIL - 20/6/2016 SE153862.018	TP17/0.0-0.2 SOIL - 20/6/2016 SE153862.019	TP18/0.0-0.2 SOIL - 20/6/2016 SE153862.020
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	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	8	<8.0	<8.0	<8.0	<8.0	<8.0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 24/6/2016 (continued)

PARAMETER	UOM	LOR	TP18/0.2-0.4 SOIL - 20/6/2016 SE153862.021	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP20/0.0-0.2 SOIL - 20/6/2016 SE153862.023	TP21/0.0-0.2 SOIL - 20/6/2016 SE153862.024	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	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	8	<8.0	<8.0	<8.0	<8.0	<8.0

PARAMETER	UOM	LOR	TP23/0.0-0.2 SOIL - 20/6/2016 SE153862.026	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028	TP25/0.0-0.2 SOIL - 20/6/2016 SE153862.029	TP25/0.4-0.6 SOIL - 20/6/2016 SE153862.030	DUP01 SOIL - 20/6/2016 SE153862.032
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	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	8	<8.0	<8.0	<8.0	<8.0	<8.0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 24/6/2016 (continued)

PARAMETER	UOM	LOR	Dup03 SOIL - 20/6/2016 SE153862.035
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	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	8	<8.0

OC Pesticides in Soil [AN400/AN420] Tested: 24/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.1**
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN400/AN420] Tested: 24/6/2016 (continued)

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN400/AN420] Tested: 24/6/2016 (continued)

PARAMETER	UOM	LOR	DUP01 SOIL - 20/6/2016 SE153862.032
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1

OP Pesticides in Soil [AN400/AN420] Tested: 24/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

PARAMETER	UOM	LOR	DUP01 SOIL - 20/6/2016 SE153862.032
Dichlorvos	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Malathion	mg/kg	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2

PCBs in Soil [AN400/AN420] Tested: 24/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	DUP01 SOIL - 20/6/2016 SE153862.032
Arochlor 1016	mg/kg	0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1

pH in soil (1:5) [AN101] Tested: 27/6/2016

PARAMETER	UOM	LOR	TP02/0.0-0.2 SOIL - 20/6/2016 SE153862.002	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP23/0.3-0.5 SOIL - 20/6/2016 SE153862.027
pH	pH Units	-	**6.8**	**6.5**	**6.2**

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 28/6/2016

PARAMETER	UOM	LOR	TP02/0.0-0.2 SOIL - 20/6/2016 SE153862.002	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP23/0.3-0.5 SOIL - 20/6/2016 SE153862.027
Exchangeable Sodium, Na	mg/kg	2	90	230	130
Exchangeable Sodium, Na	meq/100g	0.01	0.39	0.98	0.55
Exchangeable Sodium Percentage*	%	0.1	3.2	10.4	7.3
Exchangeable Potassium, K	mg/kg	2	170	110	110
Exchangeable Potassium, K	meq/100g	0.01	0.43	0.29	0.27
Exchangeable Potassium Percentage*	%	0.1	3.6	3.0	3.6
Exchangeable Calcium, Ca	mg/kg	2	1600	540	450
Exchangeable Calcium, Ca	meq/100g	0.01	7.8	2.7	2.2
Exchangeable Calcium Percentage*	%	0.1	64.4	28.5	29.5
Exchangeable Magnesium, Mg	mg/kg	2	430	670	550
Exchangeable Magnesium, Mg	meq/100g	0.02	3.5	5.5	4.5
Exchangeable Magnesium Percentage*	%	0.1	28.8	58.1	59.6
Cation Exchange Capacity	meq/100g	0.02	12	9.4	7.6

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 27/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP02/0.0-0.2 SOIL - 20/6/2016 SE153862.002	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP04/0.05-0.25 SOIL - 20/6/2016 SE153862.004	TP05/0.05-0.25 SOIL - 20/6/2016 SE153862.005
Arsenic, As	mg/kg	3	17	34	6	6	5
Cadmium, Cd	mg/kg	0.3	0.6	0.8	0.3	0.5	0.3
Chromium, Cr	mg/kg	0.3	15	17	11	14	13
Copper, Cu	mg/kg	0.5	43	96	14	18	17
Lead, Pb	mg/kg	1	53	100	20	26	17
Nickel, Ni	mg/kg	0.5	8.9	7.5	6.1	8.1	13
Zinc, Zn	mg/kg	0.5	54	52	28	49	36

PARAMETER	UOM	LOR	TP06/0.0-0.2 SOIL - 20/6/2016 SE153862.006	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP08/0.05-0.25 SOIL - 20/6/2016 SE153862.008	TP09/0.0-0.2 SOIL - 20/6/2016 SE153862.009	TP09/0.2-0.4 SOIL - 20/6/2016 SE153862.010
Arsenic, As	mg/kg	3	7	8	4	7	5
Cadmium, Cd	mg/kg	0.3	0.4	0.5	<0.3	0.4	0.4
Chromium, Cr	mg/kg	0.3	15	15	12	16	13
Copper, Cu	mg/kg	0.5	17	24	18	16	22
Lead, Pb	mg/kg	1	18	21	13	18	16
Nickel, Ni	mg/kg	0.5	4.5	5.1	3.5	5.7	5.1
Zinc, Zn	mg/kg	0.5	62	33	22	27	36

PARAMETER	UOM	LOR	TP10/0.0-0.2 SOIL - 20/6/2016 SE153862.011	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP12/0.05-0.25 SOIL - 20/6/2016 SE153862.013	TP13/0.0-0.2 SOIL - 20/6/2016 SE153862.014	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Arsenic, As	mg/kg	3	7	8	9	7	8
Cadmium, Cd	mg/kg	0.3	0.4	0.4	0.5	0.4	0.6
Chromium, Cr	mg/kg	0.3	13	16	16	15	15
Copper, Cu	mg/kg	0.5	22	18	26	25	31
Lead, Pb	mg/kg	1	19	19	25	18	23
Nickel, Ni	mg/kg	0.5	6.5	6.9	9.2	7.4	7.0
Zinc, Zn	mg/kg	0.5	41	32	36	41	56

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP16/0.0-0.2 SOIL - 20/6/2016 SE153862.018	TP17/0.0-0.2 SOIL - 20/6/2016 SE153862.019	TP18/0.0-0.2 SOIL - 20/6/2016 SE153862.020
Arsenic, As	mg/kg	3	8	6	7	6	7
Cadmium, Cd	mg/kg	0.3	0.6	0.3	0.4	0.4	0.5
Chromium, Cr	mg/kg	0.3	18	12	14	13	13
Copper, Cu	mg/kg	0.5	28	24	17	29	28
Lead, Pb	mg/kg	1	48	16	38	18	27
Nickel, Ni	mg/kg	0.5	9.4	5.2	5.2	8.5	8.2
Zinc, Zn	mg/kg	0.5	99	41	61	44	67

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 27/6/2016 (continued)

PARAMETER	UOM	LOR	TP18/0.2-0.4 SOIL - 20/6/2016 SE153862.021	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP20/0.0-0.2 SOIL - 20/6/2016 SE153862.023	TP21/0.0-0.2 SOIL - 20/6/2016 SE153862.024	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025
Arsenic, As	mg/kg	3	7	8	7	9	7
Cadmium, Cd	mg/kg	0.3	0.5	0.5	0.9	0.7	0.5
Chromium, Cr	mg/kg	0.3	14	17	22	20	15
Copper, Cu	mg/kg	0.5	25	29	26	29	25
Lead, Pb	mg/kg	1	21	25	73	25	21
Nickel, Ni	mg/kg	0.5	7.8	11	15	10	7.1
Zinc, Zn	mg/kg	0.5	37	64	430	47	34

PARAMETER	UOM	LOR	TP23/0.0-0.2 SOIL - 20/6/2016 SE153862.026	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028	TP25/0.0-0.2 SOIL - 20/6/2016 SE153862.029	TP25/0.4-0.6 SOIL - 20/6/2016 SE153862.030	DUP01 SOIL - 20/6/2016 SE153862.032
Arsenic, As	mg/kg	3	7	8	8	7	7
Cadmium, Cd	mg/kg	0.3	0.7	0.5	0.5	<0.3	0.7
Chromium, Cr	mg/kg	0.3	13	15	14	15	16
Copper, Cu	mg/kg	0.5	21	22	17	15	29
Lead, Pb	mg/kg	1	25	21	27	15	60
Nickel, Ni	mg/kg	0.5	8.7	7.7	8.9	6.7	9.7
Zinc, Zn	mg/kg	0.5	45	45	57	27	110

PARAMETER	UOM	LOR	Dup03 SOIL - 20/6/2016 SE153862.035
Arsenic, As	mg/kg	3	6
Cadmium, Cd	mg/kg	0.3	0.3
Chromium, Cr	mg/kg	0.3	14
Copper, Cu	mg/kg	0.5	15
Lead, Pb	mg/kg	1	15
Nickel, Ni	mg/kg	0.5	6.5
Zinc, Zn	mg/kg	0.5	30

Mercury in Soil [AN312] Tested: 27/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP02/0.0-0.2 SOIL - 20/6/2016 SE153862.002	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP04/0.05-0.25 SOIL - 20/6/2016 SE153862.004	TP05/0.05-0.25 SOIL - 20/6/2016 SE153862.005
Mercury	mg/kg	0.01	0.03	0.05	0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP06/0.0-0.2 SOIL - 20/6/2016 SE153862.006	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP08/0.05-0.25 SOIL - 20/6/2016 SE153862.008	TP09/0.0-0.2 SOIL - 20/6/2016 SE153862.009	TP09/0.2-0.4 SOIL - 20/6/2016 SE153862.010
Mercury	mg/kg	0.01	<0.01	<0.01	<0.01	0.02	<0.01

PARAMETER	UOM	LOR	TP10/0.0-0.2 SOIL - 20/6/2016 SE153862.011	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP12/0.05-0.25 SOIL - 20/6/2016 SE153862.013	TP13/0.0-0.2 SOIL - 20/6/2016 SE153862.014	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Mercury	mg/kg	0.01	<0.01	0.01	<0.01	0.04	0.02

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP16/0.0-0.2 SOIL - 20/6/2016 SE153862.018	TP17/0.0-0.2 SOIL - 20/6/2016 SE153862.019	TP18/0.0-0.2 SOIL - 20/6/2016 SE153862.020
Mercury	mg/kg	0.01	0.04	<0.01	0.03	0.02	0.03

PARAMETER	UOM	LOR	TP18/0.2-0.4 SOIL - 20/6/2016 SE153862.021	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP20/0.0-0.2 SOIL - 20/6/2016 SE153862.023	TP21/0.0-0.2 SOIL - 20/6/2016 SE153862.024	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025
Mercury	mg/kg	0.01	<0.01	0.01	0.05	0.03	0.02

PARAMETER	UOM	LOR	TP23/0.0-0.2 SOIL - 20/6/2016 SE153862.026	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028	TP25/0.0-0.2 SOIL - 20/6/2016 SE153862.029	TP25/0.4-0.6 SOIL - 20/6/2016 SE153862.030	DUP01 SOIL - 20/6/2016 SE153862.032
Mercury	mg/kg	0.01	0.04	0.03	0.03	0.01	0.03

PARAMETER	UOM	LOR	Dup03 SOIL - 20/6/2016 SE153862.035
Mercury	mg/kg	0.01	0.01

Moisture Content [AN002] Tested: 24/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP02/0.0-0.2 SOIL - 20/6/2016 SE153862.002	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP04/0.05-0.25 SOIL - 20/6/2016 SE153862.004	TP05/0.05-0.25 SOIL - 20/6/2016 SE153862.005
% Moisture	%w/w	0.5	21	22	19	15	21

PARAMETER	UOM	LOR	TP06/0.0-0.2 SOIL - 20/6/2016 SE153862.006	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP08/0.05-0.25 SOIL - 20/6/2016 SE153862.008	TP09/0.0-0.2 SOIL - 20/6/2016 SE153862.009	TP09/0.2-0.4 SOIL - 20/6/2016 SE153862.010
% Moisture	%w/w	0.5	14	20	19	23	20

PARAMETER	UOM	LOR	TP10/0.0-0.2 SOIL - 20/6/2016 SE153862.011	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP12/0.05-0.25 SOIL - 20/6/2016 SE153862.013	TP13/0.0-0.2 SOIL - 20/6/2016 SE153862.014	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
% Moisture	%w/w	0.5	20	19	18	19	20

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP15/0.45-0.65 SOIL - 20/6/2016 SE153862.017	TP16/0.0-0.2 SOIL - 20/6/2016 SE153862.018	TP17/0.0-0.2 SOIL - 20/6/2016 SE153862.019	TP18/0.0-0.2 SOIL - 20/6/2016 SE153862.020
% Moisture	%w/w	0.5	22	21	18	20	28

PARAMETER	UOM	LOR	TP18/0.2-0.4 SOIL - 20/6/2016 SE153862.021	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022	TP20/0.0-0.2 SOIL - 20/6/2016 SE153862.023	TP21/0.0-0.2 SOIL - 20/6/2016 SE153862.024	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025
% Moisture	%w/w	0.5	20	19	13	20	20

PARAMETER	UOM	LOR	TP23/0.0-0.2 SOIL - 20/6/2016 SE153862.026	TP23/0.3-0.5 SOIL - 20/6/2016 SE153862.027	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028	TP25/0.0-0.2 SOIL - 20/6/2016 SE153862.029	TP25/0.4-0.6 SOIL - 20/6/2016 SE153862.030
% Moisture	%w/w	0.5	19	17	20	19	19

PARAMETER	UOM	LOR	DUP01 SOIL - 20/6/2016 SE153862.032	TRIP BLANK SOIL - 16/6/2016 SE153862.033	Dup03 SOIL - 20/6/2016 SE153862.035
% Moisture	%w/w	0.5	23	<0.5	19

Fibre Identification in soil [AN602] Tested: 27/6/2016

PARAMETER	UOM	LOR	TP01/0.0-0.2 SOIL - 20/6/2016 SE153862.001	TP02/0.0-0.2 SOIL - 20/6/2016 SE153862.002	TP03/0.0-0.2 SOIL - 20/6/2016 SE153862.003	TP04/0.05-0.25 SOIL - 20/6/2016 SE153862.004	TP05/0.05-0.25 SOIL - 20/6/2016 SE153862.005
Asbestos Detected	No unit	-	No	No	No	No	No

PARAMETER	UOM	LOR	TP06/0.0-0.2 SOIL - 20/6/2016 SE153862.006	TP07/0.0-0.2 SOIL - 20/6/2016 SE153862.007	TP08/0.05-0.25 SOIL - 20/6/2016 SE153862.008	TP09/0.0-0.2 SOIL - 20/6/2016 SE153862.009	TP09/0.2-0.4 SOIL - 20/6/2016 SE153862.010
Asbestos Detected	No unit	-	No	No	No	No	No

PARAMETER	UOM	LOR	TP10/0.0-0.2 SOIL - 20/6/2016 SE153862.011	TP11/0.0-0.2 SOIL - 20/6/2016 SE153862.012	TP12/0.05-0.25 SOIL - 20/6/2016 SE153862.013	TP13/0.0-0.2 SOIL - 20/6/2016 SE153862.014	TP14/0.0-0.2 SOIL - 20/6/2016 SE153862.015
Asbestos Detected	No unit	-	No	No	No	No	No

PARAMETER	UOM	LOR	TP15/0.0-0.2 SOIL - 20/6/2016 SE153862.016	TP16/0.0-0.2 SOIL - 20/6/2016 SE153862.018	TP17/0.0-0.2 SOIL - 20/6/2016 SE153862.019	TP18/0.0-0.2 SOIL - 20/6/2016 SE153862.020	TP19/0.0-0.2 SOIL - 20/6/2016 SE153862.022
Asbestos Detected	No unit	-	No	No	No	No	No

PARAMETER	UOM	LOR	TP20/0.0-0.2 SOIL - 20/6/2016 SE153862.023	TP21/0.0-0.2 SOIL - 20/6/2016 SE153862.024	TP22/0.0-0.2 SOIL - 20/6/2016 SE153862.025	TP23/0.0-0.2 SOIL - 20/6/2016 SE153862.026	TP24/0.0-0.2 SOIL - 20/6/2016 SE153862.028
Asbestos Detected	No unit	-	Yes	No	No	No	No

PARAMETER	UOM	LOR	TP25/0.0-0.2 SOIL - 20/6/2016 SE153862.029	TP25/0.4-0.6 SOIL - 20/6/2016 SE153862.030
Asbestos Detected	No unit	-	No	No

Fibre ID in bulk materials [AN602] Tested: 28/6/2016

PARAMETER	UOM	LOR	TP20/PACM MATERIAL - 20/6/2016 SE153862.031
Asbestos Detected	No unit	-	Yes

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN122	Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.
AN122	The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100. ESP can be used to categorise the sodicity of the soil as below: ESP < 6% non-sodic ESP 6-15% sodic ESP >15% strongly sodic Method is refernced to Rayment and Higginson, 1992, sections 15D3 and 15N1.-
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
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
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 Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

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

FOOTNOTES

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

Samples analysed as received.
Solid samples expressed on a dry weight basis.

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

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

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

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

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

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

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

STATEMENT OF QA/QC PERFORMANCE

SE153862 R1

CLIENT DETAILS

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Project	**610.15583.00200 - Edensor Park**
Order Number	**21055**
Samples	35

LABORATORY DETAILS

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SGS Reference	**SE153862 R1**
Date Received	21 Jun 2016
Date Reported	29 Jun 2016

COMMENTS

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

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

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

Matrix Spike	Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES	2 items

SAMPLE SUMMARY

Sample counts by matrix	34 Soils, 1 Material	Type of documentation received	COC
Date documentation received	21/6/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	13.0°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

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

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP02/0.0-0.2	SE153862.002	LB104232	20 Jun 2016	21 Jun 2016	18 Jul 2016	28 Jun 2016	18 Jul 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104232	20 Jun 2016	21 Jun 2016	18 Jul 2016	28 Jun 2016	18 Jul 2016	28 Jun 2016
TP23/0.3-0.5	SE153862.027	LB104232	20 Jun 2016	21 Jun 2016	18 Jul 2016	28 Jun 2016	18 Jul 2016	28 Jun 2016

Fibre ID in bulk materials

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP20/PACM	SE153862.031	LB104253	20 Jun 2016	21 Jun 2016	20 Jun 2017	28 Jun 2016	20 Jun 2017	28 Jun 2016

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104198	20 Jun 2016	21 Jun 2016	20 Jun 2017	27 Jun 2016	20 Jun 2017	28 Jun 2016

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104133	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016

HOLDING TIME SUMMARY

SE153862 R1

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

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP18/0.2-0.4	SE153862.021	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
DUP01	SE153862.032	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016
Dup03	SE153862.035	LB104134	20 Jun 2016	21 Jun 2016	18 Jul 2016	27 Jun 2016	18 Jul 2016	28 Jun 2016

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP18/0.2-0.4	SE153862.021	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP23/0.3-0.5	SE153862.027	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
DUP01	SE153862.032	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
TRIP BLANK	SE153862.033	LB104014	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016
Dup03	SE153862.035	LB104014	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	29 Jun 2016	27 Jun 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

HOLDING TIME SUMMARY

SE153862 R1

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

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP11/0.0-0.2	SE153862.012	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.2-0.4	SE153862.021	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
DUP01	SE153862.032	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP BLANK	SE153862.033	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP SPIKE	SE153862.034	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
Dup03	SE153862.035	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.2-0.4	SE153862.021	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
DUP01	SE153862.032	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP BLANK	SE153862.033	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP SPIKE	SE153862.034	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
Dup03	SE153862.035	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref

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

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.2-0.4	SE153862.021	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
DUP01	SE153862.032	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP BLANK	SE153862.033	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP SPIKE	SE153862.034	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
Dup03	SE153862.035	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.2-0.4	SE153862.021	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

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

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP22/0.0-0.2	SE153862.025	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
DUP01	SE153862.032	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP BLANK	SE153862.033	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP SPIKE	SE153862.034	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
Dup03	SE153862.035	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

pH in soil (1:5)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP02/0.0-0.2	SE153862.002	LB104154	20 Jun 2016	21 Jun 2016	27 Jun 2016	27 Jun 2016	28 Jun 2016	27 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104154	20 Jun 2016	21 Jun 2016	27 Jun 2016	27 Jun 2016	28 Jun 2016	27 Jun 2016
TP23/0.3-0.5	SE153862.027	LB104154	20 Jun 2016	21 Jun 2016	27 Jun 2016	27 Jun 2016	28 Jun 2016	27 Jun 2016

Total Recoverable Metals 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
TP01/0.0-0.2	SE153862.001	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP09/0.2-0.4	SE153862.010	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104167	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP18/0.2-0.4	SE153862.021	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
DUP01	SE153862.032	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016
Dup03	SE153862.035	LB104168	20 Jun 2016	21 Jun 2016	17 Dec 2016	27 Jun 2016	17 Dec 2016	28 Jun 2016

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
TP01/0.0-0.2	SE153862.001	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP02/0.0-0.2	SE153862.002	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP04/0.05-0.25	SE153862.004	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP05/0.05-0.25	SE153862.005	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP06/0.0-0.2	SE153862.006	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP08/0.05-0.25	SE153862.008	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP09/0.0-0.2	SE153862.009	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

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

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

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP09/0.2-0.4	SE153862.010	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP10/0.0-0.2	SE153862.011	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP12/0.05-0.25	SE153862.013	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP13/0.0-0.2	SE153862.014	LB104115	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP16/0.0-0.2	SE153862.018	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP17/0.0-0.2	SE153862.019	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.0-0.2	SE153862.020	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP18/0.2-0.4	SE153862.021	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP20/0.0-0.2	SE153862.023	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP21/0.0-0.2	SE153862.024	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP23/0.0-0.2	SE153862.026	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.0-0.2	SE153862.029	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TP25/0.4-0.6	SE153862.030	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
DUP01	SE153862.032	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP BLANK	SE153862.033	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
TRIP SPIKE	SE153862.034	LB104116	16 Jun 2016	21 Jun 2016	30 Jun 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016
Dup03	SE153862.035	LB104116	20 Jun 2016	21 Jun 2016	04 Jul 2016	24 Jun 2016	03 Aug 2016	28 Jun 2016

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
DUP01	SE153862.032	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TRIP BLANK	SE153862.033	LB103967	16 Jun 2016	21 Jun 2016	30 Jun 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TRIP SPIKE	SE153862.034	LB103967	16 Jun 2016	21 Jun 2016	30 Jun 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP01/0.0-0.2	SE153862.001	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP03/0.0-0.2	SE153862.003	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP07/0.0-0.2	SE153862.007	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP11/0.0-0.2	SE153862.012	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP14/0.0-0.2	SE153862.015	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP15/0.0-0.2	SE153862.016	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP15/0.45-0.65	SE153862.017	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP19/0.0-0.2	SE153862.022	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP22/0.0-0.2	SE153862.025	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TP24/0.0-0.2	SE153862.028	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
DUP01	SE153862.032	LB103967	20 Jun 2016	21 Jun 2016	04 Jul 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TRIP BLANK	SE153862.033	LB103967	16 Jun 2016	21 Jun 2016	30 Jun 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016
TRIP SPIKE	SE153862.034	LB103967	16 Jun 2016	21 Jun 2016	30 Jun 2016	23 Jun 2016	02 Aug 2016	28 Jun 2016

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

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

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	71
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	70
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	70
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	70
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	72
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	70
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	71
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	72
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	71
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	70
	DUP01	SE153862.032	%	60 - 130%	70

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	80
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	82
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	80
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	76
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	76
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	76
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	74
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	74
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	78
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	76
	DUP01	SE153862.032	%	60 - 130%	78
d14-p-terphenyl (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	90
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	92
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	90
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	88
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	82
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	78
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	72
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	76
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	70
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	78
	DUP01	SE153862.032	%	60 - 130%	74

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP01/0.0-0.2	SE153862.001	%	70 - 130%	80
	TP02/0.0-0.2	SE153862.002	%	70 - 130%	78
	TP03/0.0-0.2	SE153862.003	%	70 - 130%	82
	TP04/0.05-0.25	SE153862.004	%	70 - 130%	86
	TP05/0.05-0.25	SE153862.005	%	70 - 130%	76
	TP06/0.0-0.2	SE153862.006	%	70 - 130%	76
	TP07/0.0-0.2	SE153862.007	%	70 - 130%	80
	TP08/0.05-0.25	SE153862.008	%	70 - 130%	78
	TP09/0.0-0.2	SE153862.009	%	70 - 130%	76
	TP09/0.2-0.4	SE153862.010	%	70 - 130%	78
	TP10/0.0-0.2	SE153862.011	%	70 - 130%	82
	TP11/0.0-0.2	SE153862.012	%	70 - 130%	76
	TP12/0.05-0.25	SE153862.013	%	70 - 130%	78
	TP13/0.0-0.2	SE153862.014	%	70 - 130%	80
	TP14/0.0-0.2	SE153862.015	%	70 - 130%	76
	TP15/0.0-0.2	SE153862.016	%	70 - 130%	76
	TP15/0.45-0.65	SE153862.017	%	70 - 130%	74
	TP16/0.0-0.2	SE153862.018	%	70 - 130%	76
	TP17/0.0-0.2	SE153862.019	%	70 - 130%	82
	TP18/0.0-0.2	SE153862.020	%	70 - 130%	76
	TP18/0.2-0.4	SE153862.021	%	70 - 130%	78
	TP19/0.0-0.2	SE153862.022	%	70 - 130%	74
	TP20/0.0-0.2	SE153862.023	%	70 - 130%	80

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP21/0.0-0.2	SE153862.024	%	70 - 130%	78
	TP22/0.0-0.2	SE153862.025	%	70 - 130%	78
	TP23/0.0-0.2	SE153862.026	%	70 - 130%	78
	TP24/0.0-0.2	SE153862.028	%	70 - 130%	76
	TP25/0.0-0.2	SE153862.029	%	70 - 130%	76
	TP25/0.4-0.6	SE153862.030	%	70 - 130%	78
	DUP01	SE153862.032	%	70 - 130%	78
	Dup03	SE153862.035	%	70 - 130%	82
d14-p-terphenyl (Surrogate)	TP01/0.0-0.2	SE153862.001	%	70 - 130%	90
	TP02/0.0-0.2	SE153862.002	%	70 - 130%	90
	TP03/0.0-0.2	SE153862.003	%	70 - 130%	92
	TP04/0.05-0.25	SE153862.004	%	70 - 130%	94
	TP05/0.05-0.25	SE153862.005	%	70 - 130%	84
	TP06/0.0-0.2	SE153862.006	%	70 - 130%	86
	TP07/0.0-0.2	SE153862.007	%	70 - 130%	90
	TP08/0.05-0.25	SE153862.008	%	70 - 130%	88
	TP09/0.0-0.2	SE153862.009	%	70 - 130%	86
	TP09/0.2-0.4	SE153862.010	%	70 - 130%	88
	TP10/0.0-0.2	SE153862.011	%	70 - 130%	94
	TP11/0.0-0.2	SE153862.012	%	70 - 130%	88
	TP12/0.05-0.25	SE153862.013	%	70 - 130%	88
	TP13/0.0-0.2	SE153862.014	%	70 - 130%	90
	TP14/0.0-0.2	SE153862.015	%	70 - 130%	82
	TP15/0.0-0.2	SE153862.016	%	70 - 130%	78
	TP15/0.45-0.65	SE153862.017	%	70 - 130%	72
	TP16/0.0-0.2	SE153862.018	%	70 - 130%	76
	TP17/0.0-0.2	SE153862.019	%	70 - 130%	72
	TP18/0.0-0.2	SE153862.020	%	70 - 130%	72
	TP18/0.2-0.4	SE153862.021	%	70 - 130%	84
	TP19/0.0-0.2	SE153862.022	%	70 - 130%	76
	TP20/0.0-0.2	SE153862.023	%	70 - 130%	74
	TP21/0.0-0.2	SE153862.024	%	70 - 130%	80
	TP22/0.0-0.2	SE153862.025	%	70 - 130%	70
	TP23/0.0-0.2	SE153862.026	%	70 - 130%	70
	TP24/0.0-0.2	SE153862.028	%	70 - 130%	78
	TP25/0.0-0.2	SE153862.029	%	70 - 130%	72
	TP25/0.4-0.6	SE153862.030	%	70 - 130%	72
	DUP01	SE153862.032	%	70 - 130%	74
	Dup03	SE153862.035	%	70 - 130%	86
d5-nitrobenzene (Surrogate)	TP01/0.0-0.2	SE153862.001	%	70 - 130%	76
	TP02/0.0-0.2	SE153862.002	%	70 - 130%	76
	TP03/0.0-0.2	SE153862.003	%	70 - 130%	80
	TP04/0.05-0.25	SE153862.004	%	70 - 130%	84
	TP05/0.05-0.25	SE153862.005	%	70 - 130%	74
	TP06/0.0-0.2	SE153862.006	%	70 - 130%	74
	TP07/0.0-0.2	SE153862.007	%	70 - 130%	78
	TP08/0.05-0.25	SE153862.008	%	70 - 130%	74
	TP09/0.0-0.2	SE153862.009	%	70 - 130%	74
	TP09/0.2-0.4	SE153862.010	%	70 - 130%	76
	TP10/0.0-0.2	SE153862.011	%	70 - 130%	78
	TP11/0.0-0.2	SE153862.012	%	70 - 130%	74
	TP12/0.05-0.25	SE153862.013	%	70 - 130%	74
	TP13/0.0-0.2	SE153862.014	%	70 - 130%	76
	TP14/0.0-0.2	SE153862.015	%	70 - 130%	74
	TP15/0.0-0.2	SE153862.016	%	70 - 130%	70
	TP15/0.45-0.65	SE153862.017	%	70 - 130%	70
	TP16/0.0-0.2	SE153862.018	%	70 - 130%	70
	TP17/0.0-0.2	SE153862.019	%	70 - 130%	72
	TP18/0.0-0.2	SE153862.020	%	70 - 130%	72
	TP18/0.2-0.4	SE153862.021	%	70 - 130%	70
	TP19/0.0-0.2	SE153862.022	%	70 - 130%	72

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	TP20/0.0-0.2	SE153862.023	%	70 - 130%	70
	TP21/0.0-0.2	SE153862.024	%	70 - 130%	70
	TP22/0.0-0.2	SE153862.025	%	70 - 130%	72
	TP23/0.0-0.2	SE153862.026	%	70 - 130%	72
	TP24/0.0-0.2	SE153862.028	%	70 - 130%	72
	TP25/0.0-0.2	SE153862.029	%	70 - 130%	70
	TP25/0.4-0.6	SE153862.030	%	70 - 130%	70
	DUP01	SE153862.032	%	70 - 130%	70
	Dup03	SE153862.035	%	70 - 130%	78

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	71
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	70
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	70
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	70
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	72
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	70
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	71
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	72
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	71
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	70
	DUP01	SE153862.032	%	60 - 130%	70

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	81
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	77
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	87
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	76
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	76
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	85
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	84
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	80
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	84
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	75
	DUP01	SE153862.032	%	60 - 130%	83
	TRIP BLANK	SE153862.033	%	60 - 130%	96
	TRIP SPIKE	SE153862.034	%	60 - 130%	112
d4-1,2-dichloroethane (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	88
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	86
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	97
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	87
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	86
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	96
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	94
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	93
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	95
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	89
	DUP01	SE153862.032	%	60 - 130%	92
	TRIP BLANK	SE153862.033	%	60 - 130%	106
	TRIP SPIKE	SE153862.034	%	60 - 130%	72
d8-toluene (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	86
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	84
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	95
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	84
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	85
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	91
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	90
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	89
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	92
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	84

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

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

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	DUP01	SE153862.032	%	60 - 130%	86
	TRIP BLANK	SE153862.033	%	60 - 130%	101
	TRIP SPIKE	SE153862.034	%	60 - 130%	76
Dibromofluoromethane (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	84
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	81
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	93
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	86
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	84
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	92
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	92
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	90
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	92
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	86
	DUP01	SE153862.032	%	60 - 130%	87
	TRIP BLANK	SE153862.033	%	60 - 130%	100
	TRIP SPIKE	SE153862.034	%	60 - 130%	84

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	81
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	77
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	87
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	76
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	76
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	85
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	84
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	80
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	84
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	75
	DUP01	SE153862.032	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	88
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	86
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	97
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	87
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	86
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	96
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	94
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	93
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	95
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	89
	DUP01	SE153862.032	%	60 - 130%	92
d8-toluene (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	86
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	84
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	95
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	84
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	85
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	91
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	90
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	89
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	92
	TP24/0.0-0.2	SE153862.028	%	60 - 130%	84
	DUP01	SE153862.032	%	60 - 130%	86
Dibromofluoromethane (Surrogate)	TP01/0.0-0.2	SE153862.001	%	60 - 130%	84
	TP03/0.0-0.2	SE153862.003	%	60 - 130%	81
	TP07/0.0-0.2	SE153862.007	%	60 - 130%	93
	TP11/0.0-0.2	SE153862.012	%	60 - 130%	86
	TP14/0.0-0.2	SE153862.015	%	60 - 130%	84
	TP15/0.0-0.2	SE153862.016	%	60 - 130%	92
	TP15/0.45-0.65	SE153862.017	%	60 - 130%	92
	TP19/0.0-0.2	SE153862.022	%	60 - 130%	90
	TP22/0.0-0.2	SE153862.025	%	60 - 130%	92

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	TP24/0.0-0.2	SE153862.028	%	60 - 130%	86
	DUP01	SE153862.032	%	60 - 130%	87

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.

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

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

Sample Number	Parameter	Units	LOR

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB104133.001	Mercury	mg/kg	0.01	<0.01
LB104134.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB104115.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	103
LB104116.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	72

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.

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB104115.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	78
		d14-p-terphenyl (Surrogate)	%	-	78
LB104116.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	72
		d14-p-terphenyl (Surrogate)	%	-	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB104115.001		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)	%	-	70
		2-fluorobiphenyl (Surrogate)	%	-	78
		d14-p-terphenyl (Surrogate)	%	-	78
LB104116.001		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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB104116.001		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)	%	-	78
		2-fluorobiphenyl (Surrogate)	%	-	72
		d14-p-terphenyl (Surrogate)	%	-	108

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB104115.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	103
LB104116.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	72

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

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

Sample Number	Parameter	Units	LOR	Result
LB104167.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5
LB104168.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB104115.001	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
LB104116.001	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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB104116.001		TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB103967.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	95
		d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	93
		Bromofluorobenzene (Surrogate)	%	-	83
	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
LB103967.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	95
		d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	93

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

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

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

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.007	LB104133.014	Mercury	mg/kg	0.01	<0.01	<0.01	200	0
SE153862.016	LB104133.024	Mercury	mg/kg	0.01	0.04	0.04	167	0
SE153862.026	LB104134.014	Mercury	mg/kg	0.01	0.04	0.03	187	0
SE154007.003	LB104134.024	Mercury	mg/kg	0.01	<0.01	<0.01	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.010	LB104014.011	% Moisture	%w/w	0.5	20	20	35	2
SE153862.020	LB104014.022	% Moisture	%w/w	0.5	28	29	34	5
SE153862.030	LB104014.033	% Moisture	%w/w	0.5	19	15	36	21
SE153862.035	LB104014.037	% Moisture	%w/w	0.5	19	19	35	0

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.016	LB104116.027		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.11	0.105	30	0

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.007	LB104115.027		Dichlorvos	mg/kg	0.5	<0.5	0.05	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.01	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.01	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0.11	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.46	30	2
SE153862.032	LB104116.026		Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0

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

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

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

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.032	LB104116.026		Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.41	30	5
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.36	30	3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.007	LB104115.027		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0	200	0
			Chrysene	mg/kg	0.1	<0.1	0	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.39	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.46	30	2
SE153862.014	LB104115.025		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	5

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

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.014	LB104115.025	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	2
SE153862.019	LB104116.025		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0	200	0
			Chrysene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.01	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.37	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.43	30	5
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.42	30	15
SE153862.032	LB104116.026		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0.01	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0.09	200	0
			Anthracene	mg/kg	0.1	<0.1	0.02	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.14	155	33
			Pyrene	mg/kg	0.1	<0.1	0.12	173	18
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.07	200	0
			Chrysene	mg/kg	0.1	<0.1	0.05	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.05	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.02	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.02	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.02	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0.26	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.37	30	6
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.41	30	5
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.36	30	3

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.016	LB104116.025	Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	0	200	0

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

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

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

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.016	LB104116.025		Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.105	30	0

pH in soil (1:5)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153990.014	LB104154.014	pH	pH Units	-	7.9	7.9	31	1
SE153990.017	LB104154.018	pH	pH Units	-	4.3	4.2	32	1

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.007	LB104167.014	Arsenic, As	mg/kg	3	8	8	42	6
		Cadmium, Cd	mg/kg	0.3	0.5	0.4	97	5
		Chromium, Cr	mg/kg	0.3	15	15	33	4
		Copper, Cu	mg/kg	0.5	24	24	32	2
		Lead, Pb	mg/kg	1	21	19	35	9
		Nickel, Ni	mg/kg	0.5	5.1	4.5	40	14
		Zinc, Zn	mg/kg	0.5	33	29	36	11
SE153862.016	LB104167.024	Arsenic, As	mg/kg	3	8	8	43	4
		Cadmium, Cd	mg/kg	0.3	0.6	0.7	76	2
		Chromium, Cr	mg/kg	0.3	18	17	33	6
		Copper, Cu	mg/kg	0.5	28	27	32	6
		Lead, Pb	mg/kg	1	48	50	32	4
		Nickel, Ni	mg/kg	0.5	9.4	8.5	36	10
		Zinc, Zn	mg/kg	0.5	99	96	32	2
SE153862.026	LB104168.014	Arsenic, As	mg/kg	3	7	7	44	10
		Cadmium, Cd	mg/kg	0.3	0.7	0.4	82	59
		Chromium, Cr	mg/kg	0.3	13	13	34	4
		Copper, Cu	mg/kg	0.5	21	25	32	18
		Lead, Pb	mg/kg	1	25	22	34	13
		Nickel, Ni	mg/kg	0.5	8.7	8.8	36	2
		Zinc, Zn	mg/kg	0.5	45	42	35	8
SE154007.003	LB104168.024	Arsenic, As	mg/kg	3	9	10	41	5
		Cadmium, Cd	mg/kg	0.3	0.4	0.4	105	14
		Chromium, Cr	mg/kg	0.3	19	20	33	7
		Copper, Cu	mg/kg	0.5	2.8	3.3	46	19
		Lead, Pb	mg/kg	1	16	17	36	6
		Nickel, Ni	mg/kg	0.5	1.6	1.7	61	5
		Zinc, Zn	mg/kg	0.5	6.2	6.5	61	4

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.007	LB104115.027		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE153862.032	LB104116.025		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0

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

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.032	LB104116.025	TRH F Bands	TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.028	LB103967.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	4.2	50	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	4.3	50	3
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.0	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.8	50	3
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE153862.032	LB103967.021	Monocyclic	Benzene	mg/kg	0.1	<0.1	0	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	0	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	0.02	200	0
			m/p-xylene	mg/kg	0.2	<0.2	0.04	200	0
			o-xylene	mg/kg	0.1	<0.1	0.02	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	3.97	50	10
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.22	50	8
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.3	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	4.16	50	0
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	0.06	200	0
			Total BTEX	mg/kg	0.6	<0.6	0.08	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE153862.028	LB103967.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	4.2	30	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	4.3	30	3
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.0	30	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.8	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE153862.032	LB103967.021		TRH C6-C10	mg/kg	25	<25	0	200	0
			TRH C6-C9	mg/kg	20	<20	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	3.97	30	10
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.22	30	8
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.3	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	4.16	30	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	-0.08	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.

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104232.002	Exchangeable Sodium, Na	mg/kg	2	NA	390	80 - 120	86
	Exchangeable Potassium, K	mg/kg	2	NA	343	80 - 120	82
	Exchangeable Calcium, Ca	mg/kg	2	NA	2570	80 - 120	81
	Exchangeable Magnesium, Mg	mg/kg	2	NA	635	80 - 120	80

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104133.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	102
LB104134.002	Mercury	mg/kg	0.01	0.21	0.2	70 - 130	107

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104115.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	120
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	122
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	123
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	120
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	124
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	87
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	101
LB104116.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	90
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	95
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	88
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	92
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	87
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	76
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.11	0.15	40 - 130	72

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104115.002		Dichlorvos	mg/kg	0.5	1.8	2	60 - 140	92
		Diazinon (Dimpylate)	mg/kg	0.5	1.5	2	60 - 140	75
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.4	2	60 - 140	71
		Ethion	mg/kg	0.2	1.5	2	60 - 140	74
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
LB104116.002		Dichlorvos	mg/kg	0.5	1.6	2	60 - 140	79
		Diazinon (Dimpylate)	mg/kg	0.5	1.5	2	60 - 140	77
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.5	2	60 - 140	77
		Ethion	mg/kg	0.2	1.6	2	60 - 140	78
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	76
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	76

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104115.002		Naphthalene	mg/kg	0.1	3.8	4	60 - 140	96
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	97
		Acenaphthene	mg/kg	0.1	3.8	4	60 - 140	96
		Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	100
		Anthracene	mg/kg	0.1	4.0	4	60 - 140	100
		Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	98
		Pyrene	mg/kg	0.1	3.8	4	60 - 140	95
		Benzo(a)pyrene	mg/kg	0.1	4.0	4	60 - 140	100
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	72
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
LB104116.002		Naphthalene	mg/kg	0.1	3.7	4	60 - 140	93
		Acenaphthylene	mg/kg	0.1	3.7	4	60 - 140	93
		Acenaphthene	mg/kg	0.1	3.8	4	60 - 140	94
		Phenanthrene	mg/kg	0.1	3.3	4	60 - 140	84
		Anthracene	mg/kg	0.1	3.7	4	60 - 140	92
		Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	94
		Pyrene	mg/kg	0.1	3.6	4	60 - 140	90

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104116.002		Benzo(a)pyrene	mg/kg	0.1	4.1	4	60 - 140	102
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	72
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	76
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	76

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104115.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	118
LB104116.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	102

pH in soil (1:5)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104154.003	pH	pH Units	-	7.5	7.415	98 - 102	101

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104167.002	Arsenic, As	mg/kg	3	51	50	80 - 120	102
	Cadmium, Cd	mg/kg	0.3	51	50	80 - 120	101
	Chromium, Cr	mg/kg	0.3	49	50	80 - 120	99
	Copper, Cu	mg/kg	0.5	50	50	80 - 120	100
	Lead, Pb	mg/kg	1	50	50	80 - 120	99
	Nickel, Ni	mg/kg	0.5	50	50	80 - 120	99
	Zinc, Zn	mg/kg	0.5	50	50	80 - 120	100
LB104168.002	Arsenic, As	mg/kg	3	52	50	80 - 120	104
	Cadmium, Cd	mg/kg	0.3	52	50	80 - 120	104
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	101
	Copper, Cu	mg/kg	0.5	51	50	80 - 120	102
	Lead, Pb	mg/kg	1	51	50	80 - 120	101
	Nickel, Ni	mg/kg	0.5	51	50	80 - 120	101
	Zinc, Zn	mg/kg	0.5	52	50	80 - 120	103

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB104115.002		TRH C10-C14	mg/kg	20	36	40	60 - 140	90
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	88
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	85
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	38	40	60 - 140	95
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	85
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90
LB104116.002		TRH C10-C14	mg/kg	20	36	40	60 - 140	90
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	88
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	75
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	36	40	60 - 140	90
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	83
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB103967.002	Monocyclic	Benzene	mg/kg	0.1	1.8	2.9	60 - 140	61
	Aromatic	Toluene	mg/kg	0.1	2.6	2.9	60 - 140	90
		Ethylbenzene	mg/kg	0.1	1.8	2.9	60 - 140	62
		m/p-xylene	mg/kg	0.2	4.1	5.8	60 - 140	71
		o-xylene	mg/kg	0.1	1.9	2.9	60 - 140	65
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	5	60 - 140	79
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	83
		d8-toluene (Surrogate)	mg/kg	-	4.2	5	60 - 140	83
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.3	5	60 - 140	127

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR

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

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

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB103967.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	80
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	69
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	5	60 - 140	79
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	83
		d8-toluene (Surrogate)	mg/kg	-	4.2	5	60 - 140	83
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.3	5	60 - 140	127
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	104

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE153806.001	LB104133.004	Mercury	mg/kg	0.01	0.21	0.01	0.2	97
SE153862.017	LB104134.004	Mercury	mg/kg	0.01	0.20	<0.01	0.2	99

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE153804.002	LB104115.026		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	<0.1	0.2	120
			Aldrin	mg/kg	0.1	<0.1	0.2	122
			Beta BHC	mg/kg	0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	<0.1	0.2	122
			Heptachlor epoxide	mg/kg	0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	<0.2	0.2	116
			Endrin	mg/kg	0.2	<0.2	0.2	123
			o,p'-DDD	mg/kg	0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	<0.1	0.2	108
			Endosulfan sulphate	mg/kg	0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	-	106

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE153804.001	LB104115.026		Dichlorvos	mg/kg	0.5	<0.5	2	95
			Dimethoate	mg/kg	0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	84
			Fenitrothion	mg/kg	0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	94
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	-	-
			Ethion	mg/kg	0.2	<0.2	2	79
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	78
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	86
SE153862.017	LB104116.027		Dichlorvos	mg/kg	0.5	<0.5	2	74
			Dimethoate	mg/kg	0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	75
			Fenitrothion	mg/kg	0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	76
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	-	-
			Ethion	mg/kg	0.2	<0.2	2	91
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-

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

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

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE153862.017	LB104116.027	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	74

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE153804.001	LB104115.026		Naphthalene	mg/kg	0.1	<0.1	4	97
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	0.1	4	98
			Acenaphthene	mg/kg	0.1	<0.1	4	99
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	0.3	4	96
			Anthracene	mg/kg	0.1	<0.1	4	98
			Fluoranthene	mg/kg	0.1	1.1	4	95
			Pyrene	mg/kg	0.1	1.1	4	91
			Benzo(a)anthracene	mg/kg	0.1	0.7	-	-
			Chrysene	mg/kg	0.1	0.6	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.9	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.4	-	-
			Benzo(a)pyrene	mg/kg	0.1	0.8	4	95
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.5	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0.4	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	1.0	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	1.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	1.1	-	-
			Total PAH (18)	mg/kg	0.8	6.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	-	72
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	78
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	86
SE153862.017	LB104116.027		Naphthalene	mg/kg	0.1	<0.1	4	95
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	95
			Acenaphthene	mg/kg	0.1	<0.1	4	96
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	95
			Anthracene	mg/kg	0.1	<0.1	4	97
			Fluoranthene	mg/kg	0.1	<0.1	4	107
			Pyrene	mg/kg	0.1	<0.1	4	100
			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	4	103
			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	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	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	-	74
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	74

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE153804.002	LB104115.026		Arochlor 1016	mg/kg	0.2	<0.2	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	-	-

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

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

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE153804.002	LB104115.026		Arochlor 1248	mg/kg	0.2	<0.2	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	-	-
			Arochlor 1260	mg/kg	0.2	<0.2	0.4	116
			Arochlor 1262	mg/kg	0.2	<0.2	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	-	100

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

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE153806.001	LB104167.004		Arsenic, As	mg/kg	3	51	12	50	78
			Cadmium, Cd	mg/kg	0.3	42	<0.3	50	84
			Chromium, Cr	mg/kg	0.3	49	10	50	77
			Copper, Cu	mg/kg	0.5	50	10	50	79
			Lead, Pb	mg/kg	1	110	74	50	67 ④
			Nickel, Ni	mg/kg	0.5	43	1.9	50	82
			Zinc, Zn	mg/kg	0.5	140	120	50	32 ④
SE153862.017	LB104168.004		Arsenic, As	mg/kg	3	49	6	50	86
			Cadmium, Cd	mg/kg	0.3	44	0.3	50	88
			Chromium, Cr	mg/kg	0.3	56	12	50	87
			Copper, Cu	mg/kg	0.5	72	24	50	95
			Lead, Pb	mg/kg	1	57	16	50	81
			Nickel, Ni	mg/kg	0.5	49	5.2	50	88
			Zinc, Zn	mg/kg	0.5	95	41	50	107

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE153862.001	LB103967.004	Monocyclic	Benzene	mg/kg	0.1	1.9	<0.1	2.9	64
		Aromatic	Toluene	mg/kg	0.1	2.8	<0.1	2.9	95
			Ethylbenzene	mg/kg	0.1	2.0	<0.1	2.9	69
			m/p-xylene	mg/kg	0.2	4.6	<0.2	5.8	79
			o-xylene	mg/kg	0.1	2.2	<0.1	2.9	75
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	4.2	-	84
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.3	4.4	-	87
			d8-toluene (Surrogate)	mg/kg	-	4.5	4.3	-	90
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.3	4.1	-	127
		Totals	Total Xylenes*	mg/kg	0.3	6.8	<0.3	-	-
			Total BTEX	mg/kg	0.6	13	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE153862.001	LB103967.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	80
			TRH C6-C9	mg/kg	20	<20	<20	23.2	68
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	4.2	-	84
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.3	4.4	-	87
			d8-toluene (Surrogate)	mg/kg	-	4.5	4.3	-	90
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.3	4.1	-	127
		VPH F	Benzene (F0)	mg/kg	0.1	1.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	88

MATRIX SPIKE DUPLICATES

SE153862 R1

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

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

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

*	NATA accreditation does not cover tthe performance of this service.
-	Sample not analysed for this analyte.

IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Abanish Nepal
Client	SLR CONSULTING AUSTRALIA PTY LTD
Address	Lego Building, 2 Lincoln Street (PO Box 176 NSW LANECOVE 1595) NSW 2066
Telephone	02 9427 8100
Facsimile	02 9427 8200
Email	anepal@slrconsulting.com
Project	**610.15583.00200 - Edensor Park**
Order Number	**21055**
Samples	28

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	**SE153862 R1**
Date Received	21 Jun 2016
Date Reported	29 Jun 2016

COMMENTS

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

This report cancels and supersedes the report No.SE153862 R0 issued by SGS Environment, Heath and Safety due to amended job description.

% Clay subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.

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

Sample #23: 2-6mm length fibre bundles found in 6x4mm cement sheet fragment.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES

Dong Liang
Metals/Inorganics Team Leader

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification
SE153862.001	TP01/0.0-0.2	Soil	32g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.002	TP02/0.0-0.2	Soil	36g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.003	TP03/0.0-0.2	Soil	28g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.004	TP04/0.05-0.25	Soil	28g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.005	TP05/0.05-0.25	Soil	57g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.006	TP06/0.0-0.2	Soil	34g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.007	TP07/0.0-0.2	Soil	38g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.008	TP08/0.05-0.25	Soil	41g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.009	TP09/0.0-0.2	Soil	53g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.010	TP09/0.2-0.4	Soil	42g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.011	TP10/0.0-0.2	Soil	41g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.012	TP11/0.0-0.2	Soil	39g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.013	TP12/0.05-0.25	Soil	24g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.014	TP13/0.0-0.2	Soil	42g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.015	TP14/0.0-0.2	Soil	30g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.016	TP15/0.0-0.2	Soil	50g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.018	TP16/0.0-0.2	Soil	31g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.019	TP17/0.0-0.2	Soil	32g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.020	TP18/0.0-0.2	Soil	26g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.022	TP19/0.0-0.2	Soil	36g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.023	TP20/0.0-0.2	Soil	39g Clay, Sand, Rocks	20 Jun 2016	Amosite, Chrysotile & Crocidolite Asbestos Found Organic Fibres Detected
SE153862.024	TP21/0.0-0.2	Soil	52g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.025	TP22/0.0-0.2	Soil	35g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.026	TP23/0.0-0.2	Soil	34g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.028	TP24/0.0-0.2	Soil	43g Clay, Rocks	20 Jun 2016	No Asbestos Found
SE153862.029	TP25/0.0-0.2	Soil	45g Clay, Sand, Rocks	20 Jun 2016	No Asbestos Found
SE153862.030	TP25/0.4-0.6	Soil	39g Clay	20 Jun 2016	No Asbestos Found

ANALYTICAL REPORT

RESULTS

Fibre ID in bulk materials — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification
SE153862.031	TP20/PACM	Other	60x20x4mm cement sheet fragment x2	20 Jun 2016	Amosite, Chrysotile & Crocidolite Asbestos Detected

METHOD SUMMARY

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

FOOTNOTES

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

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

Sampled by the client.

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

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

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

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

Company Name:	SLR Consulting	Project Name/No:	610 15583 00200 – Edensor Park
Address:	2 Lincoln Street	Purchase Order No:	SGS PO 21055, Eurofins PO 21056
	Lane Cove NSW 2066	Results Required By:	Standard
		Telephone:	0448 178 915
Contact Name:	Abanish Nepal	Facsimile:	02 9427 8200
		Email Results:	anepal@slrconsulting.com ndesilva@slrconsulting.com

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	PAH/METALS	Asbestos (Presence / Absence)	BTEX	TRH/BTEX/PAH/Metals /OCP/OPP/PCB	% CLAY	CEC	PH		HOLD									Notes
TP20/PACM	20-6-16				Ice	1		X																
DUP01	20-6-16			X	Ice	1				X														
DUP01A	20-6-16			X	Ice	1				X														
DUP02	20-6-16			X	Ice	1									X									Please send to Eurofins
DUP02A	20-6-16			X	Ice	1									X									
DUP03	20-6-16			X	Ice	1									X									
DUP03A	20-6-16			X	Ice	1									X									
TRIP BLANK	16-6-16			X	Ice	1			X															
TRIP SPIKE	16-6-16			X	Ice	1			X															

505355

Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By: Siamak	Date/Time 22/6 15:15
Relinquished By: Abanish Nepal	Date/Time: 21/06/2016 14.10	Received By:	Date/Time
Samples Intact: Yes / No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No: SLR Pricing 2015
	Comments: Methods and detection limits to suit NEPM 2013		Laboratory Quotation No:

AU.SampleReceipt.Sydney (Sydney)

From: Abanish Nepal [anepal@slrconsulting com]
Sent: Wednesday, 22 June 2016 5:28 AM
To: AU.SampleReceipt.Sydney (Sydney)
Cc: Crawford, Huong (Sydney); Ellerington, Trent (Sydney)
Subject: Re: 610.14889 & 610.15583 COCs

Hi Team

Could also analyse DUP03 for PAH/Metals and send DUP03A (both samples for our project 610.15583 Esensor Park) to Eurofins for the same analysis?

Kind Regards
Abanish Nepal
Senior Consultant - Land Quality and Remediation

On 21 Jun 2016, at 2:30 PM, Abanish Nepal <anepal@slrconsulting.com> wrote:

Abanish Nepal
Senior Consultant - Land Quality and Remediation SLR Consulting Australia Pty Ltd

Email: mailto:anepal@slrconsulting.com
Mob: +61 448 178 915
Tel: +61 2 9427 8100
Fax: +61 2 9427 8200

2 Lincoln Street, Lane Cove NSW 2066, Australia

www.slrconsulting.com

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
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NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**SLR Consulting (Sydney)**
Contact name:	Abanish Nepal
Project name:	EDENSOR PARK
Project ID:	610.15583.00200
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Jun 22, 2016 3:15 PM
Eurofins | mgt reference:	**505355**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Andrew Black on Phone : (+61) 2 9900 8490 or by e.mail: AndrewBlack@eurofins.com

Results will be delivered electronically via e.mail to Abanish Nepal - anepal@slrconsulting.com.

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

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Lane Cove West NSW 2066
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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: SLR Consulting (Sydney)
Address: 2 Lincoln St
Lane Cove West
NSW 2066

Project Name: EDENSOR PARK
Project ID: 610.15583.00200

Order No.: 21056
Report #: 505355
Phone: 02 9428 8100
Fax:

Received: Jun 22, 2016 3:15 PM
Due: Jun 29, 2016
Priority: 5 Day
Contact Name: Abanish Nepal

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Organophosphorus Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271													
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794													
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	DUP01A	Jun 20, 2016		Soil	S16-Jn20606	X	X	X	X	X	X	X	X
2	DUP03A	Jun 20, 2016		Soil	S16-Jn20607	X				X		X	
Test Counts						2	1	1	1	2	1	2	1

eurofins | mgt

Certificate of Analysis

SLR Consulting
2 Lincoln St
Lane Cove West
NSW 2066

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Abanish Nepal**

Report **505355-S**
Project name EDENSOR PARK
Project ID 610.15583.00200
Received Date Jun 22, 2016

Client Sample ID			**DUP01A**	**DUP03A**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**S16-Jn20606**	**S16-Jn20607**
Date Sampled			**Jun 20, 2016**	**Jun 20, 2016**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	-
TRH C10-C14	20	mg/kg	44	-
TRH C15-C28	50	mg/kg	61	-
TRH C29-C36	50	mg/kg	51	-
TRH C10-36 (Total)	50	mg/kg	156	-
BTEX				
Benzene	0.1	mg/kg	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	-
Xylenes - Total	0.3	mg/kg	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	79	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			DUP01A	DUP03A
Sample Matrix			Soil	Soil
Eurofins | mgt Sample No.			S16-Jn20606	S16-Jn20607
Date Sampled			Jun 20, 2016	Jun 20, 2016
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	91	102
p-Terphenyl-d14 (surr.)	1	%	102	112
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-
Toxaphene	1	mg/kg	< 1	-
Dibutylchlorendate (surr.)	1	%	107	-
Tetrachloro-m-xylene (surr.)	1	%	127	-
Organophosphorus Pesticides				
Azinphos-methyl	0.2	mg/kg	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-
Coumaphos	2	mg/kg	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-

Client Sample ID			DUP01A	DUP03A
Sample Matrix			Soil	Soil
Eurofins | mgt Sample No.			S16-Jn20606	S16-Jn20607
Date Sampled			Jun 20, 2016	Jun 20, 2016
Test/Reference	LOR	Unit		
Organophosphorus Pesticides				
Fenthion	0.2	mg/kg	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-
Omethoate	2	mg/kg	< 2	-
Phorate	0.2	mg/kg	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-
Triphenylphosphate (surr.)	1	%	119	-
Polychlorinated Biphenyls				
Aroclor-1016	0.5	mg/kg	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-
Dibutylchlorendate (surr.)	1	%	107	-
Tetrachloro-m-xylene (surr.)	1	%	127	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
TRH >C10-C16	50	mg/kg	< 50	-
TRH >C16-C34	100	mg/kg	< 100	-
TRH >C34-C40	100	mg/kg	< 100	-
Heavy Metals				
Arsenic	2	mg/kg	9.3	7.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	19	16
Copper	5	mg/kg	28	16
Lead	5	mg/kg	61	15
Mercury	0.05	mg/kg	0.05	< 0.05
Nickel	5	mg/kg	11	7.3
Zinc	5	mg/kg	130	28
% Moisture	1	%	24	17

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jun 27, 2016	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jun 25, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jun 25, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
BTEX	Sydney	Jun 25, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Sydney	Jun 27, 2016	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Organochlorine Pesticides	Sydney	Jun 27, 2016	14 Day
- Method: E013 Organochlorine Pesticides (OC)			
Organophosphorus Pesticides	Sydney	Jun 27, 2016	14 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Jun 27, 2016	28 Day
- Method: E013 Polychlorinated Biphenyls (PCB)			
Metals M8	Sydney	Jun 25, 2016	28 Day
- Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS			
% Moisture	Sydney	Jun 22, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

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Lane Cove West
NSW 2066

Project Name: EDENSOR PARK
Project ID: 610.15583.00200

Order No.: 21056
Report #: 505355
Phone: 02 9428 8100
Fax:

Received: Jun 22, 2016 3:15 PM
Due: Jun 29, 2016
Priority: 5 Day
Contact Name: Abanish Nepal

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Organophosphorus Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271													
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794													
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	DUP01A	Jun 20, 2016		Soil	S16-Jn20606	X	X	X	X	X	X	X	X
2	DUP03A	Jun 20, 2016		Soil	S16-Jn20607	X				X		X	
Test Counts						2	1	1	1	2	1	2	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	98			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	106			70-130	Pass	
4.4'-DDD	%	111			70-130	Pass	
4.4'-DDE	%	106			70-130	Pass	
4.4'-DDT	%	96			70-130	Pass	
a-BHC	%	108			70-130	Pass	
Aldrin	%	110			70-130	Pass	
b-BHC	%	117			70-130	Pass	
d-BHC	%	113			70-130	Pass	
Dieldrin	%	104			70-130	Pass	
Endosulfan I	%	105			70-130	Pass	
Endosulfan II	%	105			70-130	Pass	
Endosulfan sulphate	%	106			70-130	Pass	
Endrin	%	110			70-130	Pass	
Endrin aldehyde	%	97			70-130	Pass	
Endrin ketone	%	99			70-130	Pass	
g-BHC (Lindane)	%	108			70-130	Pass	
Heptachlor	%	97			70-130	Pass	
Heptachlor epoxide	%	104			70-130	Pass	
Hexachlorobenzene	%	90			70-130	Pass	
Methoxychlor	%	95			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	104			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	97			70-130	Pass	
Cadmium	%	105			70-130	Pass	
Chromium	%	97			70-130	Pass	
Copper	%	98			70-130	Pass	
Lead	%	105			70-130	Pass	
Mercury	%	109			70-130	Pass	
Nickel	%	98			70-130	Pass	
Zinc	%	99			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S16-Jn22086	NCP	%	81			70-130	Pass	
TRH C10-C14	S16-Jn19199	NCP	%	71			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Jn20606	CP	%	100			70-130	Pass	
Acenaphthylene	S16-Jn20606	CP	%	90			70-130	Pass	
Anthracene	S16-Jn20606	CP	%	98			70-130	Pass	
Benz(a)anthracene	S16-Jn20606	CP	%	100			70-130	Pass	
Benzo(a)pyrene	S16-Jn20606	CP	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	S16-Jn20606	CP	%	83			70-130	Pass	
Benzo(g.h.i)perylene	S16-Jn20606	CP	%	86			70-130	Pass	
Benzo(k)fluoranthene	S16-Jn20606	CP	%	106			70-130	Pass	
Chrysene	S16-Jn20606	CP	%	115			70-130	Pass	
Dibenz(a.h)anthracene	S16-Jn20606	CP	%	77			70-130	Pass	
Fluoranthene	S16-Jn20606	CP	%	108			70-130	Pass	
Fluorene	S16-Jn20606	CP	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S16-Jn20606	CP	%	82			70-130	Pass	
Naphthalene	S16-Jn20606	CP	%	104			70-130	Pass	
Phenanthrene	S16-Jn20606	CP	%	124			70-130	Pass	
Pyrene	S16-Jn20606	CP	%	117			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S16-Jn20755	NCP	%	93			70-130	Pass	
4.4'-DDD	S16-Jn24451	NCP	%	119			70-130	Pass	
4.4'-DDE	S16-Jn20755	NCP	%	95			70-130	Pass	
4.4'-DDT	S16-Jn24451	NCP	%	110			70-130	Pass	
a-BHC	S16-Jn20755	NCP	%	86			70-130	Pass	
Aldrin	S16-Jn20755	NCP	%	90			70-130	Pass	
b-BHC	S16-Jn20755	NCP	%	89			70-130	Pass	
Endosulfan I	S16-Jn20755	NCP	%	91			70-130	Pass	
Endosulfan II	S16-Jn20755	NCP	%	97			70-130	Pass	
Endosulfan sulphate	S16-Jn20755	NCP	%	97			70-130	Pass	
Endrin	S16-Jn20755	NCP	%	86			70-130	Pass	
Endrin ketone	S16-Jn20755	NCP	%	106			70-130	Pass	
Heptachlor	S16-Jn24451	NCP	%	103			70-130	Pass	
Hexachlorobenzene	S16-Jn20755	NCP	%	74			70-130	Pass	
Methoxychlor	S16-Jn24451	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Jn23537	NCP	%	92			70-130	Pass	
Cadmium	S16-Jn23537	NCP	%	98			70-130	Pass	
Chromium	S16-Jn23537	NCP	%	94			70-130	Pass	
Copper	S16-Jn23537	NCP	%	89			70-130	Pass	
Lead	S16-Jn23537	NCP	%	96			70-130	Pass	
Mercury	S16-Jn23537	NCP	%	94			70-130	Pass	
Nickel	S16-Jn23537	NCP	%	91			70-130	Pass	
Zinc	S16-Jn23537	NCP	%	93			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S16-Jn22085	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S16-Jn22112	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Jn22112	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Jn22112	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S16-Jn22085	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S16-Jn22085	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S16-Jn22085	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S16-Jn22085	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S16-Jn22085	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S16-Jn22085	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S16-Jn22085	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S16-Jn22085	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S16-Jn23370	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S16-Jn20106	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S16-Jn20106	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S16-Jn20106	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S16-Jn20106	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S16-Jn20606	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Dichlorvos	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S16-Jn20606	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Omethoate	S16-Jn20606	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S16-Jn20606	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S16-Jn20106	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S16-Jn20106	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S16-Jn20106	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S16-Jn20106	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S16-Jn20106	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S16-Jn20106	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S16-Jn20106	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S16-Jn22112	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S16-Jn22112	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S16-Jn22112	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Jn20606	CP	%	24	22	12	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Jn20607	CP	mg/kg	7.7	7.6	2.0	30%	Pass	
Cadmium	S16-Jn20607	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Jn20607	CP	mg/kg	16	15	8.0	30%	Pass	
Copper	S16-Jn20607	CP	mg/kg	16	16	1.0	30%	Pass	
Lead	S16-Jn20607	CP	mg/kg	15	15	1.0	30%	Pass	
Mercury	S16-Jn20607	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S16-Jn20607	CP	mg/kg	7.3	7.1	2.0	30%	Pass	
Zinc	S16-Jn20607	CP	mg/kg	28	28	2.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Andrew Black	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)

Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

PID CALIBRATION LOG

SLR

PID CALIBRATION LOG

PID MODEL: MiniRae Lite PGM73500 (10.6eV lamp)	PID SERIAL NUMBER: 595-000501

Date:	6/05/16	SLR Project Number:	610.13843.00001
Isobutylene Gas Lot No:	1583028		
Isobutylene Standard (ppm):	100		
Fresh Air Cal (ppm):	0.		
Isobutylene Cal (ppm):	100		
SLR Consultant Signature:			

Date:	20/06/2016	SLR Project Number:	610.15588.00200
Isobutylene Gas Lot No:	1583028		
Isobutylene Standard (ppm):	100		
Fresh Air Cal (ppm):	0.0		
Isobutylene Cal (ppm):	100.0		
SLR Consultant Signature:			

Date:		SLR Project Number:	
Isobutylene Gas Lot No:			
Isobutylene Standard (ppm):			
Fresh Air Cal (ppm):			
Isobutylene Cal (ppm):			
SLR Consultant Signature:			

Date:		SLR Project Number:	
Isobutylene Gas Lot No:			
Isobutylene Standard (ppm):			
Fresh Air Cal (ppm):			
Isobutylene Cal (ppm):			
SLR Consultant Signature:			

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