Contamination investigation

Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW

Ref: R10182c1
Date: 1 March 2019

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Environmental
Geotechnical
Asbestos
Services

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Interested authorities:	Oberon Council
Report number:	R10182c1
Date:	1 March 2019

Summary report

Address: Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW 2787

Dates of works 20/09/2018

Nature of works carried out
A preliminary soil investigation including desktop study, historical review, visual inspection and soil sampling was undertaken of the site.

Main areas of concern
Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW has been used for agricultural grazing and storage of machinery and equipment and may have resulted in contamination. The investigation area comprised the eastern section of Lot 34 and western section of Lot 34 and is approximately 5ha in size.

Nature and extent of contamination
Levels of potential contaminants were below the adopted commercial/industrial land-use thresholds. A large stockpile of topsoil and organic material was located on the site and was not assessed. Equipment and machinery were located across the western section of the investigation area.

Risk factors
No contaminants were identified in the investigation.

Waste removed
Nil.

Recommendations
Removal of stockpiled topsoil material and machinery and equipment including bricks and chipboard is required for suitability for industrial land-use.

Statement if suitability
The investigation area is suitable for proposed commercial/industrial land-use following implementation of recommendations.

This is an accurate summary of the report titled: Contamination investigation – Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW (Report number R10182c1)

Produced by: Envirowest Consulting Pty Ltd Dated: 1/3/2019
Name: Gregory Madafiglio Certification details: CEnvP

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1. Introduction

Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW have historically had an agricultural land-use history of stock grazing with recent storage of equipment and machinery. An investigation of the site is required to determine the soil contamination status and suitability for industrial land-use.

A desktop study and a review of the available history were undertaken of the site. A walkover and site inspection for evidence of contamination from past activities was conducted on 20 September 2018. The proposed lot boundaries were amended in February 2019 and additional samples were collected 21 February 2019. Soil samples were collected and analysed for metals, persistent pesticides, hydrocarbons and asbestos.

2. Scope of work

Envirowest Consulting Pty Ltd was commissioned by Borg Plantations Pty Ltd to undertake a contamination investigation, in accordance with the contaminated land management planning guidelines, from the *Contaminated Land Management Act 1997* and the *State Environmental Policy No. 55 (SEPP 55)*, of part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW. The objective was to identify past potentially contaminating activities, identify potential contamination types, discuss the site condition, provide a preliminary assessment of site contamination and assess the need for further investigation or suitability for industrial land-use.

3. Site identification

Address	26 Endeavour Street Oberon NSW 2787
Client	Borg Plantations Pty Ltd
Deposited plans	Part Lots 33 and 34 DP1228591
Locality map	Figure 1
Site plan	Figure 3
Photographs	Figure 5
Area	Approximately 3h

4. Site history

4.1 Zoning

The site is zoned IN1-General Industrial under the Oberon Local Environmental Plan (2013).

4.2 Land-use

The site is located in an industrial area of Oberon, NSW. The historic land-use of the site was agricultural including grazing of stock and more recently storage of equipment and machinery in the western portion of the site.

4.3 Sources of information

Site inspection 20 September 2018 by Envirowest Consulting Pty Ltd
NSW EPA records of public notices under the CLM Act 1997
Soil and geological maps
Historical aerial photographs

Oberon LEP 2013
Oberon 1:25000 Topographic map
Titles Search (InfoTrack)
Oberon Council Planning Certificate 10.7
SafeWork NSW Dangerous Goods Search

4.4 Summary of council records

4.4.1 Planning Certificate 10.7

Oberon Council has not received notice under the *Contaminated Land Management Act 1997*

- that the land is significantly contaminated
- subject to a management order
- subject to an ongoing maintenance order
- subject to a site audit statement.

Oberon Council's records indicate that Lots 33 and 34 DP1228591 is suspected of being a contaminated site as the property has been used for industrial activities.

- The land does not include or comprise critical habitat
- The land was not identified as biodiversity certified land
- The land is not bushfire prone land
- The land is not affected by any road widening or road realignment proposals

4.4.2 Oberon Council LEP

The site has been mapped in a groundwater vulnerable area (Oberon LEP 2013).

4.5 Chronological list of site uses

4.5.1 Historical aerial photography

Year	Visual observations on site	Surrounding area
1964	Expected agricultural grazing.	Agricultural grazing
1974	The site appears to form part of a larger agricultural grazing paddock. Several sheds are located adjacent the investigation area to the west.	The surrounding area appears to be used for agricultural grazing.
1984	Trees are located on the southern boundary of a paddock. No other changes are evident to the land on site.	No changes are evident to the surrounding land.
1990	No changes are evident to the land on site	Industrial land appears to be being developed to the west of the site.
2003	No changes are evident to the land on site	Industrial land continues to be developed west of the site.
2012	No changes are evident to the land on site	Stockpiles of soil appear to have been placed on the southern boundary of the lot outside the investigation area
2017	Topsoil from adjacent land appears to have begun being stockpiled within the investigation area. Machinery and equipment appears to have been placed across the site. Stockpiles are evident north of the tree line.	Machinery and equipment appears to be spread across adjacent land. Industrial land has been developed south of the investigation area.

4.5.2 Topographic map

The 1990 topographic map based off the 1984 aerial photograph indicates the site is vacant located adjacent a timber factory. Two sheds are illustrated on the lot outside of the investigation area.

4.5.3 Title Searches

Lots 33 and 34 DP1228591

Year	Owner	Occupation
1929 – 1955	Arthur Horace Cunynghame	Produce Merchant
	George Washington Kelly	Farmer
1955 – 1959	George Washington Kelly	Farmer
1959 – 1966	Amelia Kate Gatward	Widow
	Aurelia Miller	Widow
	Frank Harold Kelly	Labourer
	Robert Cyril Kelly	Retired
1966 – 2003	Harold Raymond Cunynghame	Produce Merchant
	William Horace Cunynghame	Produce Merchant
2009 – current	Woodchem Australia Pty Ltd	-

4.5.4 Historical land uses

1929 – 2016 Agricultural grazing land
2016 – present Storage of equipment and machinery

4.7 SafeWork storage hazardous chemicals

A search of the NSW SafeWork Storage of Hazardous Chemicals database did not identify any records relating to Lots 33 and 34 DP1228591. Hazardous chemicals are not expected to have been kept on the property.

4.8 Buildings and infrastructure

No buildings were located within the investigation area at the time of site inspection or are evident in aerial photographs.

4.9 Contaminant sources

Potential exists for contaminating activities to have been undertaken on site which may impact on the suitability for the proposed land-use. The historic agricultural land-use and storage of equipment and machinery may have resulted in contamination.

4.10 Contaminants of concern

Based on historical activities and site inspection the contaminants of concern across the site are:

- Heavy metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc and mercury)
- Organochlorine and organophosphate pesticides (OCP and OPP)
- Total recoverable hydrocarbons (TRH C6-C40)
- Benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN)
- Polycyclic aromatic hydrocarbons (PAH)
- Asbestos

4.11 Relevant complaint history

Nil

4.12 Contaminated site register

The investigation area is not listed on the NSW EPA register of contaminated sites.

4.13 Previous investigations
No previous contamination investigations are known to have been undertaken on the site.

4.14 Neighbouring land-use
North – Rural
South – Industrial
East – Rural
West – Industrial

4.15 Integrity assessment
The site history was obtained from a site inspection and history review. The information is consistent with the current site condition and to the best of the assessor's knowledge is accurate.

5. Site condition and environment
5.1 Surface cover
Surface cover on the site consisted of pasture grasses including rye grass and phalaris in the eastern section of the site. The western section of the site was predominately bare from vehicle movements and storage of machinery and equipment. Several large pine trees were located in the eastern section. The south western section had undergone earthworks including site cut to level the site.

5.2 Topography
The site is on a mid-slope with a gentle inclination ranging from 0 to 2%. Elevation ranges between 1,085 and 1095 metres above sea level.

5.3 Soils and geology
The site is within the Oberon Soil Landscape (Kovac *et al.* 1990). The dominant soils within the landscape are red earths on mid to upper slopes and yellow podzolic soils and yellow earths on mid to lower slopes.

Geology comprises Rockley volcanics and Triangle Group with parent rock comprising andesite, tuff, grey slate, quartz and feldspathic greywacke. Parent material includes *in situ* and alluvial-colluvial materials derived from the above parent rock (Kovac *et al.* 1990).

5.4 Water
5.4.1 Surface water
Surface water on the majority of the site flows east into a dam located off-site. The dam is expected to empty into Kings Stockyard Creek located approximately 300m west.

5.4.2 Groundwater
No bores are located within the investigation area. One bore is located within the lot boundary, outside the investigation area. Five bores are located within 500m of the site. The bores are licensed for test bores and water bearing zones were from 0.3m in shale and basalt. Standing water levels were recorded at depths of greater than 0.3m.

No.	Date drilled	Location	SWL (m)	Use	Status
GW801240	1994	E 170m	2.75	Monitoring bore	Cancelled
GW800792	1995	W 180m	0.84	Test bore	Cancelled
GW801095	1999	NW 190m	0.30	Test bore	Cancelled
GW800701	1998	W 210m	1.50	Test bore	Cancelled
GW800793	1995	N 430m	1.00	Test bore	Cancelled

6. Conceptual site model

6.1 Contaminant sources

Potential exists for contaminating activities to have been undertaken on site which may impact on the suitability for the proposed land-use. The historic agricultural land-use and storage of equipment and machinery may have resulted in contamination.

6.2 Contaminants of concern

Based on historical activities and site inspection the contaminants of concern are:

- Heavy metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc and mercury)
- Organochlorine and organophosphate pesticides (OCP and OPP)
- Total recoverable hydrocarbons (TRH C6-C40)
- Benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN)
- Polycyclic aromatic hydrocarbons (PAH)
- Polychlorinated biphenyls (PCB)
- Asbestos

6.3 Potential receptors

The proposed land-use of the site is industrial. The site has historically been used for grazing and storage of machinery and equipment.

Human receptors include:

- Site workers
- Visitors
- Intrusive maintenance workers

Ecological receptors include

- Flora and fauna on the site and adjacent to the site
- Aquatic flora and fauna receptors off-site

6.4 Exposure pathways

Pathways for exposure to contaminants are:

- Dermal contact following soil disturbance
- Ingestion after soil disturbance
- Inhalation of dust after soil disturbance
- Surface water and sediment runoff into waterways
- Leaching of contaminants into the groundwater
- Direct contact of flora and fauna with the soil

6.5 Source receptor linkages

Potential source pathway receptor linkages are identified to enable evaluation of any adverse impact on human health or ecology.

The proposed land-use of the site is industrial and human receptors to the investigation area are likely. Proposed users of the site may have a risk of exposure if contaminants are present and the soil is disturbed.

Source/contaminants	Transport	Potential exposure pathways	Receptors
■Use of pesticides (heavy metals and OCP/OPP) ■Fuels and lubricants from equipment and machinery ■Heavy metals from storage equipment and machinery	□Wind □Sedimentation □Groundwater	■Direct contact (ingestion and absorption) (human and environment) ■Inhalation □Runoff □Leaching	■Construction workers ■Workers ■Visitors ■Flora and fauna

■Potential, □unknown/unlikely

7. Data quality objectives (DQO)

7.1 State the problem

Lots 33 and 34 DP1228591 has historically been used for grazing stock on improved pastures and storage of equipment and machinery and may have resulted in contamination. The site requires investigation to ensure suitability for the proposed land-use.

7.2 Identify the decision

The land-use proposed is industrial and the levels of contaminants should be less than the thresholds listed in Section 10. The decision problem is, do the levels of potential contaminants exceed the assessment criteria listed in Section 10.

7.3 Identify the inputs decision

Investigations of the site is required to identify any potential contaminants from historical land-use.

7.4 Define the boundaries of the study

The investigation area is part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW. The investigation area comprises the eastern half of Lots 33 and 34.

7.5 Develop a decision rule

The initial guidelines for soil were the health and ecological investigation and screening levels for industrial land-use (NEPC 1999).

If soil contamination was identified then the contaminant source and extent of contamination was determined.

7.6 Specify acceptable limits on the decision errors.

The 95% upper confidence limit of average levels of samples collected is less than the threshold levels and the results are less than 250% of relevant thresholds.

7.7 Optimize the design for obtaining data

Discrete soil samples were collected from potential hotspots across the site.

Analytes evaluated across the site included heavy metals, OCP, OPP, TRH (C6-C40), BTEXN, PAH, PCB and asbestos.

8. Sampling analysis plan and sampling methodology

8.1 Sampling strategy

The main land-use was identified as grazing and storage of equipment and machinery.

8.1.1 Sampling design

A judgmental sampling pattern was adopted to assess the probable location of contamination across the site.

8.1.2 Sampling locations

Twenty-two discrete soil samples were collected from the investigation area. One sample of fibrous sheeting was collected from a stockpile for analysis of asbestos.

Three additional samples were collected following boundary adjustments in February 2019.

The sampling locations are described in Figure 3.

8.1.3 Sampling density

Management practices have been undertaken on the site and the soil sampling and laboratory analysis is considered indicative of the site. The sampling frequency is less than the minimum recommended by EPA (1995) but justified due to the management of the site.

8.1.4 Sampling depth

Soil samples were collected from the 0-100mm soil layer which was the target sampling depth as minimal soil disturbance has occurred.

8.2 Analytes

The soil samples collected from the investigation area were evaluated for arsenic, cadmium, chromium, copper, lead, nickel, zinc, mercury, OCP, OPP, TRH, BTEXN, PAH, PCB and asbestos as these were identified as the contaminants of concern possibly present as a result of previous activities (Table 1).

One fragment of fibrous sheeting was analysed for asbestos.

8.3 Sampling methods

Soil samples were taken using a stainless steel hand shovel. Soil was taken at each individual sampling location below the vegetated and detrital layer. Soil samples were transferred directly to a solvent rinsed glass jar with a Teflon lid.

Tools were decontaminated between sampling locations to prevent cross contamination by: brushing to remove caked or encrusted material, washing in detergent and tap water and allowing to air dry or using a clean towel.

Table 1. Schedule of samples and analyses

Sample ID	Analysis undertaken
B101	Arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn), mercury (Hg), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN), polycyclic aromatic hydrocarbons (PAH), organochlorine pesticides (OCP), organophosphate pesticides (OPP), polychlorinated biphenyls (PCB), asbestos
B102	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B103	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B104	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B105	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B106	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B107	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B108	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B109	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B110	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B111	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B112	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B113	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B114	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B115	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B116	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B117	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B118	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B119	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B120	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B121	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B122	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B123	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B124	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
B125	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH, BTEXN, PAH, OCP, OPP, PCB, asbestos
10182-1	Asbestos identification

9. Quality assurance and quality control

9.1 Sampling design

The sampling program is intended to provide data as to the presence and levels of contaminants.

The number of sampling locations is less than the recommended density in the EPA sampling guidelines but justified due to the management practices on the site. No “hot-spots” smaller than the sampled locations are expected over the investigation area.

9.2 Field

The collection of samples was undertaken in accordance with accepted standard protocols (NEPC 1999).

Sampling equipment was decontaminated between each sampling event. The appropriate storage conditions and duration were observed between sampling and analysis. A chain of custody form accompanied the samples to the laboratory (Appendix 3).

A single sampler was used to collect the samples using standard methods. Soil collected was a fresh sample from a hand shovel. After collection the samples were immediately placed in new glass sampling jars and placed in a cooler.

Three duplicate samples were collected. No field blank, rinsate, trip blank or matrix spikes were submitted for analysis. Some samples from all batches did not contain contaminants which confirm the absence of cross contamination during transport and storage.

A field sampling log is presented in Appendix 2.

9.3 Laboratory

Chemical analysis was conducted by SGS Laboratories, Alexandria, which is NATA accredited for the tests undertaken. The laboratories have quality assurance and quality control programs in place, which include internal replication and analysis of spike samples and recoveries.

Method blanks, matrix duplicates and laboratory control samples were within acceptance criteria. The quality assurance and quality control report is presented together with the laboratory report as Appendix 3.

9.4 Data evaluation

The laboratory quality control report indicates the data variability is within acceptable industry limits. The data is considered representative and usable for the purposes of the investigation. Data quality indicators are presented in Appendix 1.

10. Assessment criteria

The proposed land-use of the site is industrial and the laboratory results were assessed against the relevant criteria. The health-based investigation levels of contaminants in the soil for industrial sites, for the substances for which criteria are available, are listed in Table 2, as recommended in the NEPM (1999).

The NEPM (1999) provides health screening levels (HSL) for hydrocarbons in soil. The HSLs have been developed to be protective of human health for soil types, depths below surface and apply to exposure to hydrocarbons through the predominant vapour exposure pathway. The appropriate HSL for the site is listed in Table 2. TRH>C16 have physical properties which make the TRH fractions non-volatiles and therefore these TRH fractions are not limiting for vapour intrusion.

Ecological investigation levels (EIL) have been developed for the protection of terrestrial ecosystems for selected metals and organic substances in the soil in the guideline (NEPC 1999). Ecological screening levels (ESL) assess the risk to terrestrial ecosystems from petroleum hydrocarbons in the soil. The EILs and ESLs consider the properties of the soil and contaminants and the capacity of the local ecosystem to accommodate increases in contaminant levels.

EILs vary with land-use and apply to contaminants up to 2m depth below the surface. The EILs for commercial/industrial land-use are listed in Table 2.

ESLs are dependent on land-use, soil types and are applicable to contaminants up to 2m below the surface. The appropriate ESL for the site is commercial/industrial as listed in Table 2.

Management limits have been developed to assess petroleum hydrocarbons following evaluation of human health and ecological risks (NEPC 1999). Management units are applicable as screening levels after consideration of relevant ESLs and HSLs. The appropriate management limit for the site is listed in Table 2.

The site comprises yellow podzolic soils. Typical CEC values in the locality include 10 to 15cmol(+)/kg, pH values of between 5 and 6, organic carbon of 2.5% and clay content of 20 to 25% (McKenzie *et al*. 2004). The contaminants have been identified in the soil for at least two years and are considered aged (Table 2).

Asbestos was assessed on the preliminary screening assessment criteria of presence/absence.

Table 2. Investigation levels – industrial land-use (mg/kg) (NEPC 1999)

Analyte	HIL Commercial/ Industrial D	HSL Commercial/Industrial- clay soil			ESL Commercial / industrial fine soil	Management limits for TRH in fine soil / Commercial
		0m to <1m	1m to <2m	2m to <4m		
Arsenic	3,000	-	-	-	-	-
Cadmium	900	-	-	-	-	-
Chromium (total)	-	-	-	-	-	-
Chromium (VI)	3,600	-	-	-		
Copper	240,000	-	-	-	-	-
Lead	1,500	-	-	-	-	-
Nickel	6,000	-	-	-	-	-
Zinc	400,000	-	-	-	-	-
Mercury	730	-	-	-	-	-
TRH (C6-C10)	-	310	480	NL	215	800
TRH (C10-C16)	-	NL	NL	NL	170	1,000
TRH (>C16-C34)	-	NA	NA	NA	2,500	5,000
TRH (>C34-C40)	-	NA	NA	NA	6,600	10,000
Benzene	-	4	6	9	95	-
Toluene	-	NL	NL	NL	135	-
Ethylbenzene	-	NL	NL	NL	185	-
Xylenes	-	NL	NL	NL	95	-
Naphthalene	-	NL	NL	NL	-	-
Benzo(a)pyrene	-	-	-	-	1.4	-
Total PAH	4,000	-	-	-	-	-
Carcinogenic PAH	40	-	-	-	-	-
OCP (DD's)	3,600	-	-	-	-	-
OPP (Chlorpyrifos)	160	-	-	-	-	-
PCB	7	-	-	-	-	-

NL= No limit, NA= Not applicable

Table 3. EIL Calculation sheet, industrial/commercial land-use

Anayate	Rationale	ACL (mg/kg)	ABC (mg/kg)	EIL (mg/kg)
Zinc	CEC 10cmol/kg, pH 5.5	420	0	420
Copper	CEC 10cmol/kg	280	0	280
Nickel	CEC 10cmol/kg	290	0	290
Lead	Generic	1,800	0	1,800
Arsenic	Aged	160	0	160
DDT	Aged	640	0	640
Naphthalene	Aged	370	0	370

ACL – added contaminant limit, ABC – ambient background concentration, EIL – Ecological investigation limit (ACL+ABC)

11. Results and discussion

Surface cover on the site was predominately bare from vehicular movement and storage of machinery and equipment across the site. The eastern portion of the site comprised pasture grasses with pine trees. The south western section of the site had undergone earthworks including site cut to level the site.

A review of historical aerials indicated minimal changes on-site from 1964 to 2016 with the site being used for grazing of stock. The western portion of the site has been used for storage of machinery and equipment since 2016 and the eastern portion has remained vacant pasture. The machinery and equipment included steel, poly pipe and stockpiles of rubble including brick, timber and chipboard.

A large stockpile was located on the site comprising topsoil and organic material from adjacent sites. The material is reportedly being removed off the site prior to the proposed industrial land-use.

Vegetated stockpiles from an unknown source are located north of the pine trees. The material was sampled (B104 and B106) and the levels of all analytes were below the adopted thresholds for industrial/commercial land-use (NEPC 1999)

There is no evidence of underground storage tanks, mines, sheep dips or mixing sheds on the site from the review of site history or site walkover.

No staining or odour was observed across the surface of the site.

Asbestos was not detected in any soil sample. One sample of fibrous sheeting was collected from a stockpile of rubble. No asbestos was identified in the sample.

The levels of all metals, pesticides, PCB and hydrocarbons analysed in soil samples collected across the investigation area (Tables 4 and 5) were below the industrial/commercial land-use thresholds (NEPC 1999).

Table 4. Analytical results and threshold concentrations (mg/kg)

Sample ID	Arsenic	Cadmium	Chromium (total)	Copper	Lead	Nickel	Zinc	Mercury	OCP DD's	OPP	Total PAH	Carcinogenic PAH	Benzo(a)pyrene	PCB
B101	2	ND	51	13	9	6.4	18	ND	ND	ND	ND	ND	ND	ND
B102	2	ND	89	12	10	6.0	16	ND	ND	ND	ND	ND	ND	ND
B103	3	ND	44	6.4	9	3.0	11	ND	ND	ND	ND	ND	ND	ND
B104	5	ND	83	8.1	12	8.6	24	ND	ND	ND	ND	ND	ND	ND
B105	3	ND	82	22	11	11	34	ND	ND	ND	ND	ND	ND	ND
B106	2	ND	97	11	12	6.0	18	ND	ND	ND	ND	ND	ND	ND
B107	3	ND	61	10	14	5.4	19	ND	ND	ND	ND	ND	ND	ND
B108	5	ND	100	21	230	14	55	ND	ND	ND	15	1.4	ND	ND
B109	10	ND	73	110	20	25	350	ND	ND	ND	ND	ND	ND	ND
B110	3	ND	110	15	12	7.2	21	ND	ND	ND	ND	ND	ND	ND
B111	5	ND	260	26	14	11	25	ND	ND	ND	ND	ND	ND	ND
B112	2	ND	81	16	10	8.7	44	ND	ND	ND	ND	ND	ND	ND
B113	5	ND	170	27	19	19	32	ND	ND	ND	ND	ND	ND	ND
B114	2	ND	200	15	13	13	20	ND	ND	ND	ND	ND	ND	ND
B115	2	ND	94	14	14	7.0	19	ND	ND	ND	ND	ND	ND	ND
B116	3	ND	170	25	24	12	150	ND	ND	ND	ND	ND	ND	ND
B117	2	ND	200	16	16	9.4	23	ND	ND	ND	ND	ND	ND	ND
B118	3	ND	120	29	11	27	57	ND	ND	ND	ND	ND	ND	ND
B119	2	ND	250	22	11	30	52	ND	ND	ND	ND	ND	ND	ND
B120	1	ND	90	15	12	5.7	22	ND	ND	ND	ND	ND	ND	ND
B121	ND	ND	240	9.1	6	27	35	ND	ND	ND	ND	ND	ND	ND
B122	ND	ND	100	2.8	ND	34	35	ND	ND	ND	ND	ND	ND	ND
B123	2	ND	48	6.2	9	3.0	10	ND	ND	ND	ND	ND	ND	ND
B124	2	ND	38	9.9	9	5.1	16	ND	ND	ND	ND	ND	ND	ND
B125	5	ND	33	5.6	12	1.7	8.5	ND	ND	ND	ND	ND	ND	ND
Health Investigation Levels – Commercial/ Industrial land-use threshold (NEPC 1999)														
	3,000	*900*	*3,600*	*240,000*	*1,500*	*6,000*	*400,000*	*730*	*3,600*	*-*	*4,000*	*40*	*-*	*7*
Ecological investigation levels – Commercial/industrial land-use threshold (NEPC 1999)														
	160	*-*	*-*	*280*	*1,800*	*290*	*420*	*-*	*640*	*-*	*-*	*-*	*-*	*-*
Ecological screening levels – Commercial/industrial land-use threshold (NEPC 1999)														
	-	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*1.4*	*-*

ND = not detected at the detection limit

Table 5. Analytical results and threshold concentrations for hydrocarbons (mg/kg)

Sample id.	TRH (C6-C10)	TRH (>C10-C16)	TRH (>C16-C34)	TRH (>C34-C40)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Asbestos
B101	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B102	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B103	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B104	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B105	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B106	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B107	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B108	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B109	ND	ND	230	ND	ND	ND	ND	ND	ND	ND
B110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B111	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B112	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B115	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B116	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B117	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B118	ND	ND	140	ND	ND	ND	ND	ND	ND	ND
B119	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B121	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B122	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B124	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B125	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HSL A– industrial clay soil 0m to <1m	*310*	*480*	*NL*	*NL*	*4*	*NL*	*NL*	*NL*	*NL*	*-*
EIL – industrial	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*370*	*-*
ESL – industrial/ fine soil	*215*	*170*	*2,500*	*6,600*	*95*	*135*	*185*	*95*	*-*	*-*
Management limits – Industrial	*800*	*1,000*	*5,000*	*10,000*	*-*	*-*	*-*	*-*	*-*	*-*

ND = not detected at the detection limit

Table 6. Asbestos identification

Sample ID	Location	Asbestos
10182-S1	Stockpile	No asbestos detected* Organic fibres present

*Trace analysis performed

12. Site characterisation

12.1 Environmental contamination

Not applicable as no contamination was detected.

12.2 Chemical degradation production

Not applicable as no contamination was detected.

12.3 Exposed population

Not applicable as no contamination was detected.

13. Conclusions and recommendations

13.1 Summary

An inspection of the site was made on 20 September 2018. The site is located adjacent a timber manufacturing plant and has an area of approximately 3.4ha.

The site has an agricultural land-use history of stock grazing with recent storage of equipment and machinery in the western section of the proposed lot boundaries. The south western section of the site had undergone earthworks including site cut to level the site.

There is no evidence of underground storage tanks, mines, sheep dips or mixing sheds on the site from the review of site history or site walkover.

No staining or odour was observed across the surface of the site.

Asbestos was not detected in any soil sample. One sample of fibrous sheeting was collected from a stockpile of rubble. No asbestos was identified in the sample.

A large stockpile was located on the site comprising topsoil and organic material from adjacent sites. The material is reportedly being removed off the site prior to the proposed industrial land-use. The topsoil stockpile was not assessed.

Stockpiles from an unknown source are located north of the pine trees. The material is suitable to remain on-site for proposed industrial land-use.

The soil sampling program did not detect elevated levels of the analysed metals, pesticides, hydrocarbons, polycyclic biphenyls or asbestos. The levels of all substances evaluated were below the adopted thresholds for industrial land-use.

13.2 Assumptions in reaching the conclusions

It is assumed the sampling sites are representative of the site.

13.3 Extent of uncertainties

The analytical data relate only to the locations sampled. Soil conditions can vary both laterally and vertically and it cannot be excluded that unidentified contaminants may be present.

13.4 Suitability for proposed use of the site

The site is suitable for proposed industrial land-use following removal of stockpiled topsoil material and machinery and equipment.

13.5 Limitations and constraints on the use of the site

No constraints are recommended.

13.6 Recommendation for further work

Removal of stockpiled topsoil material and machinery and equipment including brick and chipboard stockpiles is required for suitability for industrial land-use.

14. Report limitations and intellectual property

This report has been prepared for the use of the client to achieve the objectives given the clients requirements. The level of confidence of the conclusion reached is governed by the scope of the investigation and the availability and quality of existing data. Where limitations or uncertainties are known, they are identified in the report. No liability can be accepted for failure to identify conditions or issues which arise in the future and which could not reasonably have been predicted using the scope of the investigation and the information obtained.

The investigation identifies the actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing is interpreted by geologists, engineers or scientists who then render an opinion about overall subsurface conditions, the nature and extent of the contamination, its likely impact on the proposed development and appropriate remediation measures. Actual conditions may differ from those inferred to exist, because no professional, no matter how well qualified, and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock or time. The actual interface between materials may be far more gradual or abrupt than a report indicates. Actual conditions in areas not sampled may differ from predictions. It is thus important to understand the limitations of the investigation and recognise that we are not responsible for these limitations.

15. References

Central Mapping Authority of NSW (1988) *Oberon 8731-4-S 1:25000 Topographic map 1st edition*. (Department of lands)

EPA (2017) *Contaminated Sites: Guidelines for the NSW Site Auditors Scheme* (Environmental Protection Authority, NSW.)

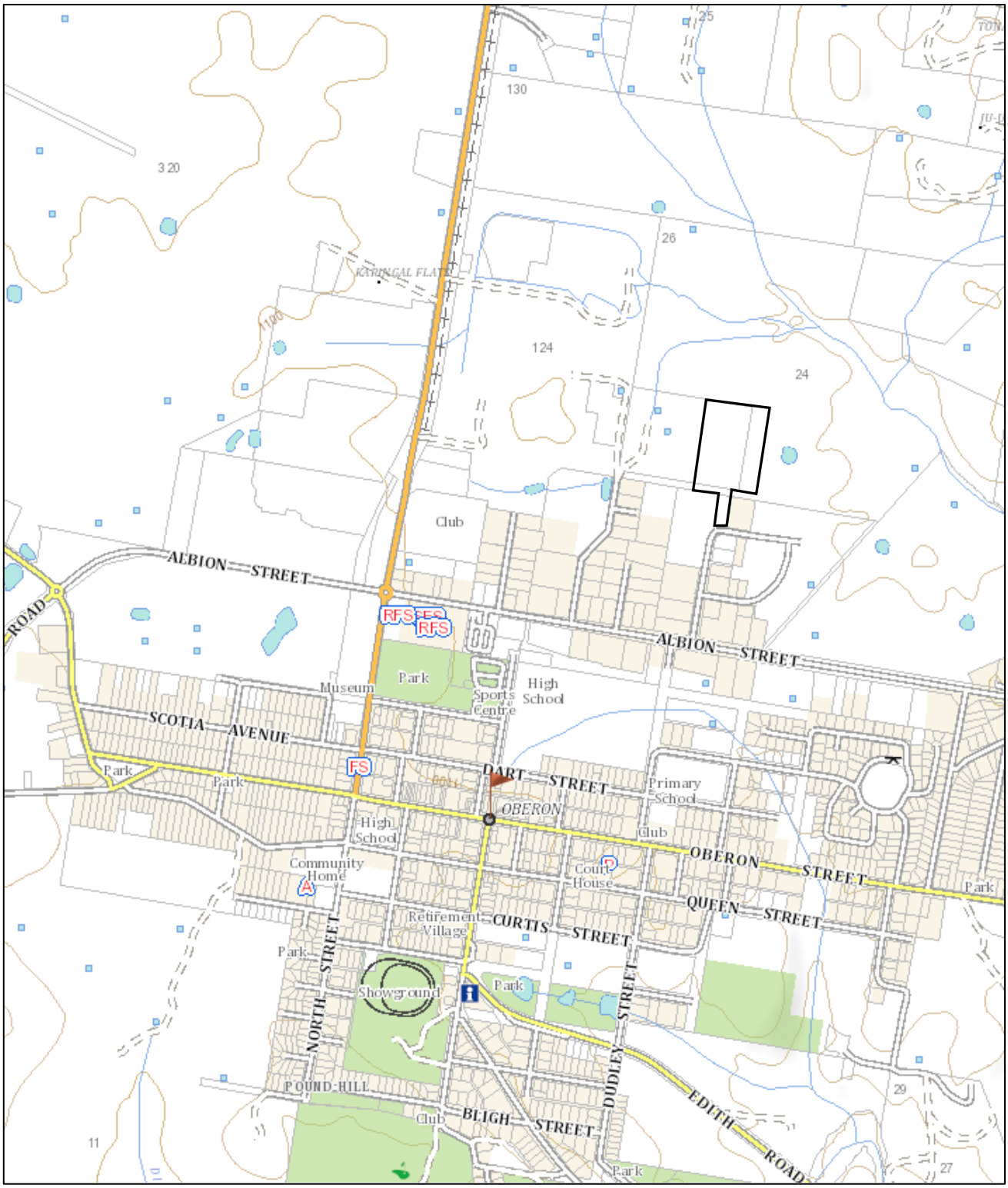
Environment Protection Authority (1995) *Contaminated sites: Sampling Design Guidelines* (NSW Environment Protection Authority, Chatswood)

Kovac M, Murphy BW and Lawrie, JW (1990) *Soil Landscapes of the Bathurst 1:250,000 Sheet* (Soil Conservation Service of NSW, Sydney)

NEPC (1999 revised 2013) *National Environment Protection (Assessment of Site Contamination) Measure 1999* (National Environment Protection Council Service Corporation, Adelaide)

Figures

North



Legend

——— Investigation area

Figure 1: Locality map		
Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW		
	Envirowest Consulting Pty Ltd	
Job: R10182c	Drawn by: AP	Date: 9/10/2018

Legend

Lot boundary

Investigation area

Approximate Scale 1: 3,500

0 35 70 140m

Figure 2: Aerial photograph (2017)		
Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW		
	Envirowest Consulting Pty Ltd	
Job: R10182c1	Drawn by: AP	Date: 28/2/2019

Legend

⊗ Sample location

Lot boundary

Investigation area

Vegetated stockpiles

Approximate Scale 1: 1,600

0 16 32 64m

Figure 3: Site plan and sampling location		
Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW		
	Envirowest Consulting Pty Ltd	
Job: R10182c1	Drawn by: AP	Date: 28/2/2019

North

Figure 4: Historical aerial (1984)		
Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW		
	Envirowest Consulting Pty Ltd	
Job: R10182c1	Drawn by: AP	Date: 28/2/2019

Figure 5. Photographs of the site

Looking north over the eastern section of the site

Stockpile containing bricks, chipboard and scrap metal requiring removal

Equipment and machinery located across investigation area

Earthworks undertaken in southern area of site

Looking east across investigation area

Appendices

Appendix 1. Sample analysis, quality assurance and quality control (QAQC) report

1. Data quality indicators (DQI) requirements

1.1 Completeness

A measure of the amount of usable data for a data collection activity. Greater than 95% of the data must be reliable based on the quality objectives. Where greater than two quality objectives have less reliability than the acceptance criterion the data may be considered with uncertainty.

1.1.1 Field

Consideration	Requirement
Locations and depths to be sampled	Described in the sampling plan. The acceptance criterion is 95% data retrieved compared with proposed. Acceptance criterion is 100% in crucial areas.
SOP appropriate and compiled	Described in the sampling plan.
Experienced sampler	Sampler or supervisor
Documentation correct	Sampling log and chain of custody completed

1.1.2 Laboratory

Consideration	Requirement
Samples analysed	Number according to sampling and quality plan
Analytes	Number according to sampling and quality plan
Methods	EPA or other recognised methods with suitable PQL
Sample documentation	Complete including chain of custody and sample description
Sample holding times	Metals 6 months, OCP 14 days

1.2 Comparability

The confidence that data may be considered to be equivalent for each sampling and analytical event. The data must show little or no inconsistencies with results and field observations.

1.2.1 Field

Consideration	Requirement
SOP	Same sampling procedures to be used
Experienced sampler	Sampler or supervisor
Climatic conditions	Described as may influence results
Samples collected	Sample medium, size, preparation, storage, transport

1.2.2 Laboratory

Consideration	Requirement
Analytical methods	Same methods, approved methods
PQL	Same
Same laboratory	Justify if different
Same units	Justify if different

1.3 Representativeness

The confidence (expressed qualitatively) that data are representative of each media present on the site.

1.3.1 Field

Consideration	Requirement
Appropriate media sampled	Sampled according to sampling and quality plan or in accordance with the EPA (1995) sampling guidelines.
All media identified	Sampling media identified in the sampling and quality plan. Where surface water bodies on the site sampled.

1.3.2 Laboratory

Consideration	Requirement
Samples analysed	Blanks

1.4 Precision

A quantitative measure of the variability (or reproduced of the data). Is measured by standard deviation or relative percent difference (RPD). A RPD analysis is calculated and compared to the practical quantitation limit (PQL) or absolute difference AD.

- Levels greater than 10 times the PQL the RPD is 50%
- Levels between 5 and 10 times the PQL the RPD is 75%
- Levels between 2 and 5 times the PQL the RPD is 100%
- Levels less than 2 times the PQL, the AD is less than 2.5 times the PQL

Data not conforming to the acceptance criterion will be examined for determination of suitability for the purpose of site characterisation.

1.4.1 Field

Consideration	Requirement
Field duplicates	Frequency of 5%, results to be within RPD or discussion required indicate the appropriateness of SOP

1.4.2 Laboratory

Consideration	Requirement
Laboratory and inter lab duplicates	Frequency of 5%, results to be within RPD or discussion required. Inter laboratory duplicates will be one sample per batch.
Field duplicates	Frequency of 5%, results to be within RPD or discussion required
Laboratory prepared volatile trip spikes	One per sampling batch, results to be within RPD or discussion required

1.5 Accuracy

A quantitative measure of the closeness of the reported data to the true value.

1.5.1 Field

Consideration	Requirement
SOP	Complied
Inter laboratory duplicates	Frequency of 5%. Analysis criterion 60% RPD for levels greater than 10 times the PQL 85% RPD for levels between 5 to 10 times the PQL 100% RPD at levels between 2 to 5 times the PQL Absolute difference, 3.5 times the PQL where levels are, 2 times PQL

1.5.2 Laboratory

Recovery data (surrogates, laboratory control samples and matrix spikes) data subject to the following control limits:

- 60-140% acceptable data
- 20-60% discussion required, may be considered acceptable
- 10-20% data should considered as estimates
- 10% data should be rejected

Consideration	Requirement
Field blanks	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Rinsate blanks	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Method blanks	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Matrix spikes	Frequency of 5%, results to be within +/-40% or discussion required
Matrix duplicates	Sample injected with a known concentration of contaminants with tested. Frequency of 5%, results to be within +/-40% or discussion required
Surrogate spikes	QC monitoring spikes to be added to samples at the extraction process in the laboratory where applicable. Surrogates are closely related to the organic target analyte and not normally found in the natural environment. Frequency of 5%, results to be within +/-40% or discussion required
Laboratory control samples	Externally prepared reference material containing representative analytes under investigation. These will be undertaken at one per batch. It is to be within +/-40% or discussion required
Laboratory prepared spikes	Frequency of 5%, results to be within +/-40% or discussion required

2. Laboratory analysis summary

One analysis batch was undertaken over the preliminary investigation program. Samples were collected on 20 September 2018. A total of 22 samples were submitted for analytical testing. The samples were collected in the field by an environmental scientist from Envirowest Consulting Pty Ltd, placed into laboratory prepared receptacles as recommended in NEPM (1999). The samples preservation and storage was undertaken using standard industry practices (NEPC 1999). A chain of custody form accompanied transport of the samples to the laboratory.

The samples were analysed at the laboratories of SGS, Alexandria, NSW which is National Association of Testing Authorities (NATA) accredited for the tests undertaken. The analyses undertaken, number of samples tested and methods are presented in the following tables:

Analytical methods

Analyte	Extraction	Laboratory methods
Metals	USEPA 200.2 Mod	APHA USEPA SW846-6010
Chromium (III)	-	APHA 3500 CR-A&B & 3120 and USEPA SW846-3060A
Chromium (VI)	USEPA SW846-3060A	USEPA SW846-3060A
Mercury	USEPA 200.2 Mod	APHA 3112
TPH(C6-C9)	USPEA SW846-5030A	USPEA SW 846-8260B
TPH(C10-C36), PAH	Tumbler extraction of solids	USEPA SW 846-8270B
PCB	Tumbler extraction of solids	USEPA SW 846-8270B
OC Pesticides	Tumbler extraction of solids	USEPA SW 846-8270B
BTEX	Tumbler extraction of solids	USEPA SW 846-8260B

Laboratory analysis schedule

Sample id.	Number of samples	Duplicate	Analyses	Date collected	Substrate	Laboratory report
B101, B102, B103, B104, B105, B106, B107, B108, B109, B110, B111, B112, B113, B114, B115, B116, B117, B118, B119, B120, B121, B122	22	2	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH (C6-C40), BTEXN, PAH, OCP, OPP, PCB, asbestos	20/9/2018	Soil	SE184221

3. Field quality assurance and quality control

Three intra laboratory duplicate samples were collected for the investigation. Table A5.1 outlines the samples collected and differences in replicate analyses. Relative differences were deemed to pass if they were within the acceptance limits of +/- 40% for replicate analyses or less than 5 times the detection limit.

Field duplicate frequency

Sample id.	Number of samples	Duplicate	Frequency (%)	Date collected	Substrate	Laboratory report
B101, B102, B103, B104, B105, B106, B107, B108, B109, B110, B111, B112, B113, B114, B115, B116, B117, B118, B119, B120, B121, B122	22	2	9	20/9/2018	Soil	SE184221
B123, B124, B125	3	1	33	21/2/2019	Soil	SE189648

Table A5.1. Relative differences for intra laboratory duplicates

	B101, DA		B116, DB		B123, DW	
	Relative difference (%)	Pass/Fail	Relative difference (%)	Pass/Fail	Relative difference (%)	Pass/Fail
Arsenic	NA	-	NA	-	40	Pass
Cadmium	NA	-	NA	-	NA	-
Chromium	15	Pass	27	Pass	0	Pass
Copper	17	Pass	8	Pass	3	Pass
Lead	12	Pass	34	Pass	20	Pass
Nickel	21	Pass	9	Pass	0	Pass
Zinc	0	Pass	31	Pass	10	Pass
Mercury	NA	-	NA	-	NA	-
TRH	NA	-	NA	-	NA	-
BTEXN	NA	-	NA	-	NA	-
PAH	NA	-	NA	-	NA	-
PCB	NA	-	NA	-	NA	-
OCP	NA	-	NA	-	NA	-
OPP	NA	-	NA	-	NA	-

NA – relative difference unable to be calculated as results are less than laboratory detection limit

No trip blanks or spikes were submitted for analysis. This is not considered to create significant uncertainty in the analysis results because of the following rationale:

- The fieldwork was completed within a short time period and consistent methods were used for soil sampling.
- Soil samples were placed in insulated cooled containers after sampling to ensure preservation during transport and storage.
- The samples were placed in single use jars using clean sampling tools and disposable gloves from material not in contact with other samples. This reduces the likelihood of cross contamination.
- Samples in the analysis batch contain analytes below the level of detection. It is considered unlikely that contamination has occurred as a result of transport and handling.

4. Laboratory quality assurance and quality control

Sample holding times are recommended in NEPM (1999). The time between collection and extraction for all samples was less than the criteria listed below:

Analyte	Maximum holding time
Metals, cyanide	6 months
OCP, OPP, TRH, PCB, BTEXN, PAH	14 days

The laboratory interpretative reports are presented with individual laboratory report. Assessment is made of holding time, frequency of control samples and quality control samples. No significant outliers exist for the sampling batches. The laboratory report also contains a detailed description of preparation methods and analytical methods.

The results, quality report, interpretative report and chain of custody are presented in the attached appendices. The quality report contains the laboratory duplicates, spikes, laboratory control samples, blanks and where appropriate matrix spike recovery (surrogate).

5. Data quality indicators (DQI) analysis

5.1 Completeness

A measure of the amount of usable data for a data collection activity (total to be greater than 95%).

The data set was found to be complete based on the scope of work. No critical areas of contamination were omitted from the data set.

5.1.1 Field

Consideration	Accepted	Comment
Locations to be sampled	Yes	In accordance with sampling methodology, described in the report. Sampling locations described in figures.
Depth to be sampled	Yes	In accordance with sampling methodology
SOP appropriate and compiled	Yes	In accordance with sampling methodology Sampled with a stainless steel push corer and hand spade into lab prepared containers, decontamination between samples, latex gloves worn by sampler
Experienced sampler	Yes	Same soil sampler, environmental scientist
Documentation correct	Yes	Sampling log completed Chain of custody completed

5.1.2 Laboratory

Consideration	Accepted	Comment
Samples analysed	Yes	All critical samples analysed in accordance with chain of custody and analysis plan
Analytes	Yes	All analytes in accordance with chain of custody and analysis plan
Methods	Yes	Analysed in NATA accredited laboratory with recognised methods and suitable PQL
Sample documentation	Yes	Completed including chain of custody and sample results and quality results report for each batch
Sample holding times	Yes	Metals less than 6 months. OCP 14 days

5.2 Comparability

The confidence that data may be considered to be equivalent for each sampling and analytical event. The data sets were found to be acceptable.

5.2.1 Field

Consideration	Accepted	Comment
SOP	Yes	Same sampling procedures used and sampled on one date
Experienced sampler	Yes	Experienced scientist
Climatic conditions	Yes	Described in field sampling log
Samples collected	Yes	Suitable size, storage and transport

5.2.2 Laboratory

Consideration	Accepted	Comment
Analytical methods	Yes	Same methods all samples, in accordance with NEPC(1999) or USEPA
PQL	Yes	Suitable for analytes
Same laboratory	Yes	SGS is NATA accredited for the tests undertaken
Same units	Yes	-

5.3 Representativeness

The confidence (expressed qualitatively) that data are representative of each media present on the site.

The data sets were found to be acceptable.

5.3.1 Field

Consideration	Accepted	Comment
Appropriate media sampled	Yes	Sampled according to sampling and quality plan
All media identified	Yes	Soil Sampling media identified in the sampling and quality plan

5.3.2 Laboratory

Consideration	Accepted	Comment
Samples analysed	Yes	Undertaken in NATA accredited laboratory. No blanks analysed. Samples in the analysis batch contain analytes below the level of detection. It is considered unlikely that contamination has occurred as a result of transport and handling.

5.4 Precision

A quantitative measure of the variability (or reproduced of the data).

The data sets were found to be acceptable.

5.4.1 Field

Consideration	Accepted	Comment
SOP	Yes	Complied
Field duplicates	Yes	Collected

5.4.2 Laboratory

Consideration	Accepted	Comment
Laboratory and inter lab duplicates	Yes	Frequency of 5%, results to be within +/-40% or discussion required. Some results exceed difference due to sample heterogeneity. Not expected to affect results.
Field duplicates	Yes	Frequency of 3% justified due to the preliminary nature of the investigation, some results exceeding +/-40%
Laboratory prepared volatile trip spikes	NA	Not collected due to the preliminary nature of the investigation

5.5 Accuracy

A quantitative measure of the closeness of the reported data to the true value.

The data sets were found to be acceptable.

5.5.1 Field

Consideration	Accepted	Comment
SOP	Yes	Complied
Field blanks	NA	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Rinsate blanks	NA	Frequency of 5%, <5 times the PQL, PQL may be adjusted

5.5.2 Laboratory

Consideration	Accepted	Comment
Method blanks	Yes	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Matrix spikes	Yes	Frequency of 5%, results to be within +/-40% or discussion required.
Matrix duplicates	Yes	Frequency of 5%, results to be within +/-40% or discussion required. RPD failed acceptance criteria due to sample heterogeneity.
Surrogate spikes	Yes	Frequency of 5%, results to be within +/-40% or discussion required
Laboratory control samples	Yes	Frequency of 5%, results to be within +/-40% or discussion required
Laboratory prepared spikes	Yes	Frequency of 5%, results to be within +/-40% or discussion required

No trip blanks, field spikes or sample rinsates were submitted for analysis. This is not considered to create significant uncertainty in the analysis results because of the following rationale:

- The fieldwork methods used for soil sampling were consistent throughout the project with all in situ samples collected from material which had not been subject to exposure.
- The fieldwork was completed within a short time period and consistent methods were used for soil sampling.
- Soil samples were placed in insulated cooled containers as quickly as possible, with the containers filled to minimize headspace. The sample containers were sealed immediately after the sample was collected and chilled in an esky containing ice.
- The samples were stored in a refrigerator and transported with ice bricks to ensure preservation during transport and storage.
- The samples were placed in single use jars using clean sampling tools and disposable gloves from material not in contact with other samples. This reduces the likelihood of cross contamination.
- Samples in the analysis batches contained analytes below the level of detection. It is considered unlikely that contamination has occurred as a result of transport and handling.

6. Conclusion

All media appropriate to the objectives of this investigation have been adequately analysed and no area of significant uncertainty exist. It is concluded the data is usable for the purposes of the investigation.

Appendix 2. Oberon Council Planning Certificate

Oberon Council

P. O. Box 84, Oberon NSW 2787
Telephone (02) 6329 8100, Facsimile (02) 6329 8142
Email: council@oberon.nsw.gov.au

OBERON COUNCIL

Planning Certificate

under Section 10.7 Environmental Planning and Assessment Act 1979 (as amended)

CERTIFICATE NO:	2018/70	**FILE NO.**	PO22-26
FEE:	$53	**RECEIPT NO.**	192219
APPLICANT REF:	10182	**DATE:**	8 October 2018

APPLICANT: *Envirowest Consulting*
PO Box 8158
ORANGE NSW 2800

OWNER : *(as recorded by Council)* ***Woodchem Australia Pty Limited***

ASSESSMENT No.: 12376824

PROPERTY ADDRESS: 26 Endeavour Street OBERON NSW

PROPERTY DESCRIPTION Lot 34 in DP 1228591

Certificate under Section 10.7

For the purpose of Section 10.7 it is advised that, as at the date of this certificate the land described above is affected by the matters referred to herein:

LOCAL ENVIRONMENTAL PLAN

If a local environmental plan, a deemed environmental planning instrument or a draft local environmental plan has been placed on exhibition pursuant to section 66(1)(b) of the Act restricts, or purports to restrict, the purposes for which development may be carry out on the land state:

(a) the name of the instrument;

OBERON LOCAL ENVIRONMENTAL PLAN 2013.

ZONING

If the land is identified as being within a zone (within the meaning of an instrument referred to in item 1) state:

(a) the name of the zone;

(b) the purpose for which development may be carried out within that zone without development consent and with development consent; and

(c) the purposes for which the carrying out of development is prohibited within that zone

OBERON LOCAL ENVIRONMENTAL PLAN 2013:

Zone No IN1 (General Industrial)

Zone objectives and Land Use table

(1) The Land Use Table at the end of this Part specifies for each zone:

(a) the objectives for development, and

(b) development that may be carried out without development consent, and

(c) development that may be carried out only with development consent, and

(d) development that is prohibited.

(2) The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.

(3) In the Land Use Table at the end of this Part:

(a) a reference to a type of building or other thing is a reference to development for the purposes of that type of building or other thing, and

(b) a reference to a type of building or other thing does not include (despite any definition in this Plan) a reference to a type of building or other thing referred to separately in the Land Use Table in relation to the same zone.

(4) This clause is subject to the other provisions of this Plan.

Notes.

1. *Schedule 1 sets out additional permitted uses for particular land.*
2. *Schedule 2 sets out exempt development (which is generally exempt from both Parts 4 and 5 of the Act). Development in the land use table that may be carried out without consent is nevertheless subject to the environmental assessment and approval requirements of Part 5 of the Act.*
3. *Schedule 3 sets out complying development (for which a complying development certificate may be issued as an alternative to obtaining development consent).*
4. *Clause 2.6 requires consent for subdivision of land.*
5. *Part 5 contains other provisions which require consent for particular development.*

Unzoned land

(1) Development may be carried out on unzoned land only with development consent.

(2) Before granting development consent, the consent authority:

(a) must consider whether the development will impact on adjoining zoned land and, if so, consider the objectives for development in the zones of the adjoining land, and

(b) must be satisfied that the development is appropriate and is compatible with permissible land uses in any such adjoining land.

Additional permitted uses for particular land

(1) Development on particular land that is described or referred to in Schedule 1 may be carried out:

(a) with development consent, or

(b) if the Schedule so provides—without development consent, in accordance with the conditions (if any) specified in that Schedule in relation to that development.

(2) This clause has effect despite anything to the contrary in the Land Use Table or other provision of this Plan.

Subdivision—consent requirements

(1) Land to which this Plan applies may be subdivided, but only with development consent.

Notes.

*1 If a subdivision is specified as **exempt development** in an applicable environmental planning instrument, such as this Plan or State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, the Act enables it to be carried out without development consent.*

*2 Part 6 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 provides that the strata subdivision of a building in certain circumstances is **complying development**.*

(2) Development consent must not be granted for the subdivision of land on which a secondary dwelling is situated if the subdivision would result in the principal dwelling and the secondary dwelling being situated on separate lots, unless the resulting lots are not less than the minimum size shown on the Lot Size Map in relation to that land.

***Note.** The definition of **secondary dwelling** in the Dictionary requires the dwelling to be on the same lot of land as the principal dwelling.*

Demolition requires development consent

The demolition of a building or work may be carried out only with development consent.

***Note.** If the demolition of a building or work is identified in an applicable environmental planning instrument, such as this Plan or State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, as exempt development, the Act enables it to be carried out without development consent.*

Temporary use of land

(1) The objective of this clause is to provide for the temporary use of land if the use does not compromise future development of the land, or have detrimental economic, social, amenity or environmental effects on the land.

(2) Despite any other provision of this Plan, development consent may be granted for development on land in any zone for a temporary use for a maximum period of 52 days (whether or not consecutive days) in any period of 12 months.

(3) Development consent must not be granted unless the consent authority is satisfied that:

(a) the temporary use will not prejudice the subsequent carrying out of development on the land in accordance with this Plan and any other applicable environmental planning instrument, and
(b) the temporary use will not adversely impact on any adjoining land or the amenity of the neighbourhood, and
(c) the temporary use and location of any structures related to the use will not adversely impact on environmental attributes or features of the land, or increase the risk of natural hazards that may affect the land, and
(d) at the end of the temporary use period the land will, as far as is practicable, be restored to the condition in which it was before the commencement of the use.

(4) Despite subclause (2), the temporary use of a dwelling as a sales office for a new release area or a new housing estate may exceed the maximum number of days specified in that subclause.

(5) Subclause (3) (d) does not apply to the temporary use of a dwelling as a sales office mentioned in subclause (4).

Land Use Table

Note. *A type of development referred to in the Land Use Table is a reference to that type of development only to the extent it is not regulated by an applicable State environmental planning policy. The following State environmental planning policies in particular may be relevant to development on land to which this Plan applies:*

- *State Environmental Planning Policy No 33—Hazardous and Offensive Development*
- *State Environmental Planning Policy No 50—Canal Estate Development*
- *State Environmental Planning Policy No 62—Sustainable Aquaculture*
- *State Environmental Planning Policy No 64—Advertising and Signage*
- *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004*
- *State Environmental Planning Policy (Infrastructure) 2007—relating to infrastructure facilities such as those that comprise, or are for, air transport, correction, education, electricity generating works and solar energy systems, health services, ports, railways, roads, waste management and water supply systems*
- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*
- *State Environmental Planning Policy (Rural Lands) 2008*
- *State Environmental Planning Policy (Affordable Rental Housing) 2009 (including provision for secondary dwellings)*
- *State Environmental Planning Policy (State and Regional Development) 2011*
- *State Environmental Planning Policy (Educational Establishments and Childcare Facilities) 2017*

TABLE

Zone No IN1 (General Industrial)

1 Objectives of zone

- *To provide a wide range of industrial and warehouse land uses.*
- *To encourage employment opportunities.*
- *To minimise any adverse effect of industry on other land uses.*
- *To support and protect industrial land for industrial uses.*

2 Permitted without consent

Environmental protection works; Flood mitigation works; Water reticulation systems; Water treatment facilities; Wharf or boating facilities

3 Permitted with consent

Depots; Freight transport facilities; Funeral homes; General industries; Hardware and building supplies; Industrial training facilities; Kiosks; Landscaping material supplies; Light industries; Liquid fuel depots; Neighbourhood shops; Plant nurseries; Roads; Rural supplies; Take away food and drink premises; Timber yards; Vehicle sales or hire premises; Warehouse or distribution centres; Any other development not specified in item 2 or 4

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Camping grounds; Caravan parks; Cemeteries; Commercial premises; Community facilities; Correctional centres; Eco-tourist facilities; Entertainment facilities; Exhibition homes; Exhibition villages; Farm buildings; Forestry; Function centres; Heavy industrial storage establishments; Home-based child care; Home businesses; Home occupations; Marinas; Mooring pens; Moorings; Open cut mining; Registered clubs; Research stations; Residential accommodation; Tourist and visitor accommodation

SEPP'S and REP'S

Any matter relating to a State Environmental Planning Policy or a regional environmental plan applying to the land, or to a draft State Environmental Planning policy, or to a draft regional environmental plan applying to the land, which the Minister has, generally or in any particular case, notified the Council should be specified in the Certificate.

The following matters are specified:

STATE ENVIRONMENTAL PLANNING POLICIES ARE SPECIFIED (AS BEING NOTIFIED BY THE MINISTER FOR PLANNING TO BE SPECIFIED IN THE CERTIFICATE), AS APPLYING TO LAND WITHIN OBERON COUNCIL AREA INCLUDING THE LAND TO WHICH THIS CERTIFICATE APPLIES.

- *SEPP No. 1* *Development Standards*
- *SEPP No. 21* *Caravan Parks*
- *SEPP No. 30* *Intensive Agriculture*
- *SEPP No. 33* *Hazardous and Offensive Development*
- *SEPP No. 36* *Manufactured Home Estates*
- *SEPP No. 44* *Koala Habitat Protection*
- *SEPP No. 50* *Canal Estate Development*
- *SEPP No. 55* *Remediation of Land*
- *SEPP No. 62* *Sustainable Aquaculture*
- *SEPP No. 64* *Advertising and Signage*
- *SEPP No. 65* *Design Quality of Residential Flat Development*
- *SEPP* *Living for Seniors or People with a Disability (2004)*
- *SEPP* *Building Sustainability Index: BASIX (2004)*
- *SEPP* *Major Projects (2005)*
- *SEPP* *Mining, Petroleum Production and Extractive Industries (2007)*
- *SEPP* *Temporary Structures and Places of Public Entertainment (2007)*
- *SEPP* *Infrastructure (2007)*
- *SEPP* *Rural Lands (2008)*
- *SEPP* *Exempt and Complying Development Code (2008)*
- *SEPP* *Affordable Rental Housing (2009)*
- *SEPP* *Sydney Drinking Water Catchment (2011)*
- *SEPP* *State and Regional Development (2011)*
- *SEPP* *Educational Establishments and Childcare Facilities (2017)*

STATE ENVIRONMENTAL PLANNING POLICY (EXEMPT AND COMPLYING CODES) 2008

THE LAND IS LAND ON WHICH COMPLYING DEVELOPMENT MAY BE CARRIED OUT UNDER EACH OF THE FOLLOWING CODES:

- ***THE HOUSING ALTERATIONS CODE***
- ***THE GENERAL DEVELOPMENT CODE***
- ***THE SUBDIVISION CODE***
- ***THE DEMOLITION CODE***
- ***THE COMMERCIAL AND INDUSTRIAL CODE***

CONSERVATION

State whether the land

(a) includes or comprises critical habitat

(b) is in a conservation area (however described)

(c) has an item of environmental heritage (however described) situated thereon

SO FAR AS COUNCIL'S RECORDS INDICATE, THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

DEVELOPMENT CONTROL PLANS

If a development control plan that is expressed to apply to the land has been approved under Part 3 of the regulations state the name of the plan (whether or not the plan is in force).

OBERON DEVELOPMENT CONTROL PLAN 2001

CONTRIBUTIONS PLANS

If a contributions plan that is expressed to apply to the land has been approved under Part 4 of the regulations, state the name of the plan (whether or not it is in force).

SECTION 94 DEVELOPMENT CONTRIBUTIONS PLAN 2004

DEVELOPER SERVICES PLAN 2017

OBERON FEES AND CHARGES 2018/19

COASTAL PROTECTION CHARGES

SO FAR AS COUNCIL RECORDS INDICATE, THE LAND IS NOT SUBJECT TO ANNUAL CHARGES UNDER SECTION 496B OF THE LOCAL GOVERNMENT ACT 1993 FOR COASTAL PROTECTION SERVICES THAT RELATE TO EXISTING COASTAL PROTECTION WORKS (WITHIN THE MEANING OF SECTION 553B OF THAT ACT).

MINE SUBSIDENCE

THE LAND IS NOT PROCLAIMED TO BE WITHIN A MINE SUBSIDENCE DISTRICT WITHIN THE MEANING OF SECTION 15 OF THE MINE SUBSIDENCE COMPENSATION ACT 1961

ROAD WIDENING OR REALIGNMENT

State whether or not the land is affected by any road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993, or

(b) any environmental planning instrument, or

(c) any resolution of the council.

SO FAR AS COUNCIL'S RECORDS INDICATE, THE LAND SUBJECT OF THIS APPLICATION IS NOT AFFECTED.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

State whether or not the land is affected by a policy:

(a) adopted by council, or

(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by council, that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk.

SO FAR AS COUNCIL'S RECORDS INDICATE, THE LAND SUBJECT OF THIS APPLICATION IS NOT AFFECTED.

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling houses or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

LAND RESERVED FOR ACQUISITION

State whether or not any environmental planning instrument, deemed environmental planning instrument or draft environmental planning instrument applying to the land provides for the acquisition of land by a public authority, as referred to in section 3.15 of the Act.

SO FAR AS COUNCIL IS AWARE, THERE ARE NO PROVISIONS APPLICABLE BY OTHER PUBLIC AUTHORITIES.

HOWEVER, THE APPLICANT SHOULD MAKE INDEPENDENT ENQUIRIES.

BIODIVERSITY CERTIFIED LAND

THE LAND IS NOT AFFECTED OR CERTIFIED AS BEING LAND THAT IS BIODIVERSITY CERTIFIED LAND WITHIN THE MEANING OF PART 8 OF THE BIODIVERSITY CONSERVATION ACT 2016.

BIODIVERSITY STEWARDSHIP SITES

SO FAR AS COUNCIL RECORDS INDICATE, THE LAND IS NOT A BIODIVERSITY STEWARDSHIP SITE, UNDER A BIODIVERSITY STEWARDSHIP AGREEMENT, UNDER PART 5 OF THE BIODIVERSITY CONSERVATION ACT 2016.

NATIVE VEGETATION CLEARING

SO FAR AS COUNCIL RECORDS INDICATE, THE LAND DOES NOT CONTAIN A SET ASIDE AREA UNDER SECTION 60ZC OF THE LOCAL LAND SERVICES ACT 2013

BUSHFIRE PRONE LAND

OBERON COUNCIL'S BUSH FIRE PRONE LAND MAP DATED THE 13 AUGUST 2003 IDENTIFIES THE LAND AS NOT BEING BUSH FIRE PRONE. THE BUSH FIRE PRONE LAND MAP MAY BE VIEWED AT THE COUNCIL OFFICE.

PROPERTY VEGETATION PLANS

THE LAND IN QUESTION IS NOT PART OF A PROPERTY VEGETATION PLAN WITHIN THE MEANING OF THE NATIVE VEGETATION ACT 2003, NOR HAS COUNCIL BEEN ADVISED OF ANY SUCH PROVISION.

ORDERS UNDER TREE (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

THE LAND IS NOT AFFECTED BY ANY PROVISION MADE UNDER TREE (DISPUTES BETWEEN NEIGHBOURS) ACT 2006, NOR HAS COUNCIL BEEN ADVISED OF ANY SUCH PROVISION.

DIRECTIONS UNDER PART 3A

CURRENTLY NO DIRECTION HAS BEEN MADE BY THE MINISTER IN FORCE UNDER SECTION 75P (2) (C1) OF THE ACT THAT A PROVISION OF AN ENVIRONMENTAL PLANNING INSTRUMENT PROHIBITING OR RESTRICTING THE CARRYING OUT OF A PROJECT OR A STAGE OF A PROJECT ON THE LAND UNDER PART 4 OF THE ACT DOES NOT HAVE EFFECT.

SITE CAPABILITY CERTIFICATES AND CONDITIONS OF SENIORS HOUSING

If the land is land to which *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* applies:

(a) whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
  (i) the period for which the certificate is current, and
  (ii) that a copy may be obtained from the head office of the Department of Planning, and
(b) are there any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

SITE COMPATABILITY CERTIFICATES AND CONDITION FOR INFRASTRUCTURE, SCHOOLS OR TAFE ESTABLISHMENTS

Whether there is a valid site compatibility certificate (infrastructure) or site compatibility certificate (schools or TAFE establishments), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
(a) the period for which the certificate is valid, and
(b) that a copy may be obtained from the head office of the Department of Planning.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

SITE CAPABILITY CERTIFICATES AND CONDITION FOR AFFORDABLE RENTAL HOUSING

(1) whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
  (a) the period for which the certificate is current, and
  (b) that a copy may be obtained from the head office of the Department of Planning.
(2) are there any terms of a kind referred to in clause 17 (1) or 38 (1) of *State Environmental Planning Policy (Affordable Rental Housing) 2009* that have been imposed as a condition of consent to a development application in respect of the land.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.
(2) The date of any subdivision order that applies to the land.
(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

SITE VERIFICATION CERTIFICATES

A statement of whether there is a current site verification certificate, of which the council is aware, in respect of the land and, if there is a certificate, the statement is to include:
(a) the matter certified by the certificate, and
Note. A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land—see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.
(b) the date on which the certificate ceases to be current (if any), and
(c) that a copy may be obtained from the head office of the Department.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

LOOSE-FILL ASBESTOS INSULATION

If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division, a statement to that effect.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY THIS CRITERIA.

AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(1) A statement of whether there is any affected building notice of which the council is aware that is in force respect of the land.
(2) A statement of:
    (a) Wheter there is any building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with, and
    (b) Whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.
(3) In this clause:
Affected building notice has the same meaning as in Part 4 of the *Building Products (Safety) Act 2017.*
Building product rectification order has the same meaning as in the Building Products (Safety) Act 2017.

SO FAR AS COUNCIL RECORDS INDICATE THE LAND THE SUBJECT OF THIS APPLICATION, IS NOT AFFECTED BY ANY OF THESE CRITERIA.

MATTERS ARISING UNDER THE CONTAMINATED LAND MANAGEMENT ACT 1997

Section 59(2) of the Contaminated Land Management Act 1997 prescribes the following additional information:
(a) that the land to which the certificate relates is significantly contaminated land – if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,
(b) that the land to which the certificate relates is subject to a management order – if it is subject to such an order at the date when the certificate is issued,
(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal – if it is the subject of such an approved proposal at the date when the certificate is issued,
(d) that the land to which the certificate relates is subject to an ongoing maintenance order – if it is subject to such an order at the date when the certificate is issued,
(e) that the land to which the certificate relates is the subject of a site audit statement – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

PLEASE NOTE THAT COUNCIL'S RECORDS INDICATE THAT LOT 34 IN DP 1228591 IS SUSPECTED OF BEING A CONTAMINATED SITE. IT IS COUNCIL'S UNDERSTANDING THAT THE PROPERTY WAS USED AT ONE STAGE FOR INDUSTRIAL ACTIVITIES. APPLICANTS SHOULD RELY ON THEIR OWN ENQUIRIES.

HOWEVER THE APPLICANT SHOULD MAKE INDEPENDENT ENQUIRIES

OTHER MATTERS

OTHER MATTERS RELEVANT NOT ELSEWHERE DETAILED IN THIS CERTIFICATE.

It is advised that the applicant obtain an Outstanding Notices Certificate under Section 64 of the Noxious Weeds Act from the Upper Macquarie County Council, 7 Lee Street, Kelso 2795.

If the site is not connected to the town sewer, it should have an installation approval for any on-site effluent disposal, under the Local Government Act. Please note that the system may require upgrading in the future.

The land may be located within the proximity of Industrial activities and/or agricultural activities and/or forestry activities and potential exists for impact upon the environmental amenity of residents. Known land uses in or adjacent to the village of Oberon and Burraga that may impact on the environmental amenity include: sawmills, timber processing and manufacturing factors and related industries, heavy transport movements, logging, chipping and general farming activities. Further investigations may be warranted and applicants should rely on their own enquiries.

The land may comprise significant areas of landfill. Further investigations may be warranted and applicants should rely on their own enquiries.

The land may include areas considered to be mapped as within a designated buffer area of the Oberon Timber Complex (Clause 6.6 of OLEP 2013). Further investigations may be warranted and applicants should rely on their own enquiries.

Councils records show that the land may be contaminated from a previous use. Further investigations may be warranted and applicants should rely on their own enquiries.

The above information has been taken from the Council's records, but Council cannot accept responsibility for any omission or inaccuracy.

.....

Oberon Council
Shane Wilson
Planning and Development Director

Date: **8 October 2018**

Note: Additional information on the property is available in a certificate under Section 10.7(5) of the EP&A Act. This is usually applied for at the same time as, and not normally issued separately from, the relevant 10.7).

Appendix 3. SafeWork Storage of Dangerous Chemicals

NSW GOVERNMENT | SafeWork NSW

Locked Bag 2906, Lisarow NSW 2252
Customer Experience 13 10 50
ABN 81 913 830 179 | www.safework.nsw.gov.au

Our Ref: D18/198157

28 September 2018

ENVIROWEST CONSULTING
Ms Ashleigh Pickering
PO Box 8158
ORANGE NSW 2800

Dear Ms Pickering

RE SITE: Lot 34 DP 1228591 Endeavour St, Oberon NSW 2787

I refer to your site search request received by SafeWork NSW on 11 September 2018 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely

Customer Service Officer
Customer Experience - Operations
SafeWork NSW

Appendix 4. Title Search (Infotrack)

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Summary of Owners Report

LRS NSW **Sydney**

Address: - 26 Endeavour Street, Oberon

Description: - Lot 34 D.P. 1228591

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
29.10.1929 (1929 to 1955)	Arthur Horace Cunynghame (Produce Merchant) George Washington Kelly (Farmer)	Book 1581 No. 579
04.02.1955 (1955 to 1959)	George Washington Kelly (Farmer)	Book 2324 No. 835
29.09.1959 (1959 to 1966)	Amelia Kate Gatward (Widow) Aurelia Miller (Widow) Frank Harold Kelly (Labourer) Robert Cyril Kelly (Retired)	Book 2517 No. 790
26.11.1966 (1966 to 2003)	Harold Raymond Cunynghame (Produce Merchant) William Horace Cunynghame (Produce Merchant)	Book 2816 No. 18 Now 2902/1056754
20.08.2003 (2003 to date)	# Woodchem Australia Pty Ltd	2902/1056754

# Denotes current registered proprietor

Leases: - NIL

Easements: - NIL

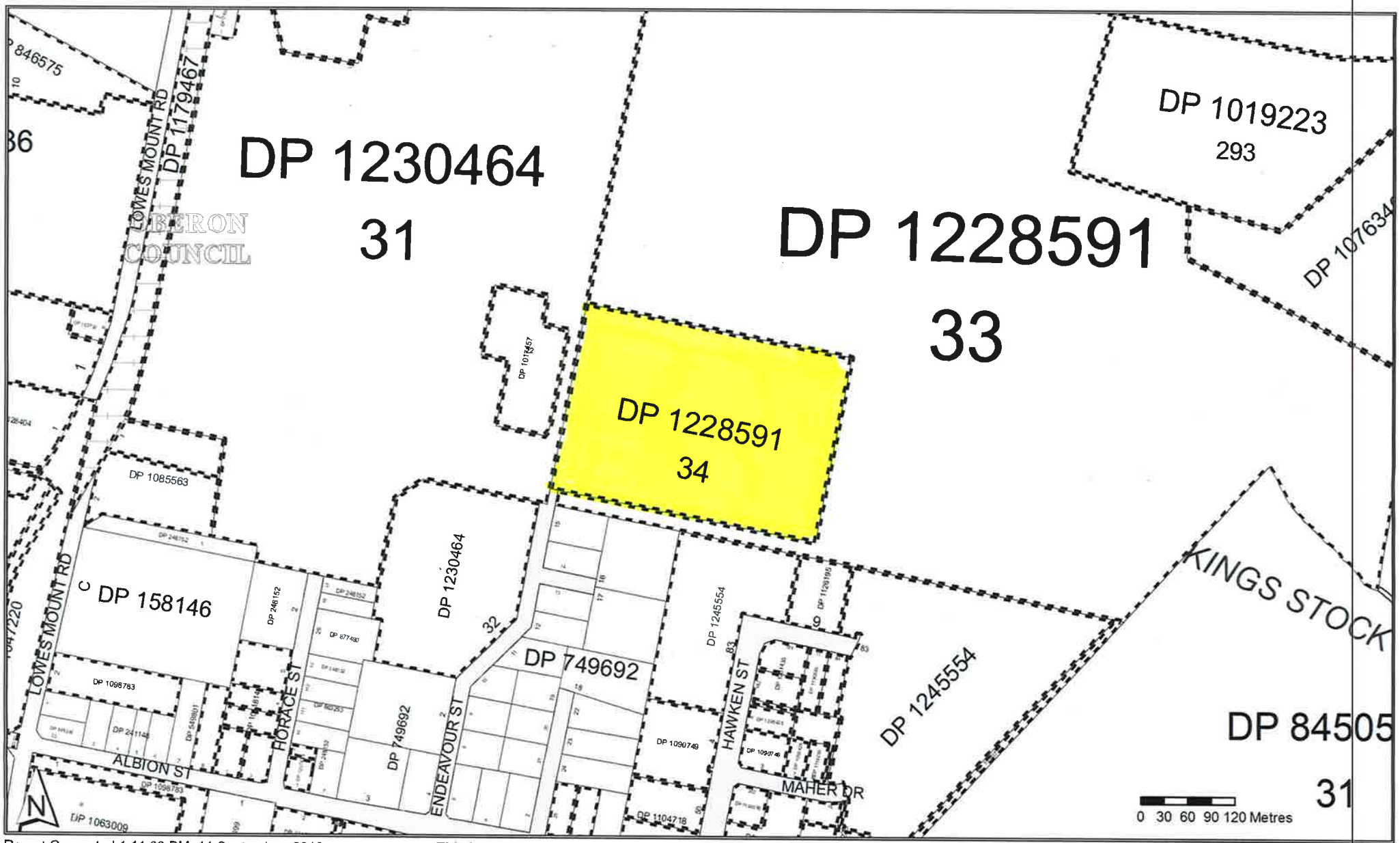
Yours Sincerely,
Mark Groll
24 September 2018

LAND REGISTRY SERVICES

Cadastral Records Enquiry Report : Lot 34 DP 1228591

Locality : OBERON
LGA : OBERON
Parish : OBERON
County : WESTMORELAND

Ref : CMapIT

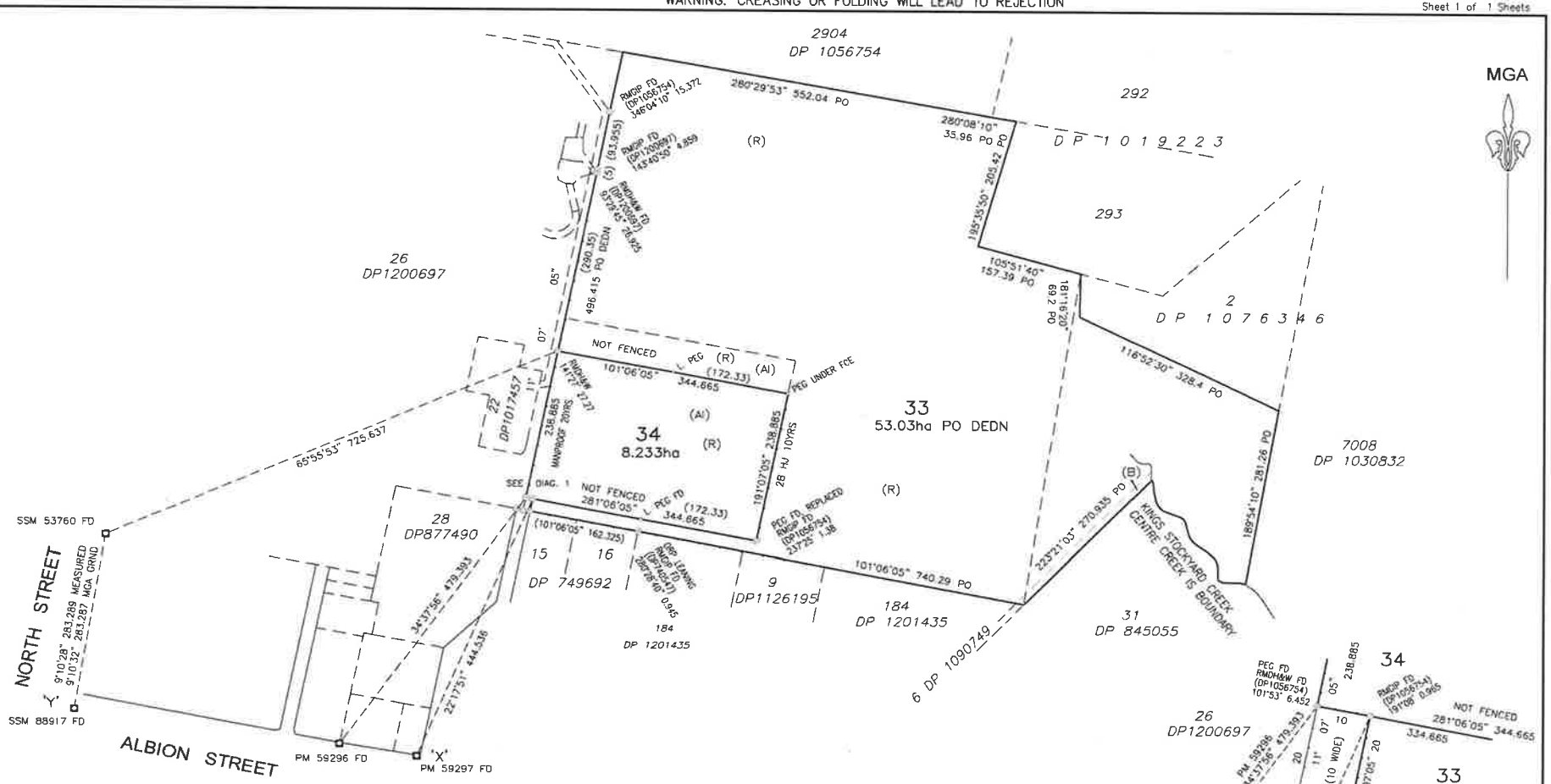


Report Generated 1:11:08 PM, 11 September, 2018

PLAN FORM 2 DP1228591

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Sheet 1 of 1 Sheets



DATUM: 'X' - 'Y'

PM 59297 – SSM 88917 278°09'07" 507.937 MEASURED
278°09'07" 507.953 MGA GRND
PM 59296 – SSM 88917 277°47'28" 392.841 MEASURED
277°47'35" 392.853 MGA GRND
PM 59297 – PM 59296 279°22'57" 115.131 MEASURED
279°22'35" 115.135 MGA GRND

(R) RESTRICTION AS TO USER (DP 1019223)
(B) EASEMENT TO DRAIN WATER 10 WIDE (DP 1056754)
(AI) RESTRICTION(S) ON THE USE OF LAND – AI34284, AI34285, AI34286

SURVEYING REGULATION 2012 CLAUSE 35(1)(b) &61(2)

MARK	MGA COORDINATES MGA EASTING	MGA NORTHING	HORZ CLASS	HORZ ORDER	METHOD	ORIGIN
SSM 53760	764 692.296	6 267 874.084	C	4	FROM SCIMS	SCIMS
SSM 88917	764 647.083	6 267 594.346	C	U	FROM SCIMS	SCIMS
PM 59296	765 036.420	6 267 541.062	C	3	FROM SCIMS	SCIMS
PM 59297	765 150.049	6 267 522.299	C	3	FROM SCIMS	SCIMS

SOURCE: SCIMS DATE: 11.04.2016 ZONE: 55
MEAN COMBINED SCALE FACTOR: 1.000289

Surveyor: DAVID ALFRED BROOKS Date of Survey: 11/05/2016 Surveyor's Ref: 21630 File	PLAN OF SUBDIVISION OF LOT 2902 DP1056754 AND LOT 1 DP1076346	LGA: OBERON Locality: OBERON Subdivision No: 1178 Lengths are in metres. Reduction Ratio 1:4000	Registered: 22.02.2017	DP1228591

PLAN FORM 6 (2013) WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 1 of 2 sheet(s)

Office Use Only

Registered: 22.02.2017

Title System: TORRENS

Purpose: SUBDIVISION

Office Use Only

DP1228591 S

PLAN OF SUBDIVISION OF LOT 2902 DP1056754 AND LOT 1 DP1076346

LGA: OBERON

Locality: OBERON

Parish: OBERON

County: WESTMORELAND

Crown Lands NSW/Western Lands Office Approval

I, ... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, CLARY WALLACE

*Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....

Accreditation number: .....

Consent Authority: OBERON COUNCIL

Date of endorsement: 25 AUGUST 2016

Subdivision Certificate number: 1178

File number: DA 10.2016.38.1 PO22-26 PO 22-24

*Strike through if inapplicable.

Survey Certificate

I, DAVID ALFRED BROOKS .....

of BATHURST SURVEY & CIVIL DESIGN .....

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

~~*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on~~

*(b) The part of the land shown in the plan (*being/~~*excluding~~) Lot 34 was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on 11/05/2016, the part not surveyed was compiled in accordance with that Regulation.

~~*(c) The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2012*.~~

Signature: ..... Dated: 19/06/2016

Surveyor ID: 581 .....

Datum Line: 'X' – 'Y' PM59297 - SSM88917

Type: ~~*Urban~~/*Rural

The terrain is *Level-Undulating / ~~*Steep-Mountainous~~.

*Strike through if inapplicable.

^Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Statements of intention to dedicate public roads create public reserves and drainage reserves, acquire/resume land.

Plans used in the preparation of survey/compilation.

DP1056754	DP1076346	DP877490
DP749692	DP1201435	DP1126195
DP1200697	DP854055	DP1030832

DP BY ME 20/4/16 DAB 15-2-17

If space is insufficient continue on PLAN FORM 6A

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

Surveyor's Reference: 21630

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET Sheet 2 of ~~2~~ 3 sheet(s)

Office Use Only

Registered: 22.02.2017

Office Use Only

DP1228591

PLAN OF SUBDIVISION OF LOT 2902 DP1056754 AND LOT 1 DP1076346

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Subdivision Certificate number: 1178

Date of Endorsement: 25 AUGUST 2016

EXECUTED BY BORG ~~PANELS~~ PTY LIMITED ACN ~~130 504 000~~ 070 769 701 PURSUANT TO SECTION 127 OF THE CORPORATIONS ACT BY GROUP

JOHN ANTHONY BORG – DIRECTOR

MICHAEL PAUL BORG – DIRECTOR

EXECUTED BY WOODCHEM AUSTRALIA PTY LIMITED ACN 080 088 777 PURSUANT TO SECTION 127 OF THE CORPORATIONS ACT BY

JOHN ANTHONY BORG – DIRECTOR

MICHAEL PAUL BORG - DIRECTOR

PROPOSED ROAD NUMBERS	
LOT No.	ROAD
33	24 ENDEAVOUR STREET
34	26 ENDEAVOUR STREET

15.2.17

If space is insufficient use additional annexure sheet

Surveyor's Reference: 21630

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 3 of 3 sheet(s)

Office Use Only

Registered: 22.02.2017

Office Use Only

DP1228591

PLAN OF SUBDIVISION OF LOT 2902 DP1056754 AND LOT 1 DP1076346

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Subdivision Certificate number: 1178

Date of Endorsement: 25 AUGUST 2016

~~EXECUTED BY BORG PANELS PTY LIMITED ACN 139 584 900 PURSUANT TO SECTION 127 OF THE CORPORATIONS ACT~~ BY

JOHN ANTHONY BORG – DIRECTOR

MICHAEL PAUL BORG – DIRECTOR

EXECUTED BY WOODCHEM AUSTRALIA PTY LIMITED ACN 080 088 777 PURSUANT TO SECTION 127 OF THE CORPORATIONS ACT BY

JOHN ~~ANTHONY BORG – DIRECTOR~~

~~MICHAEL PAUL BORG – DIRECTOR~~

Mortgagee under Mortgage Nos AF488624 and AJ303164

Signed at Sydney this 16th day of January 2017 for National Australia Bank Limited ABN 12 004 044 937

by RICHARD WHEELER

its duly appointed Attorney under Power of Attorney No. 39 Book 4512

.....

Level 25 Attorney

.....

Witness/Bank Officer

LINDA JUSTER
LVL 25, 255 GEORGE ST,
SYDNEY, NSW, 2000.

If space is insufficient use additional annexure sheet

Surveyor's Reference: 21630

LAND REGISTRY SERVICES

Historical Title

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
20/9/2018 11:17AM

FOLIO: 21/739603

First Title(s): OLD SYSTEM VOL 8301 FOL 222
Prior Title(s): VOL 8301 FOL 222 CA16494

Recorded	Number	Type of Instrument	C.T. Issue
2/1/1987	CA16494	CONVERSION ACTION	FOLIO CREATED EDITION 1
3/3/1987	DP740547	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

oberon PRINTED ON 20/9/2018

LAND REGISTRY SERVICES

Historical Title

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
20/9/2018 11:17AM

FOLIO: 24/740547

First Title(s): OLD SYSTEM VOL 8301 FOL 222
Prior Title(s): 21/739603

Recorded	Number	Type of Instrument	C.T. Issue
2/3/1987	DP740547	DEPOSITED PLAN	FOLIO CREATED EDITION 1
16/12/1994	DP845055	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

oberon

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Received: 20/09/2018 11:17:58

LAND REGISTRY SERVICES

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
20/9/2018 11:17AM

FOLIO: 29/845055

First Title(s): OLD SYSTEM VOL 8301 FOL 222
Prior Title(s): 24/740547

Recorded	Number	Type of Instrument	C.T. Issue
19/12/1994	DP845055	DEPOSITED PLAN	FOLIO CREATED EDITION 1
14/9/2000	7089785	DEPARTMENTAL DEALING	
20/11/2000	DP1019223	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS
14/9/2015	AJ811575	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

oberon PRINTED ON 20/9/2018

LAND REGISTRY SERVICES

Historical Title

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
20/9/2018 11:17AM

FOLIO: 290/1019223

First Title(s): OLD SYSTEM
Prior Title(s): 29/845055

Recorded	Number	Type of Instrument	C.T. Issue
20/11/2000	DP1019223	DEPOSITED PLAN	FOLIO CREATED EDITION 1
29/7/2003	DP1056754	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

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LAND REGISTRY SERVICES — Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
20/9/2018 11:17AM

FOLIO: 2902/1056754

First Title(s): OLD SYSTEM
Prior Title(s): 290/1019223

Recorded	Number	Type of Instrument	C.T. Issue
29/7/2003	DP1056754	DEPOSITED PLAN	FOLIO CREATED EDITION 1
20/8/2003	9892948	TRANSFER	EDITION 2
28/1/2004	AA361301	MORTGAGE	EDITION 3
21/3/2004	AA501351	DEPARTMENTAL DEALING	
30/6/2006	AC424752	DISCHARGE OF MORTGAGE	EDITION 4
6/2/2009	AE485588	MORTGAGE	EDITION 5
9/3/2010	AF359796	DISCHARGE OF MORTGAGE	EDITION 6
13/5/2010	AF488624	MORTGAGE	EDITION 7
18/10/2013	AI34284	RESTRICTION ON USE OF LAND	
18/10/2013	AI34285	RESTRICTION ON USE OF LAND	
18/10/2013	AI34286	RESTRICTION ON USE OF LAND	EDITION 8
22/2/2017	DP1228591	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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LAND REGISTRY SERVICES

Historical Title

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
20/9/2018 11:17AM

FOLIO: 34/1228591

First Title(s): OLD SYSTEM
Prior Title(s): 2902/1056754

Recorded	Number	Type of Instrument	C.T. Issue
22/2/2017	DP1228591	DEPOSITED PLAN	FOLIO CREATED EDITION 1
9/9/2018	AN695392	DEPARTMENTAL DEALING	EDITION 2 CORD ISSUED

*** END OF SEARCH ***

oberon

PRINTED ON 20/9/2018

Received: 20/09/2018 11:17:56

LAND REGISTRY SERVICES Title Search

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 34/1228591

SEARCH DATE	TIME	EDITION NO	DATE
20/9/2018	11:21 AM	2	9/9/2018

NO CERTIFICATE OF TITLE HAS ISSUED FOR THE CURRENT EDITION OF THIS FOLIO.
CONTROL OF THE RIGHT TO DEAL IS HELD BY NATIONAL AUSTRALIA BANK LIMITED.

LAND

LOT 34 IN DEPOSITED PLAN 1228591
AT OBERON
LOCAL GOVERNMENT AREA OBERON
PARISH OF OBERON COUNTY OF WESTMORELAND
TITLE DIAGRAM DP1228591

FIRST SCHEDULE

WOODCHEM AUSTRALIA PTY LTD

SECOND SCHEDULE (6 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 DP1019223 RESTRICTION(S) ON THE USE OF LAND
3 AF488624 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED
4 AI34284 RESTRICTION(S) ON THE USE OF LAND
5 AI34285 RESTRICTION(S) ON THE USE OF LAND
6 AI34286 RESTRICTION(S) ON THE USE OF LAND

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Appendix 5. Field sampling log

Sampling log

Client	Borg Plantations Pty Ltd
Contact	Mark Daniels
Job number	R10182c1
Location	Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW 2787
Date	20 September 2018
Investigator	Ashleigh Pickering
Weather conditions	Fine and mild

Sample id	Matrix	Date	Analysis required	Observations/comments
B101	Soil	20/09/2018	Arsenic (As), cadmium (Ca), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn), mercury (Hg), organochlorine pesticides (OCP), organophosphate pesticides (OPP), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, naphthalene (BTEXN), polychlorinated biphenyls (PCB)	
B102	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B103	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B104	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B105	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B106	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B107	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B108	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B109	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B110	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B111	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B112	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B113	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B114	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B115	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B116	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B117	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B118	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B119	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B120	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B121	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B122	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
DA	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	Duplicate of B101
DB	Soil	20/09/2018	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	Duplicate of B116

Client	Borg Plantations Pty Ltd
Contact	Mark Daniels
Job number	R10182c1
Location	Part Lots 33 and 34 DP1228591 Endeavour Street, Oberon NSW 2787
Date	21 February 2018
Investigator	Ashleigh Pickering
Weather conditions	Fine and mild

Sample id	Matrix	Date	Analysis required	Observations/comments
B123	Soil	21/02/2019	Arsenic (As), cadmium (Ca), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn), mercury (Hg), organochlorine pesticides (OCP), organophosphate pesticides (OPP), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, naphthalene (BTEXN), polychlorinated biphenyls (PCB)	
B124	Soil	21/02/2019	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
B125	Soil	21/02/2019	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	
DW	Soil	21/02/2019	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, OCP, OPP, TRH, BTEXN, PCB	Duplicate of B123

Appendix 6. Soil analysis results – SGS report number SE184221 and chain of custody form

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Ashleigh Pickering
Client	ENVIROWEST CONSULTING PTY LIMITED
Address	PO BOX 8158 ORANGE NSW 2800
Telephone	61 2 63614954
Facsimile	(Not specified)
Email	ashleigh@envirowest.net.au
Project	**10182**
Order Number	**10182**
Samples	24

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE184221 R0**
Date Received	21/9/2018
Date Reported	2/10/2018

COMMENTS

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

A portion of the sample supplied has been sub-sampled for asbestos according to SGS In-house procedures.
We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied.
SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.

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

Asbestos analysed by Approved Identifiers Yusuf Kuthpudin and Ravee Sivasubramaniam .

SIGNATORIES

Akheeqar Beniameen
Chemist

Bennet Lo
Senior Organic Chemist/Metals Chemist

Dong Liang
Metals/Inorganics Team Leader

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Hygiene Team Leader

Shane McDermott
Inorganic/Metals Chemist

VOC's in Soil [AN433] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
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	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
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

VOC's in Soil [AN433] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
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	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
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	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	**68**	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	**64**	**120**	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	**160**	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	**230**	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	**270**	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	**230**	<210

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	**56**	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	**140**	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	**140**	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	**190**	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	**56**	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
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	**2.3**	<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	**3.5**	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	**2.5**	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	**0.7**	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	**1.5**	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	**1.8**	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	**0.5**	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	**0.9**	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	**0.8**	<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	**0.6**	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	**1.4**	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	**1.4**	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	**1.4**	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	**15**	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	**15**	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
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 (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
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 (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
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	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	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
Chrysene	mg/kg	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
Benzo(k)fluoranthene	mg/kg	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
Indeno(1,2,3-cd)pyrene	mg/kg	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
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	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
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
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
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	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
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	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
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	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
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	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
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
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
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	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
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	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
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
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	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
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

PCBs in Soil [AN420] Tested: 26/9/2018 (continued)

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
Arsenic, As	mg/kg	1	2	2	3	5	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	51	89	44	83	82
Copper, Cu	mg/kg	0.5	13	12	6.4	8.1	22
Lead, Pb	mg/kg	1	9	10	9	12	11
Nickel, Ni	mg/kg	0.5	6.4	6.0	3.0	8.6	11
Zinc, Zn	mg/kg	2	18	16	11	24	34

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
Arsenic, As	mg/kg	1	2	3	5	10	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	97	61	100	73	110
Copper, Cu	mg/kg	0.5	11	10	21	110	15
Lead, Pb	mg/kg	1	12	14	230	20	12
Nickel, Ni	mg/kg	0.5	6.0	5.4	14	25	7.2
Zinc, Zn	mg/kg	2	18	19	55	350	21

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
Arsenic, As	mg/kg	1	5	2	5	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	260	81	170	200	94
Copper, Cu	mg/kg	0.5	26	16	27	15	14
Lead, Pb	mg/kg	1	14	10	19	13	14
Nickel, Ni	mg/kg	0.5	11	8.7	19	13	7.0
Zinc, Zn	mg/kg	2	25	44	32	20	19

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
Arsenic, As	mg/kg	1	3	2	3	2	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	170	200	120	250	90
Copper, Cu	mg/kg	0.5	25	16	29	22	15
Lead, Pb	mg/kg	1	24	16	11	11	12
Nickel, Ni	mg/kg	0.5	12	9.4	27	30	5.7
Zinc, Zn	mg/kg	2	150	23	57	52	22

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 26/9/2018

(continued)

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Arsenic, As	mg/kg	1	<1	<1	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	**240**	**100**	**44**	**130**
Copper, Cu	mg/kg	0.5	**9.1**	**2.8**	**11**	**23**
Lead, Pb	mg/kg	1	**6**	<1	**8**	**17**
Nickel, Ni	mg/kg	0.5	**27**	**34**	**5.2**	**11**
Zinc, Zn	mg/kg	2	**35**	**35**	**18**	**110**

Mercury in Soil [AN312] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
% Moisture	%w/w	0.5	24	15	18	13	24

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
% Moisture	%w/w	0.5	10	18	10	46	11

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
% Moisture	%w/w	0.5	12	20	13	14	13

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
% Moisture	%w/w	0.5	12	14	9.8	9.0	10

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
% Moisture	%w/w	0.5	12	12	25	12

Fibre Identification in soil [AN602] Tested: 26/9/2018

PARAMETER	UOM	LOR	B101 SOIL - 20/9/2018 SE184221.001	B102 SOIL - 20/9/2018 SE184221.002	B103 SOIL - 20/9/2018 SE184221.003	B104 SOIL - 20/9/2018 SE184221.004	B105 SOIL - 20/9/2018 SE184221.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	B106 SOIL - 20/9/2018 SE184221.006	B107 SOIL - 20/9/2018 SE184221.007	B108 SOIL - 20/9/2018 SE184221.008	B109 SOIL - 20/9/2018 SE184221.009	B110 SOIL - 20/9/2018 SE184221.010
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	B111 SOIL - 20/9/2018 SE184221.011	B112 SOIL - 20/9/2018 SE184221.012	B113 SOIL - 20/9/2018 SE184221.013	B114 SOIL - 20/9/2018 SE184221.014	B115 SOIL - 20/9/2018 SE184221.015
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	B116 SOIL - 20/9/2018 SE184221.016	B117 SOIL - 20/9/2018 SE184221.017	B118 SOIL - 20/9/2018 SE184221.018	B119 SOIL - 20/9/2018 SE184221.019	B120 SOIL - 20/9/2018 SE184221.020
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	B121 SOIL - 20/9/2018 SE184221.021	B122 SOIL - 20/9/2018 SE184221.022	DA SOIL - 20/9/2018 SE184221.023	DB SOIL - 20/9/2018 SE184221.024
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total 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) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

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

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

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

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

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

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

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STATEMENT OF QA/QC PERFORMANCE

SE184221 R0

CLIENT DETAILS

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Project	**10182**
Order Number	**10182**
Samples	24

LABORATORY DETAILS

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SGS Reference	**SE184221 R0**
Date Received	21 Sep 2018
Date Reported	02 Oct 2018

COMMENTS

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

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

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

Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	3 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	3 items
	TRH (Total Recoverable Hydrocarbons) in Soil	2 items
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
	TRH (Total Recoverable Hydrocarbons) in Soil	2 items

SAMPLE SUMMARY

HOLDING TIME SUMMARY

SE184221 R0

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

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

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

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B102	SE184221.002	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B103	SE184221.003	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B104	SE184221.004	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B105	SE184221.005	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B106	SE184221.006	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B107	SE184221.007	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B108	SE184221.008	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B109	SE184221.009	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B110	SE184221.010	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B111	SE184221.011	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B112	SE184221.012	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B113	SE184221.013	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B114	SE184221.014	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B115	SE184221.015	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B116	SE184221.016	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B117	SE184221.017	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B118	SE184221.018	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B119	SE184221.019	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B120	SE184221.020	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B121	SE184221.021	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
B122	SE184221.022	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
DA	SE184221.023	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018
DB	SE184221.024	LB157706	20 Sep 2018	21 Sep 2018	20 Sep 2019	26 Sep 2018	20 Sep 2019	28 Sep 2018

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B102	SE184221.002	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B103	SE184221.003	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B104	SE184221.004	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B105	SE184221.005	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B106	SE184221.006	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B107	SE184221.007	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B108	SE184221.008	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B109	SE184221.009	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B110	SE184221.010	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B111	SE184221.011	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B112	SE184221.012	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B113	SE184221.013	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B114	SE184221.014	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B115	SE184221.015	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B116	SE184221.016	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B117	SE184221.017	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B118	SE184221.018	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B119	SE184221.019	LB157683	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B120	SE184221.020	LB157684	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B121	SE184221.021	LB157684	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
B122	SE184221.022	LB157684	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
DA	SE184221.023	LB157684	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018
DB	SE184221.024	LB157684	20 Sep 2018	21 Sep 2018	18 Oct 2018	26 Sep 2018	18 Oct 2018	28 Sep 2018

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B102	SE184221.002	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B103	SE184221.003	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B104	SE184221.004	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B105	SE184221.005	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B106	SE184221.006	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B107	SE184221.007	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018

HOLDING TIME SUMMARY

SE184221 R0

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

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

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

Moisture Content (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B108	SE184221.008	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B109	SE184221.009	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B110	SE184221.010	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B111	SE184221.011	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B112	SE184221.012	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B113	SE184221.013	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B114	SE184221.014	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B115	SE184221.015	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B116	SE184221.016	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B117	SE184221.017	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B118	SE184221.018	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B119	SE184221.019	LB157679	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	28 Sep 2018
B120	SE184221.020	LB157680	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	27 Sep 2018
B121	SE184221.021	LB157680	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	27 Sep 2018
B122	SE184221.022	LB157680	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	27 Sep 2018
DA	SE184221.023	LB157680	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	27 Sep 2018
DB	SE184221.024	LB157680	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	01 Oct 2018	27 Sep 2018

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B102	SE184221.002	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B103	SE184221.003	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B104	SE184221.004	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B105	SE184221.005	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B106	SE184221.006	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B107	SE184221.007	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B108	SE184221.008	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B109	SE184221.009	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B110	SE184221.010	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B111	SE184221.011	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B112	SE184221.012	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B113	SE184221.013	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B114	SE184221.014	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B115	SE184221.015	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B116	SE184221.016	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B117	SE184221.017	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B118	SE184221.018	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B119	SE184221.019	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B120	SE184221.020	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B121	SE184221.021	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B122	SE184221.022	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
DA	SE184221.023	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
DB	SE184221.024	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B102	SE184221.002	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B103	SE184221.003	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B104	SE184221.004	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B105	SE184221.005	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B106	SE184221.006	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B107	SE184221.007	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B108	SE184221.008	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B109	SE184221.009	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B110	SE184221.010	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B111	SE184221.011	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B112	SE184221.012	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B113	SE184221.013	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B114	SE184221.014	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018

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

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

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

OP Pesticides in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B115	SE184221.015	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B116	SE184221.016	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B117	SE184221.017	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B118	SE184221.018	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B119	SE184221.019	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B120	SE184221.020	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B121	SE184221.021	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B122	SE184221.022	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
DA	SE184221.023	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
DB	SE184221.024	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B102	SE184221.002	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B103	SE184221.003	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B104	SE184221.004	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B105	SE184221.005	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B106	SE184221.006	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B107	SE184221.007	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B108	SE184221.008	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B109	SE184221.009	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B110	SE184221.010	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B111	SE184221.011	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B112	SE184221.012	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B113	SE184221.013	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B114	SE184221.014	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B115	SE184221.015	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B116	SE184221.016	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B117	SE184221.017	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B118	SE184221.018	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B119	SE184221.019	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B120	SE184221.020	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B121	SE184221.021	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B122	SE184221.022	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
DA	SE184221.023	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
DB	SE184221.024	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B102	SE184221.002	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B103	SE184221.003	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B104	SE184221.004	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B105	SE184221.005	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B106	SE184221.006	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B107	SE184221.007	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B108	SE184221.008	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B109	SE184221.009	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B110	SE184221.010	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B111	SE184221.011	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B112	SE184221.012	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B113	SE184221.013	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B114	SE184221.014	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B115	SE184221.015	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B116	SE184221.016	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B117	SE184221.017	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B118	SE184221.018	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B119	SE184221.019	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B120	SE184221.020	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
B121	SE184221.021	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018

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]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B122	SE184221.022	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
DA	SE184221.023	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018
DB	SE184221.024	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	02 Oct 2018

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B102	SE184221.002	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B103	SE184221.003	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B104	SE184221.004	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B105	SE184221.005	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B106	SE184221.006	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B107	SE184221.007	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B108	SE184221.008	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B109	SE184221.009	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B110	SE184221.010	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B111	SE184221.011	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B112	SE184221.012	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B113	SE184221.013	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B114	SE184221.014	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B115	SE184221.015	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B116	SE184221.016	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B117	SE184221.017	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B118	SE184221.018	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B119	SE184221.019	LB157681	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	28 Sep 2018
B120	SE184221.020	LB157682	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	27 Sep 2018
B121	SE184221.021	LB157682	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	27 Sep 2018
B122	SE184221.022	LB157682	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	27 Sep 2018
DA	SE184221.023	LB157682	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	27 Sep 2018
DB	SE184221.024	LB157682	20 Sep 2018	21 Sep 2018	19 Mar 2019	26 Sep 2018	19 Mar 2019	27 Sep 2018

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B102	SE184221.002	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B103	SE184221.003	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B104	SE184221.004	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B105	SE184221.005	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B106	SE184221.006	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B107	SE184221.007	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B108	SE184221.008	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B109	SE184221.009	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B110	SE184221.010	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B111	SE184221.011	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B112	SE184221.012	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B113	SE184221.013	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B114	SE184221.014	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B115	SE184221.015	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B116	SE184221.016	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B117	SE184221.017	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B118	SE184221.018	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B119	SE184221.019	LB157668	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B120	SE184221.020	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B121	SE184221.021	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
B122	SE184221.022	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
DA	SE184221.023	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018
DB	SE184221.024	LB157670	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018

VOC's in Soil

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

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE184221 R0

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

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

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

VOC's in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B102	SE184221.002	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B103	SE184221.003	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B104	SE184221.004	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B105	SE184221.005	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B106	SE184221.006	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B107	SE184221.007	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B108	SE184221.008	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B109	SE184221.009	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B110	SE184221.010	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B111	SE184221.011	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B112	SE184221.012	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B113	SE184221.013	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B114	SE184221.014	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B115	SE184221.015	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B116	SE184221.016	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B117	SE184221.017	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B118	SE184221.018	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B119	SE184221.019	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B120	SE184221.020	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B121	SE184221.021	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B122	SE184221.022	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
DA	SE184221.023	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
DB	SE184221.024	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B101	SE184221.001	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B102	SE184221.002	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B103	SE184221.003	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B104	SE184221.004	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B105	SE184221.005	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B106	SE184221.006	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B107	SE184221.007	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B108	SE184221.008	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B109	SE184221.009	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B110	SE184221.010	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B111	SE184221.011	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B112	SE184221.012	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B113	SE184221.013	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B114	SE184221.014	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B115	SE184221.015	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B116	SE184221.016	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B117	SE184221.017	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B118	SE184221.018	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B119	SE184221.019	LB157665	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B120	SE184221.020	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B121	SE184221.021	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
B122	SE184221.022	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
DA	SE184221.023	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	27 Sep 2018
DB	SE184221.024	LB157667	20 Sep 2018	21 Sep 2018	04 Oct 2018	26 Sep 2018	05 Nov 2018	28 Sep 2018

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	B101	SE184221.001	%	60 - 130%	111
	B102	SE184221.002	%	60 - 130%	99
	B103	SE184221.003	%	60 - 130%	109
	B104	SE184221.004	%	60 - 130%	92
	B105	SE184221.005	%	60 - 130%	109
	B106	SE184221.006	%	60 - 130%	96
	B107	SE184221.007	%	60 - 130%	103
	B108	SE184221.008	%	60 - 130%	105
	B109	SE184221.009	%	60 - 130%	115
	B110	SE184221.010	%	60 - 130%	102
	B111	SE184221.011	%	60 - 130%	105
	B112	SE184221.012	%	60 - 130%	103
	B113	SE184221.013	%	60 - 130%	97
	B114	SE184221.014	%	60 - 130%	100
	B115	SE184221.015	%	60 - 130%	102
	B116	SE184221.016	%	60 - 130%	96
	B117	SE184221.017	%	60 - 130%	116
	B118	SE184221.018	%	60 - 130%	89
	B119	SE184221.019	%	60 - 130%	127
	B120	SE184221.020	%	60 - 130%	80
	B121	SE184221.021	%	60 - 130%	77
	B122	SE184221.022	%	60 - 130%	71
	DA	SE184221.023	%	60 - 130%	105
	DB	SE184221.024	%	60 - 130%	81

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	B101	SE184221.001	%	60 - 130%	102
	B102	SE184221.002	%	60 - 130%	90
	B103	SE184221.003	%	60 - 130%	92
	B104	SE184221.004	%	60 - 130%	92
	B105	SE184221.005	%	60 - 130%	92
	B106	SE184221.006	%	60 - 130%	94
	B107	SE184221.007	%	60 - 130%	94
	B108	SE184221.008	%	60 - 130%	94
	B109	SE184221.009	%	60 - 130%	94
	B110	SE184221.010	%	60 - 130%	92
	B111	SE184221.011	%	60 - 130%	92
	B112	SE184221.012	%	60 - 130%	96
	B113	SE184221.013	%	60 - 130%	94
	B114	SE184221.014	%	60 - 130%	92
	B115	SE184221.015	%	60 - 130%	88
	B116	SE184221.016	%	60 - 130%	92
	B117	SE184221.017	%	60 - 130%	92
	B118	SE184221.018	%	60 - 130%	90
	B119	SE184221.019	%	60 - 130%	90
	B120	SE184221.020	%	60 - 130%	112
	B121	SE184221.021	%	60 - 130%	86
	B122	SE184221.022	%	60 - 130%	90
	DA	SE184221.023	%	60 - 130%	90
	DB	SE184221.024	%	60 - 130%	92
d14-p-terphenyl (Surrogate)	B101	SE184221.001	%	60 - 130%	100
	B102	SE184221.002	%	60 - 130%	88
	B103	SE184221.003	%	60 - 130%	88
	B104	SE184221.004	%	60 - 130%	86
	B105	SE184221.005	%	60 - 130%	84
	B106	SE184221.006	%	60 - 130%	88
	B107	SE184221.007	%	60 - 130%	86
	B108	SE184221.008	%	60 - 130%	94
	B109	SE184221.009	%	60 - 130%	94
	B110	SE184221.010	%	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.

OP Pesticides in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	B111	SE184221.011	%	60 - 130%	82
	B112	SE184221.012	%	60 - 130%	88
	B113	SE184221.013	%	60 - 130%	88
	B114	SE184221.014	%	60 - 130%	86
	B115	SE184221.015	%	60 - 130%	84
	B116	SE184221.016	%	60 - 130%	86
	B117	SE184221.017	%	60 - 130%	88
	B118	SE184221.018	%	60 - 130%	86
	B119	SE184221.019	%	60 - 130%	86
	B120	SE184221.020	%	60 - 130%	114
	B121	SE184221.021	%	60 - 130%	86
	B122	SE184221.022	%	60 - 130%	86
	DA	SE184221.023	%	60 - 130%	84
	DB	SE184221.024	%	60 - 130%	84

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	B101	SE184221.001	%	70 - 130%	102
	B102	SE184221.002	%	70 - 130%	90
	B103	SE184221.003	%	70 - 130%	92
	B104	SE184221.004	%	70 - 130%	92
	B105	SE184221.005	%	70 - 130%	92
	B106	SE184221.006	%	70 - 130%	94
	B107	SE184221.007	%	70 - 130%	94
	B108	SE184221.008	%	70 - 130%	94
	B109	SE184221.009	%	70 - 130%	94
	B110	SE184221.010	%	70 - 130%	92
	B111	SE184221.011	%	70 - 130%	92
	B112	SE184221.012	%	70 - 130%	96
	B113	SE184221.013	%	70 - 130%	94
	B114	SE184221.014	%	70 - 130%	92
	B115	SE184221.015	%	70 - 130%	88
	B116	SE184221.016	%	70 - 130%	92
	B117	SE184221.017	%	70 - 130%	92
	B118	SE184221.018	%	70 - 130%	90
	B119	SE184221.019	%	70 - 130%	90
	B120	SE184221.020	%	70 - 130%	112
	B121	SE184221.021	%	70 - 130%	86
	B122	SE184221.022	%	70 - 130%	90
	DA	SE184221.023	%	70 - 130%	90
	DB	SE184221.024	%	70 - 130%	92
d14-p-terphenyl (Surrogate)	B101	SE184221.001	%	70 - 130%	100
	B102	SE184221.002	%	70 - 130%	88
	B103	SE184221.003	%	70 - 130%	88
	B104	SE184221.004	%	70 - 130%	86
	B105	SE184221.005	%	70 - 130%	84
	B106	SE184221.006	%	70 - 130%	88
	B107	SE184221.007	%	70 - 130%	86
	B108	SE184221.008	%	70 - 130%	94
	B109	SE184221.009	%	70 - 130%	94
	B110	SE184221.010	%	70 - 130%	92
	B111	SE184221.011	%	70 - 130%	82
	B112	SE184221.012	%	70 - 130%	88
	B113	SE184221.013	%	70 - 130%	88
	B114	SE184221.014	%	70 - 130%	86
	B115	SE184221.015	%	70 - 130%	84
	B116	SE184221.016	%	70 - 130%	86
	B117	SE184221.017	%	70 - 130%	88
	B118	SE184221.018	%	70 - 130%	86
	B119	SE184221.019	%	70 - 130%	86
	B120	SE184221.020	%	70 - 130%	114

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 %
d14-p-terphenyl (Surrogate)	B121	SE184221.021	%	70 - 130%	86
	B122	SE184221.022	%	70 - 130%	86
	DA	SE184221.023	%	70 - 130%	84
	DB	SE184221.024	%	70 - 130%	84
d5-nitrobenzene (Surrogate)	B101	SE184221.001	%	70 - 130%	102
	B102	SE184221.002	%	70 - 130%	92
	B103	SE184221.003	%	70 - 130%	96
	B104	SE184221.004	%	70 - 130%	92
	B105	SE184221.005	%	70 - 130%	92
	B106	SE184221.006	%	70 - 130%	94
	B107	SE184221.007	%	70 - 130%	94
	B108	SE184221.008	%	70 - 130%	94
	B109	SE184221.009	%	70 - 130%	94
	B110	SE184221.010	%	70 - 130%	90
	B111	SE184221.011	%	70 - 130%	92
	B112	SE184221.012	%	70 - 130%	98
	B113	SE184221.013	%	70 - 130%	94
	B114	SE184221.014	%	70 - 130%	90
	B115	SE184221.015	%	70 - 130%	82
	B116	SE184221.016	%	70 - 130%	90
	B117	SE184221.017	%	70 - 130%	88
	B118	SE184221.018	%	70 - 130%	84
	B119	SE184221.019	%	70 - 130%	92
	B120	SE184221.020	%	70 - 130%	118
	B121	SE184221.021	%	70 - 130%	90
	B122	SE184221.022	%	70 - 130%	84
	DA	SE184221.023	%	70 - 130%	90
	DB	SE184221.024	%	70 - 130%	92

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	B101	SE184221.001	%	60 - 130%	111
	B102	SE184221.002	%	60 - 130%	99
	B103	SE184221.003	%	60 - 130%	109
	B104	SE184221.004	%	60 - 130%	92
	B105	SE184221.005	%	60 - 130%	109
	B106	SE184221.006	%	60 - 130%	96
	B107	SE184221.007	%	60 - 130%	103
	B108	SE184221.008	%	60 - 130%	105
	B109	SE184221.009	%	60 - 130%	115
	B110	SE184221.010	%	60 - 130%	102
	B111	SE184221.011	%	60 - 130%	105
	B112	SE184221.012	%	60 - 130%	103
	B113	SE184221.013	%	60 - 130%	97
	B114	SE184221.014	%	60 - 130%	100
	B115	SE184221.015	%	60 - 130%	102
	B116	SE184221.016	%	60 - 130%	96
	B117	SE184221.017	%	60 - 130%	116
	B118	SE184221.018	%	60 - 130%	89
	B119	SE184221.019	%	60 - 130%	127
	B120	SE184221.020	%	60 - 130%	80
	B121	SE184221.021	%	60 - 130%	77
	B122	SE184221.022	%	60 - 130%	71
	DA	SE184221.023	%	60 - 130%	105
	DB	SE184221.024	%	60 - 130%	81

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	B101	SE184221.001	%	60 - 130%	71
	B102	SE184221.002	%	60 - 130%	81
	B103	SE184221.003	%	60 - 130%	71
	B104	SE184221.004	%	60 - 130%	78

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	B105	SE184221.005	%	60 - 130%	72
	B106	SE184221.006	%	60 - 130%	74
	B107	SE184221.007	%	60 - 130%	71
	B108	SE184221.008	%	60 - 130%	72
	B109	SE184221.009	%	60 - 130%	70
	B110	SE184221.010	%	60 - 130%	77
	B111	SE184221.011	%	60 - 130%	73
	B112	SE184221.012	%	60 - 130%	72
	B113	SE184221.013	%	60 - 130%	76
	B114	SE184221.014	%	60 - 130%	72
	B115	SE184221.015	%	60 - 130%	72
	B116	SE184221.016	%	60 - 130%	75
	B117	SE184221.017	%	60 - 130%	74
	B118	SE184221.018	%	60 - 130%	79
	B119	SE184221.019	%	60 - 130%	85
	B120	SE184221.020	%	60 - 130%	78
	B121	SE184221.021	%	60 - 130%	80
	B122	SE184221.022	%	60 - 130%	75
	DA	SE184221.023	%	60 - 130%	74
	DB	SE184221.024	%	60 - 130%	72
d4-1,2-dichloroethane (Surrogate)	B101	SE184221.001	%	60 - 130%	71
	B102	SE184221.002	%	60 - 130%	74
	B103	SE184221.003	%	60 - 130%	71
	B104	SE184221.004	%	60 - 130%	74
	B105	SE184221.005	%	60 - 130%	74
	B106	SE184221.006	%	60 - 130%	74
	B107	SE184221.007	%	60 - 130%	75
	B108	SE184221.008	%	60 - 130%	73
	B109	SE184221.009	%	60 - 130%	80
	B110	SE184221.010	%	60 - 130%	75
	B111	SE184221.011	%	60 - 130%	82
	B112	SE184221.012	%	60 - 130%	84
	B113	SE184221.013	%	60 - 130%	72
	B114	SE184221.014	%	60 - 130%	74
	B115	SE184221.015	%	60 - 130%	70
	B116	SE184221.016	%	60 - 130%	85
	B117	SE184221.017	%	60 - 130%	77
	B118	SE184221.018	%	60 - 130%	78
	B119	SE184221.019	%	60 - 130%	76
	B120	SE184221.020	%	60 - 130%	77
	B121	SE184221.021	%	60 - 130%	74
	B122	SE184221.022	%	60 - 130%	75
	DA	SE184221.023	%	60 - 130%	73
	DB	SE184221.024	%	60 - 130%	71
d8-toluene (Surrogate)	B101	SE184221.001	%	60 - 130%	124
	B102	SE184221.002	%	60 - 130%	112
	B103	SE184221.003	%	60 - 130%	100
	B104	SE184221.004	%	60 - 130%	105
	B105	SE184221.005	%	60 - 130%	88
	B106	SE184221.006	%	60 - 130%	97
	B107	SE184221.007	%	60 - 130%	94
	B108	SE184221.008	%	60 - 130%	81
	B109	SE184221.009	%	60 - 130%	87
	B110	SE184221.010	%	60 - 130%	84
	B111	SE184221.011	%	60 - 130%	86
	B112	SE184221.012	%	60 - 130%	88
	B113	SE184221.013	%	60 - 130%	83
	B114	SE184221.014	%	60 - 130%	83
	B115	SE184221.015	%	60 - 130%	73
	B116	SE184221.016	%	60 - 130%	84
	B117	SE184221.017	%	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)	B118	SE184221.018	%	60 - 130%	84
	B119	SE184221.019	%	60 - 130%	81
	B120	SE184221.020	%	60 - 130%	83
	B121	SE184221.021	%	60 - 130%	78
	B122	SE184221.022	%	60 - 130%	78
	DA	SE184221.023	%	60 - 130%	74
	DB	SE184221.024	%	60 - 130%	75
Dibromofluoromethane (Surrogate)	B101	SE184221.001	%	60 - 130%	81
	B102	SE184221.002	%	60 - 130%	73
	B103	SE184221.003	%	60 - 130%	71
	B104	SE184221.004	%	60 - 130%	72
	B105	SE184221.005	%	60 - 130%	79
	B106	SE184221.006	%	60 - 130%	75
	B107	SE184221.007	%	60 - 130%	82
	B108	SE184221.008	%	60 - 130%	81
	B109	SE184221.009	%	60 - 130%	78
	B110	SE184221.010	%	60 - 130%	78
	B111	SE184221.011	%	60 - 130%	79
	B112	SE184221.012	%	60 - 130%	78
	B113	SE184221.013	%	60 - 130%	74
	B114	SE184221.014	%	60 - 130%	70
	B115	SE184221.015	%	60 - 130%	84
	B116	SE184221.016	%	60 - 130%	76
	B117	SE184221.017	%	60 - 130%	74
	B118	SE184221.018	%	60 - 130%	78
	B119	SE184221.019	%	60 - 130%	77
	B120	SE184221.020	%	60 - 130%	80
	B121	SE184221.021	%	60 - 130%	82
	B122	SE184221.022	%	60 - 130%	76
	DA	SE184221.023	%	60 - 130%	79
	DB	SE184221.024	%	60 - 130%	76

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	B101	SE184221.001	%	60 - 130%	71
	B102	SE184221.002	%	60 - 130%	81
	B103	SE184221.003	%	60 - 130%	71
	B104	SE184221.004	%	60 - 130%	78
	B105	SE184221.005	%	60 - 130%	72
	B106	SE184221.006	%	60 - 130%	74
	B107	SE184221.007	%	60 - 130%	71
	B108	SE184221.008	%	60 - 130%	72
	B109	SE184221.009	%	60 - 130%	70
	B110	SE184221.010	%	60 - 130%	77
	B111	SE184221.011	%	60 - 130%	73
	B112	SE184221.012	%	60 - 130%	72
	B113	SE184221.013	%	60 - 130%	76
	B114	SE184221.014	%	60 - 130%	72
	B115	SE184221.015	%	60 - 130%	72
	B116	SE184221.016	%	60 - 130%	75
	B117	SE184221.017	%	60 - 130%	74
	B118	SE184221.018	%	60 - 130%	79
	B119	SE184221.019	%	60 - 130%	85
	B120	SE184221.020	%	60 - 130%	78
	B121	SE184221.021	%	60 - 130%	80
	B122	SE184221.022	%	60 - 130%	75
	DA	SE184221.023	%	60 - 130%	74
	DB	SE184221.024	%	60 - 130%	72
d4-1,2-dichloroethane (Surrogate)	B101	SE184221.001	%	60 - 130%	71
	B102	SE184221.002	%	60 - 130%	74
	B103	SE184221.003	%	60 - 130%	71

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	B104	SE184221.004	%	60 - 130%	74
	B105	SE184221.005	%	60 - 130%	74
	B106	SE184221.006	%	60 - 130%	74
	B107	SE184221.007	%	60 - 130%	75
	B108	SE184221.008	%	60 - 130%	73
	B109	SE184221.009	%	60 - 130%	80
	B110	SE184221.010	%	60 - 130%	75
	B111	SE184221.011	%	60 - 130%	82
	B112	SE184221.012	%	60 - 130%	84
	B113	SE184221.013	%	60 - 130%	72
	B114	SE184221.014	%	60 - 130%	74
	B115	SE184221.015	%	60 - 130%	70
	B116	SE184221.016	%	60 - 130%	85
	B117	SE184221.017	%	60 - 130%	77
	B118	SE184221.018	%	60 - 130%	78
	B119	SE184221.019	%	60 - 130%	76
	B120	SE184221.020	%	60 - 130%	77
	B121	SE184221.021	%	60 - 130%	74
	B122	SE184221.022	%	60 - 130%	75
	DA	SE184221.023	%	60 - 130%	73
	DB	SE184221.024	%	60 - 130%	71
d8-toluene (Surrogate)	B101	SE184221.001	%	60 - 130%	124
	B102	SE184221.002	%	60 - 130%	112
	B103	SE184221.003	%	60 - 130%	100
	B104	SE184221.004	%	60 - 130%	105
	B105	SE184221.005	%	60 - 130%	88
	B106	SE184221.006	%	60 - 130%	97
	B107	SE184221.007	%	60 - 130%	94
	B108	SE184221.008	%	60 - 130%	81
	B109	SE184221.009	%	60 - 130%	87
	B110	SE184221.010	%	60 - 130%	84
	B111	SE184221.011	%	60 - 130%	86
	B112	SE184221.012	%	60 - 130%	88
	B113	SE184221.013	%	60 - 130%	83
	B114	SE184221.014	%	60 - 130%	83
	B115	SE184221.015	%	60 - 130%	73
	B116	SE184221.016	%	60 - 130%	84
	B117	SE184221.017	%	60 - 130%	84
	B118	SE184221.018	%	60 - 130%	84
	B119	SE184221.019	%	60 - 130%	81
	B120	SE184221.020	%	60 - 130%	83
	B121	SE184221.021	%	60 - 130%	78
	B122	SE184221.022	%	60 - 130%	78
	DA	SE184221.023	%	60 - 130%	74
	DB	SE184221.024	%	60 - 130%	75
Dibromofluoromethane (Surrogate)	B101	SE184221.001	%	60 - 130%	81
	B102	SE184221.002	%	60 - 130%	73
	B103	SE184221.003	%	60 - 130%	71
	B104	SE184221.004	%	60 - 130%	72
	B105	SE184221.005	%	60 - 130%	79
	B106	SE184221.006	%	60 - 130%	75
	B107	SE184221.007	%	60 - 130%	82
	B108	SE184221.008	%	60 - 130%	81
	B109	SE184221.009	%	60 - 130%	78
	B110	SE184221.010	%	60 - 130%	78
	B111	SE184221.011	%	60 - 130%	79
	B112	SE184221.012	%	60 - 130%	78
	B113	SE184221.013	%	60 - 130%	74
	B114	SE184221.014	%	60 - 130%	70
	B115	SE184221.015	%	60 - 130%	84
	B116	SE184221.016	%	60 - 130%	76

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)	B117	SE184221.017	%	60 - 130%	74
	B118	SE184221.018	%	60 - 130%	78
	B119	SE184221.019	%	60 - 130%	77
	B120	SE184221.020	%	60 - 130%	80
	B121	SE184221.021	%	60 - 130%	82
	B122	SE184221.022	%	60 - 130%	76
	DA	SE184221.023	%	60 - 130%	79
	DB	SE184221.024	%	60 - 130%	76

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB157683.001	Mercury	mg/kg	0.05	<0.05
LB157684.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB157668.001		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)	%	-	91
LB157670.001		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)	%	-	73

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB157668.001	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

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 (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB157668.001		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)	%	-	94
		d14-p-terphenyl (Surrogate)	%	-	96
LB157670.001		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)	%	-	82
		d14-p-terphenyl (Surrogate)	%	-	88

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB157668.001		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)	%	-	98
		2-fluorobiphenyl (Surrogate)	%	-	94
		d14-p-terphenyl (Surrogate)	%	-	96
LB157670.001		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

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
LB157670.001	Surrogates	d5-nitrobenzene (Surrogate)	%	-	78
		2-fluorobiphenyl (Surrogate)	%	-	82
		d14-p-terphenyl (Surrogate)	%	-	88

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB157668.001		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)	%	-	91
LB157670.001		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)	%	-	73

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

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

Sample Number	Parameter	Units	LOR	Result
LB157681.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0
LB157682.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB157668.001	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
LB157670.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number	Parameter	Units	LOR

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.

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB157665.001	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)	%	-	71
		d4-1,2-dichloroethane (Surrogate)	%	-	83
		d8-toluene (Surrogate)	%	-	114
		Bromofluorobenzene (Surrogate)	%	-	92
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB157667.001	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)	%	-	105
		d4-1,2-dichloroethane (Surrogate)	%	-	104
		d8-toluene (Surrogate)	%	-	118
		Bromofluorobenzene (Surrogate)	%	-	104
	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
LB157665.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	71
		d4-1,2-dichloroethane (Surrogate)	%	-	83
		d8-toluene (Surrogate)	%	-	114
LB157667.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	105
		d4-1,2-dichloroethane (Surrogate)	%	-	104
		d8-toluene (Surrogate)	%	-	118

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

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

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

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

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.010	LB157683.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE184221.019	LB157683.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE184260.005	LB157684.014	Mercury	mg/kg	0.05	0.06	<0.05	125	26
SE184260.012	LB157684.019	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.010	LB157679.011	% Moisture	%w/w	0.5	11	10	39	7
SE184221.019	LB157679.021	% Moisture	%w/w	0.5	9.0	8.6	41	5
SE184260.005	LB157680.011	% Moisture	%w/w	0.5	9.9	9.2	40	7
SE184260.012	LB157680.017	% Moisture	%w/w	0.5	17	17	36	5

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.008	LB157668.029		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
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.152	30	3
SE184221.019	LB157668.024		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0

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

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

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

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

OC Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.019	LB157668.024		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.19	0.19	30	0
SE184260.006	LB157670.021		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	0.5	0.467	50	14
			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
			Total CLP OC Pesticides	mg/kg	1	<1	0.467	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.12	30	0

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.009	LB157668.026		Dichlorvos	mg/kg	0.5	<0.5	0.01	200	0
			Dimethoate	mg/kg	0.5	<0.5	0.02	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.03	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0.02	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.08	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0.08	200	0
			Methidathion	mg/kg	0.5	<0.5	0.23	200	0
			Ethion	mg/kg	0.2	<0.2	0.05	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.46	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.47	30	0
SE184221.018	LB157668.027		Dichlorvos	mg/kg	0.5	<0.5	0.01	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.06	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0.01	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]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.018	LB157668.027		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.06	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.03	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0.03	200	0
			Methidathion	mg/kg	0.5	<0.5	0.01	200	0
			Ethion	mg/kg	0.2	<0.2	0.03	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0.01	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.46	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.44	30	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.009	LB157668.026		Naphthalene	mg/kg	0.1	<0.1	0.01	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	0.01	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Chrysene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.02	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.48	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.46	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.47	30	0
SE184221.018	LB157668.027		Naphthalene	mg/kg	0.1	<0.1	0.01	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	0.01	200	0
			Anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.01	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	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.49	30	15
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.46	30	2

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.018	LB157668.027	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.44	30	2
SE184260.012	LB157670.019		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	12
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.008	LB157668.026		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.152	30	3
SE184221.019	LB157668.024		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	0
SE184260.006	LB157670.020		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0

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]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184260.006	LB157670.020	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.12	30	0

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

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.010	LB157681.014		Arsenic, As	mg/kg	1	3	6	53	56 ②
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.3	110	210	30	62 ②
			Copper, Cu	mg/kg	0.5	15	14	33	10
			Nickel, Ni	mg/kg	0.5	7.2	5.8	38	21
			Lead, Pb	mg/kg	1	12	13	38	11
			Zinc, Zn	mg/kg	2	21	22	39	5
SE184221.019	LB157681.024		Arsenic, As	mg/kg	1	2	5	58	104 ②
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.3	250	280	30	12
			Copper, Cu	mg/kg	0.5	22	26	32	17
			Nickel, Ni	mg/kg	0.5	30	39	31	24
			Lead, Pb	mg/kg	1	11	9	40	23
			Zinc, Zn	mg/kg	2	52	57	34	8
SE184260.005	LB157682.014		Arsenic, As	mg/kg	1	11	13	39	20
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	156	0
			Chromium, Cr	mg/kg	0.3	11	11	34	2
			Copper, Cu	mg/kg	0.5	16	17	33	6
			Nickel, Ni	mg/kg	0.5	4.2	4.6	41	10
			Lead, Pb	mg/kg	1	45	49	32	8
			Zinc, Zn	mg/kg	2	68	85	33	22
SE184260.012	LB157682.019		Arsenic, As	mg/kg	1	6	7	46	14
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.3	9.5	12	35	24
			Copper, Cu	mg/kg	0.5	22	19	32	15
			Nickel, Ni	mg/kg	0.5	14	7.2	35	66 ②
			Lead, Pb	mg/kg	1	48	29	33	50 ②
			Zinc, Zn	mg/kg	2	70	46	33	42 ②

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.009	LB157668.026		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	120	235	56	69 ②
			TRH C29-C36	mg/kg	45	160	253	52	46
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	270	488	59	57
			TRH C10-C40 Total (F bands)	mg/kg	210	230	428	94	60
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	230	428	57	60 ②
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE184221.018	LB157668.027		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	56	56	110	0
			TRH C29-C36	mg/kg	45	140	148	62	8
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	190	204	86	6
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	148	176	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	140	148	93	6
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE184260.004	LB157670.020		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	0	200	0

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 %
SE184260.004	LB157670.020	TRH F Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE184260.012	LB157670.019		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.010	LB157665.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.9	50	0
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.7	4.1	50	10
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.6	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.9	3.7	50	5
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE184221.019	LB157665.024	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	3.8	50	2
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	4.0	50	4
			d8-toluene (Surrogate)	mg/kg	-	4.0	4.0	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.3	3.7	50	14
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE184260.005	LB157667.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	4.0	50	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	3.8	50	1
			d8-toluene (Surrogate)	mg/kg	-	4.6	4.8	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.8	3.9	50	2
		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
SE184260.012	LB157667.021	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	4.2	50	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	5.0	50	13
			d8-toluene (Surrogate)	mg/kg	-	5.0	4.8	50	3

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.

VOC's in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184260.012	LB157667.021	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.9	50	4
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE184221.010	LB157665.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.9	30	0
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.7	4.1	30	10
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.6	30	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.9	3.7	30	5
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE184221.019	LB157665.024		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	3.8	30	2
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	4.0	30	4
			d8-toluene (Surrogate)	mg/kg	-	4.0	4.0	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.3	3.7	30	14
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE184260.005	LB157667.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	4.0	30	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	3.8	30	1
			d8-toluene (Surrogate)	mg/kg	-	4.6	4.8	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.8	3.9	30	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE184260.012	LB157667.021		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	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	5.0	30	13
			d8-toluene (Surrogate)	mg/kg	-	5.0	4.8	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.9	30	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157683.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	98
LB157684.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	100

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157668.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	104
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	105
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	99
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	104
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	104
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	95
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	40 - 130	109
LB157670.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	103
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	103
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	95
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	84
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	125
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	91
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	89

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157668.002		Dichlorvos	mg/kg	0.5	2.1	2	60 - 140	105
		Diazinon (Dimpylate)	mg/kg	0.5	2.4	2	60 - 140	120
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.3	2	60 - 140	115
		Ethion	mg/kg	0.2	2.2	2	60 - 140	112
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
LB157670.002		Dichlorvos	mg/kg	0.5	1.8	2	60 - 140	90
		Diazinon (Dimpylate)	mg/kg	0.5	2.0	2	60 - 140	101
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	97
		Ethion	mg/kg	0.2	1.7	2	60 - 140	84
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157668.002		Naphthalene	mg/kg	0.1	4.4	4	60 - 140	110
		Acenaphthylene	mg/kg	0.1	4.6	4	60 - 140	115
		Acenaphthene	mg/kg	0.1	4.5	4	60 - 140	113
		Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	111
		Anthracene	mg/kg	0.1	4.3	4	60 - 140	109
		Fluoranthene	mg/kg	0.1	4.3	4	60 - 140	109
		Pyrene	mg/kg	0.1	4.8	4	60 - 140	121
		Benzo(a)pyrene	mg/kg	0.1	4.9	4	60 - 140	122
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
LB157670.002		Naphthalene	mg/kg	0.1	4.6	4	60 - 140	114
		Acenaphthylene	mg/kg	0.1	4.7	4	60 - 140	116
		Acenaphthene	mg/kg	0.1	4.6	4	60 - 140	115
		Phenanthrene	mg/kg	0.1	4.8	4	60 - 140	119
		Anthracene	mg/kg	0.1	4.6	4	60 - 140	116
		Fluoranthene	mg/kg	0.1	4.5	4	60 - 140	113
		Pyrene	mg/kg	0.1	4.7	4	60 - 140	117
		Benzo(a)pyrene	mg/kg	0.1	4.9	4	60 - 140	122
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82

PCBs in Soil

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

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.

PCBs in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157668.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	106
LB157670.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	106

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157681.002	Arsenic, As	mg/kg	1	300	336.32	79 - 120	90
	Cadmium, Cd	mg/kg	0.3	410	416.6	69 - 131	99
	Chromium, Cr	mg/kg	0.3	33	35.2	80 - 120	93
	Copper, Cu	mg/kg	0.5	300	370.46	80 - 120	82
	Nickel, Ni	mg/kg	0.5	170	210.88	79 - 120	82
	Lead, Pb	mg/kg	1	87	107.87	79 - 120	81
	Zinc, Zn	mg/kg	2	270	301.27	80 - 121	88
LB157682.002	Arsenic, As	mg/kg	1	350	336.32	79 - 120	105
	Cadmium, Cd	mg/kg	0.3	430	416.6	69 - 131	102
	Chromium, Cr	mg/kg	0.3	35	35.2	80 - 120	100
	Copper, Cu	mg/kg	0.5	330	370.46	80 - 120	88
	Nickel, Ni	mg/kg	0.5	200	210.88	79 - 120	95
	Lead, Pb	mg/kg	1	97	107.87	79 - 120	90
	Zinc, Zn	mg/kg	2	290	301.27	80 - 121	97

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157668.002		TRH C10-C14	mg/kg	20	42	40	60 - 140	105
		TRH C15-C28	mg/kg	45	50	40	60 - 140	125
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	108
	TRH F Bands	TRH >C10-C16	mg/kg	25	39	40	60 - 140	98
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	125
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	110
LB157670.002		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	mg/kg	25	35	40	60 - 140	88
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	88
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	85

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157665.002	Monocyclic	Benzene	mg/kg	0.1	2.1	2.9	60 - 140	73
	Aromatic	Toluene	mg/kg	0.1	2.2	2.9	60 - 140	74
		Ethylbenzene	mg/kg	0.1	2.1	2.9	60 - 140	73
		m/p-xylene	mg/kg	0.2	4.1	5.8	60 - 140	70
		o-xylene	mg/kg	0.1	2.1	2.9	60 - 140	71
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	5	60 - 140	95
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.6	5	60 - 140	73
		d8-toluene (Surrogate)	mg/kg	-	6.0	5	60 - 140	120
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.8	5	60 - 140	117
LB157667.002	Monocyclic	Benzene	mg/kg	0.1	2.6	2.9	60 - 140	91
	Aromatic	Toluene	mg/kg	0.1	2.1	2.9	60 - 140	72
		Ethylbenzene	mg/kg	0.1	2.0	2.9	60 - 140	69
		m/p-xylene	mg/kg	0.2	4.6	5.8	60 - 140	78
		o-xylene	mg/kg	0.1	2.0	2.9	60 - 140	70
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	5	60 - 140	89
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	5	60 - 140	91
		d8-toluene (Surrogate)	mg/kg	-	4.7	5	60 - 140	95
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	5	60 - 140	94

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB157665.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	81
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	72
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	5	60 - 140	95
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.6	5	60 - 140	73

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 %
LB157665.002	Surrogates	d8-toluene (Surrogate)	mg/kg	-	6.0	5	60 - 140	120
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.8	5	60 - 140	117
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	102
LB157667.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	89
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	82
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	5	60 - 140	89
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	5	60 - 140	91
		d8-toluene (Surrogate)	mg/kg	-	4.7	5	60 - 140	95
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	5	60 - 140	94
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	119

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%
SE184221.001	LB157683.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	92
SE184221.020	LB157684.004	Mercury	mg/kg	0.05	0.24	<0.05	0.2	103

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE184221.003	LB157668.028		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	112
			Aldrin	mg/kg	0.1	<0.1	0.2	113
			Beta BHC	mg/kg	0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	<0.1	0.2	106
			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	111
			Endrin	mg/kg	0.2	<0.2	0.2	112
			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	102
			Endosulfan sulphate	mg/kg	0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	-	99
SE184221.021	LB157670.020		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	114
			Aldrin	mg/kg	0.1	<0.1	0.2	120
			Beta BHC	mg/kg	0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	<0.1	0.2	112
			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	118
			Endrin	mg/kg	0.2	<0.2	0.2	117
			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	89
			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	-	-

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

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

OC Pesticides in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE184221.021	LB157670.020		Mirex	mg/kg	0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	-	75

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE184221.002	LB157668.025		Dichlorvos	mg/kg	0.5	<0.5	2	115
			Dimethoate	mg/kg	0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	106
			Fenitrothion	mg/kg	0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	108
			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	-	-
			Total OP Pesticides*	mg/kg	1.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	94
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	92
SE184221.021	LB157670.020		Dichlorvos	mg/kg	0.5	<0.5	2	97
			Dimethoate	mg/kg	0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	115
			Fenitrothion	mg/kg	0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	99
			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	105
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	84
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	80

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE184221.002	LB157668.025		Naphthalene	mg/kg	0.1	<0.1	4	100
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	103
			Acenaphthene	mg/kg	0.1	<0.1	4	103
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	100
			Anthracene	mg/kg	0.1	<0.1	4	97
			Fluoranthene	mg/kg	0.1	<0.1	4	94
			Pyrene	mg/kg	0.1	<0.1	4	105
			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	112
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	-	98
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	94
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	92

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE184221.021	LB157670.020		Naphthalene	mg/kg	0.1	<0.1	4	100
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	101
			Acenaphthene	mg/kg	0.1	<0.1	4	103
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	106
			Anthracene	mg/kg	0.1	<0.1	4	99
			Fluoranthene	mg/kg	0.1	<0.1	4	91
			Pyrene	mg/kg	0.1	<0.1	4	105
			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	107
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	-	84
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	84
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	-	80

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE184221.003	LB157668.025		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	0.4	123
			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	-	115
SE184221.021	LB157670.021		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	0.4	120
			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	-	77

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE184221.001	LB157681.004	Arsenic, As	mg/kg	1	47	2	50	89
		Cadmium, Cd	mg/kg	0.3	47	<0.3	50	94
		Chromium, Cr	mg/kg	0.3	83	51	50	64 ④
		Copper, Cu	mg/kg	0.5	58	13	50	90
		Nickel, Ni	mg/kg	0.5	51	6.4	50	90
		Lead, Pb	mg/kg	1	52	9	50	86
		Zinc, Zn	mg/kg	2	NVL	NVL	NVL	NVL
SE184221.020	LB157682.004	Arsenic, As	mg/kg	1	35	1	50	68 ④
		Cadmium, Cd	mg/kg	0.3	47	<0.3	50	95

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.

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE184221.020	LB157682.004	Chromium, Cr	mg/kg	0.3	130	90	50	86
		Copper, Cu	mg/kg	0.5	62	15	50	96
		Nickel, Ni	mg/kg	0.5	53	5.7	50	94
		Lead, Pb	mg/kg	1	62	12	50	99
		Zinc, Zn	mg/kg	2	71	22	50	98

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE184221.002	LB157668.025		TRH C10-C14	mg/kg	20	<20	40	120
			TRH C15-C28	mg/kg	45	<45	40	125
			TRH C29-C36	mg/kg	45	68	40	8 ⓖ
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	40	113
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	5 ⓖ
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-
SE184221.021	LB157670.021		TRH C10-C14	mg/kg	20	<20	40	120
			TRH C15-C28	mg/kg	45	<45	40	110
			TRH C29-C36	mg/kg	45	<45	40	113
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	40	115
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	113
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE184221.001	LB157665.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	2.2	<0.1	2.9	75
			Toluene	mg/kg	0.1	2.3	<0.1	2.9	77
			Ethylbenzene	mg/kg	0.1	2.0	<0.1	2.9	69
			m/p-xylene	mg/kg	0.2	4.1	<0.2	5.8	70
			o-xylene	mg/kg	0.1	2.1	<0.1	2.9	70
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.1	-	81
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.6	3.6	-	73
			d8-toluene (Surrogate)	mg/kg	-	4.7	6.2	-	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.5	3.6	-	90
		Totals	Total Xylenes	mg/kg	0.3	6.1	<0.3	-	-
			Total BTEX	mg/kg	0.6	13	<0.6	-	-
SE184221.020	LB157667.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	2.5	<0.1	2.9	85
			Toluene	mg/kg	0.1	1.9	<0.1	2.9	67
			Ethylbenzene	mg/kg	0.1	2.0	<0.1	2.9	68
			m/p-xylene	mg/kg	0.2	4.4	<0.2	5.8	75
			o-xylene	mg/kg	0.1	2.0	<0.1	2.9	69
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.0	-	79
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	3.9	-	89
			d8-toluene (Surrogate)	mg/kg	-	4.6	4.2	-	91
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.6	3.9	-	92
		Totals	Total Xylenes	mg/kg	0.3	6.4	<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%
SE184221.001	LB157665.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	75
			TRH C6-C9	mg/kg	20	<20	<20	23.2	67
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.1	-	81
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.6	3.6	-	73

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

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

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE184221.001	LB157665.004	Surrogates	d8-toluene (Surrogate)	mg/kg	-	4.7	6.2	-	94
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.5	3.6	-	90
		VPH F	Benzene (F0)	mg/kg	0.1	2.2	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	84
SE184221.020	LB157667.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	79
			TRH C6-C9	mg/kg	20	<20	<20	23.2	78
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.0	-	79
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	3.9	-	89
			d8-toluene (Surrogate)	mg/kg	-	4.6	4.2	-	91
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.6	3.9	-	92
		VPH F	Benzene (F0)	mg/kg	0.1	2.5	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	93

MATRIX SPIKE DUPLICATES

SE184221 R0

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

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

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

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

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

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: 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 the performance of this service.
**	Indicative data, theoretical holding time exceeded.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.

Chain of Custody Form – Ref 10182

Ref:	**10182**
Investigator:	Envirowest Consulting 9 Cameron Place PO Box 8158 ORANGE NSW 2800
Telephone:	(02) 6361 4954
Facsimile:	(02) 6360 3960
Email:	ashleigh@envirowest.net.au
Contact Person:	Ashleigh Pickering
Invoice:	accounts@envirowest.net.au
Laboratory:	SGS SYDNEY 16/33 Maddox Street ALEXANDRIA NSW 2015
Quotation #:	
Courier/CN:	

Sample matrix / **Sample preservation** / **Analysis**

SGS Method Code: CL17 (TRH (C6-C40) BTEX/PAH/ 8 Metals/OC/PCB/OP); Asbestos (Asbestos (presence/absence))

SGS EHS Alexandria Laboratory

SE184221 COC

Received: 21 – Sep – 2018

Sample ID		Container*	Sampling Date/Time	Water	Soil	Sludge	Cool	HNO3/HCl	Unpreserved	TRH (C6-C40) BTEX/PAH/ 8 Metals/OC/PCB/OP	Asbestos (presence/absence)
B101	1	A	20/9/2018		X		X		X	X	X
B102	2	A	20/9/2018		X		X		X	X	X
B103	3	A	20/9/2018		X		X		X	X	X
B104	4	A	20/9/2018		X		X		X	X	X
B105	5	A	20/9/2018		X		X		X	X	X
B106	6	A	20/9/2018		X		X		X	X	X
B107	7	A	20/9/2018		X		X		X	X	X
B108	8	A	20/9/2018		X		X		X	X	X
B109	9	A	20/9/2018		X		X		X	X	X
B110	10	A	20/9/2018		X		X		X	X	X
B111	11	A	20/9/2018		X		X		X	X	X
B112	12	A	20/9/2018		X		X		X	X	X
B113	13	A	20/9/2018		X		X		X	X	X

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Pickering
Date : 20/09/2018 Time:

Relinquished by: (print and signature) Ashleigh Pickering Date 20/09/2018 Time 16:00

Received by: (print and signature) Date 21/09/18 Time @ 10.10

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and green label

Chain of Custody Form – Ref 10182

Ref:	**10182**
Investigator:	Envirowest Consulting 9 Cameron Place PO Box 8158 ORANGE NSW 2800
Telephone:	(02) 6361 4954
Facsimile:	(02) 6360 3960
Email:	ashleigh@envirowest.net.au
Contact Person:	Ashleigh Pickering
Invoice:	accounts@envirowest.net.au
Laboratory:	SGS SYDNEY 16/33 Maddox Street ALEXANDRIA NSW 2015
Quotation #:	
Courier/CN:	

Sample ID		Container*	Sampling Date/Time	Sample matrix: Water	Sample matrix: Soil	Sample matrix: Sludge	Sample preservation: Cool	Sample preservation: HNO3/HCl	Sample preservation: Unpreserved	Analysis: SGS Method Code: CL17 – TRH (C6-C40) BTEX/PAH/8 metals/OC/PCB/OP	Analysis: SGS Method Code: Asbestos – Asbestos (presence/absence)			
B114	14	A	20/9/2018		X		X		X	X	X			
B115	15	A	20/9/2018		X		X		X	X	X			
B116	16	A	20/9/2018		X		X		X	X	X			
B117	17	A	20/9/2018		X		X		X	X	X			
B118	18	A	20/9/2018		X		X		X	X	X			
B119	19	A	20/9/2018		X		X		X	X	X			
B120	20	A	20/9/2018		X		X		X	X	X			
B121	21	A	20/9/2018		X		X		X	X	X			
B122	22	A	20/9/2018		X		X		X	X	X			
DA	23	A	20/9/2018		X		X		X	X	X			
DB	24	A	20/9/2018		X		X		X	X	X			

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Pickering
Date : 20/09/2018 Time:

Relinquished by: (print and signature) Ashleigh Pickering Date 20/09/2018 Time 16:00

Received by: (print and signature) Date 21/09/18 Time @10:10

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and green label

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Ashleigh Adams
Client	ENVIROWEST CONSULTING PTY LIMITED
Address	PO BOX 8158 ORANGE NSW 2800
Telephone	61 2 63614954
Facsimile	(Not specified)
Email	ashleigh@envirowest.net.au
Project	**10182-1**
Order Number	**10182-1**
Samples	4

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
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Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE189648 R0**
Date Received	26/2/2019
Date Reported	1/3/2019

COMMENTS

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

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

A portion of the sample supplied has been sub-sampled for asbestos according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Bennet Lo
Senior Organic Chemist/Metals Chemist

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Hygiene Team Leader

Teresa Nguyen
Organic Chemist

VOC's in Soil [AN433] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	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	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
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	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	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
Chrysene	mg/kg	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
Benzo(k)fluoranthene	mg/kg	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
Indeno(1,2,3-cd)pyrene	mg/kg	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
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	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
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	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
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	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
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	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
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	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
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	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
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	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
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Arsenic, As	mg/kg	1	2	2	5	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	48	38	33	48
Copper, Cu	mg/kg	0.5	6.2	9.9	5.6	6.0
Lead, Pb	mg/kg	1	9	9	12	11
Nickel, Ni	mg/kg	0.5	3.0	5.1	1.7	3.0
Zinc, Zn	mg/kg	2	10	16	8.5	11

Mercury in Soil [AN312] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 27/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
% Moisture	%w/w	0.5	**5.7**	**14**	**6.9**	**6.8**

Fibre Identification in soil [AN602] Tested: 28/2/2019

PARAMETER	UOM	LOR	B123 SOIL - 21/2/2019 SE189648.001	B124 SOIL - 21/2/2019 SE189648.002	B125 SOIL - 21/2/2019 SE189648.003	DW SOIL - 21/2/2019 SE189648.004
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

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

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

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

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

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

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

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STATEMENT OF QA/QC PERFORMANCE

SE189648 R0

CLIENT DETAILS

Contact	Ashleigh Adams
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Facsimile	(Not specified)
Email	ashleigh@envirowest.net.au
Project	**10182-1**
Order Number	**10182-1**
Samples	4

LABORATORY DETAILS

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SGS Reference	**SE189648 R0**
Date Received	26 Feb 2019
Date Reported	01 Mar 2019

COMMENTS

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

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

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

Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	4 Soil
Date documentation received	26/2/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	12.2°C	Sufficient sample for analysis	Yes
Turnaround time requested	Three Days		

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.

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB168084	21 Feb 2019	26 Feb 2019	21 Feb 2020	28 Feb 2019	21 Feb 2020	01 Mar 2019
B124	SE189648.002	LB168084	21 Feb 2019	26 Feb 2019	21 Feb 2020	28 Feb 2019	21 Feb 2020	01 Mar 2019
B125	SE189648.003	LB168084	21 Feb 2019	26 Feb 2019	21 Feb 2020	28 Feb 2019	21 Feb 2020	01 Mar 2019
DW	SE189648.004	LB168084	21 Feb 2019	26 Feb 2019	21 Feb 2020	28 Feb 2019	21 Feb 2020	01 Mar 2019

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167966	21 Feb 2019	26 Feb 2019	21 Mar 2019	27 Feb 2019	21 Mar 2019	01 Mar 2019
B124	SE189648.002	LB167966	21 Feb 2019	26 Feb 2019	21 Mar 2019	27 Feb 2019	21 Mar 2019	01 Mar 2019
B125	SE189648.003	LB167966	21 Feb 2019	26 Feb 2019	21 Mar 2019	27 Feb 2019	21 Mar 2019	01 Mar 2019
DW	SE189648.004	LB167966	21 Feb 2019	26 Feb 2019	21 Mar 2019	27 Feb 2019	21 Mar 2019	01 Mar 2019

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167964	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	04 Mar 2019	01 Mar 2019
B124	SE189648.002	LB167964	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	04 Mar 2019	01 Mar 2019
B125	SE189648.003	LB167964	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	04 Mar 2019	01 Mar 2019
DW	SE189648.004	LB167964	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	04 Mar 2019	01 Mar 2019

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B124	SE189648.002	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B125	SE189648.003	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
DW	SE189648.004	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B124	SE189648.002	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B125	SE189648.003	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
DW	SE189648.004	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B124	SE189648.002	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B125	SE189648.003	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
DW	SE189648.004	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B124	SE189648.002	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B125	SE189648.003	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
DW	SE189648.004	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167965	21 Feb 2019	26 Feb 2019	20 Aug 2019	27 Feb 2019	20 Aug 2019	01 Mar 2019
B124	SE189648.002	LB167965	21 Feb 2019	26 Feb 2019	20 Aug 2019	27 Feb 2019	20 Aug 2019	01 Mar 2019
B125	SE189648.003	LB167965	21 Feb 2019	26 Feb 2019	20 Aug 2019	27 Feb 2019	20 Aug 2019	01 Mar 2019
DW	SE189648.004	LB167965	21 Feb 2019	26 Feb 2019	20 Aug 2019	27 Feb 2019	20 Aug 2019	01 Mar 2019

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
B123	SE189648.001	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B124	SE189648.002	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B125	SE189648.003	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
DW	SE189648.004	LB167971	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019

VOC's in Soil

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

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE189648 R0

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

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

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

VOC's in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B124	SE189648.002	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B125	SE189648.003	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
DW	SE189648.004	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
B123	SE189648.001	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B124	SE189648.002	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
B125	SE189648.003	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019
DW	SE189648.004	LB167963	21 Feb 2019	26 Feb 2019	07 Mar 2019	27 Feb 2019	08 Apr 2019	01 Mar 2019

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	B123	SE189648.001	%	60 - 130%	88
	B124	SE189648.002	%	60 - 130%	87
	B125	SE189648.003	%	60 - 130%	87
	DW	SE189648.004	%	60 - 130%	83

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	B123	SE189648.001	%	60 - 130%	94
	B124	SE189648.002	%	60 - 130%	96
	B125	SE189648.003	%	60 - 130%	100
	DW	SE189648.004	%	60 - 130%	98
d14-p-terphenyl (Surrogate)	B123	SE189648.001	%	60 - 130%	94
	B124	SE189648.002	%	60 - 130%	98
	B125	SE189648.003	%	60 - 130%	94
	DW	SE189648.004	%	60 - 130%	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	B123	SE189648.001	%	70 - 130%	94
	B124	SE189648.002	%	70 - 130%	96
	B125	SE189648.003	%	70 - 130%	100
	DW	SE189648.004	%	70 - 130%	98
d14-p-terphenyl (Surrogate)	B123	SE189648.001	%	70 - 130%	94
	B124	SE189648.002	%	70 - 130%	98
	B125	SE189648.003	%	70 - 130%	94
	DW	SE189648.004	%	70 - 130%	98
d5-nitrobenzene (Surrogate)	B123	SE189648.001	%	70 - 130%	94
	B124	SE189648.002	%	70 - 130%	98
	B125	SE189648.003	%	70 - 130%	96
	DW	SE189648.004	%	70 - 130%	98

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	B123	SE189648.001	%	60 - 130%	88
	B124	SE189648.002	%	60 - 130%	87
	B125	SE189648.003	%	60 - 130%	87
	DW	SE189648.004	%	60 - 130%	83

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	B123	SE189648.001	%	60 - 130%	81
	B124	SE189648.002	%	60 - 130%	74
	B125	SE189648.003	%	60 - 130%	75
	DW	SE189648.004	%	60 - 130%	78
d4-1,2-dichloroethane (Surrogate)	B123	SE189648.001	%	60 - 130%	88
	B124	SE189648.002	%	60 - 130%	80
	B125	SE189648.003	%	60 - 130%	81
	DW	SE189648.004	%	60 - 130%	75
d8-toluene (Surrogate)	B123	SE189648.001	%	60 - 130%	83
	B124	SE189648.002	%	60 - 130%	80
	B125	SE189648.003	%	60 - 130%	80
	DW	SE189648.004	%	60 - 130%	86
Dibromofluoromethane (Surrogate)	B123	SE189648.001	%	60 - 130%	81
	B124	SE189648.002	%	60 - 130%	74
	B125	SE189648.003	%	60 - 130%	77
	DW	SE189648.004	%	60 - 130%	79

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	B123	SE189648.001	%	60 - 130%	81
	B124	SE189648.002	%	60 - 130%	74
	B125	SE189648.003	%	60 - 130%	75
	DW	SE189648.004	%	60 - 130%	78

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	B123	SE189648.001	%	60 - 130%	88
	B124	SE189648.002	%	60 - 130%	80
	B125	SE189648.003	%	60 - 130%	81
	DW	SE189648.004	%	60 - 130%	75
d8-toluene (Surrogate)	B123	SE189648.001	%	60 - 130%	83
	B124	SE189648.002	%	60 - 130%	80
	B125	SE189648.003	%	60 - 130%	80
	DW	SE189648.004	%	60 - 130%	86
Dibromofluoromethane (Surrogate)	B123	SE189648.001	%	60 - 130%	81
	B124	SE189648.002	%	60 - 130%	74
	B125	SE189648.003	%	60 - 130%	77
	DW	SE189648.004	%	60 - 130%	79

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB167966.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB167971.001		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)	%	-	73

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB167971.001		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)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB167971.001	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

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
LB167971.001		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)	%	-	94
		2-fluorobiphenyl (Surrogate)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	94

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB167971.001		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)	%	-	73

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

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

Sample Number		Parameter	Units	LOR	Result
LB167965.001		Arsenic, As	mg/kg	1	2
		Cadmium, Cd	mg/kg	0.3	<0.3
		Chromium, Cr	mg/kg	0.3	<0.3
		Copper, Cu	mg/kg	0.5	<0.5
		Nickel, Ni	mg/kg	0.5	<0.5
		Lead, Pb	mg/kg	1	<1
		Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB167971.001		TRH C10-C14	mg/kg	20	<20
		TRH C15-C28	mg/kg	45	<45
		TRH C29-C36	mg/kg	45	<45
		TRH C37-C40	mg/kg	100	<100
		TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB167963.001	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)	%	-	81
		d4-1,2-dichloroethane (Surrogate)	%	-	79
		d8-toluene (Surrogate)	%	-	78
		Bromofluorobenzene (Surrogate)	%	-	75
	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
LB167963.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	81
		d4-1,2-dichloroethane (Surrogate)	%	-	79
		d8-toluene (Surrogate)	%	-	78

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 %
SE189667.006	LB167966.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189565.001	LB167964.022	% Moisture	%w/w	0.5	12	13	38	3
SE189667.006	LB167964.011	% Moisture	%w/w	0.5	22	21	35	1

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189668.008	LB167971.027		Hexachlorobenzene (HCB)	mg/kg	0.1	0	0	200	0
			Alpha BHC	mg/kg	0.1	0	0	200	0
			Lindane	mg/kg	0.1	0	0	200	0
			Heptachlor	mg/kg	0.1	0	0	200	0
			Aldrin	mg/kg	0.1	0	0	200	0
			Beta BHC	mg/kg	0.1	0	0	200	0
			Delta BHC	mg/kg	0.1	0	0	200	0
			Heptachlor epoxide	mg/kg	0.1	0	0	200	0
			o,p'-DDE	mg/kg	0.1	0	0	200	0
			Alpha Endosulfan	mg/kg	0.2	0	0	200	0
			Gamma Chlordane	mg/kg	0.1	0	0	200	0
			Alpha Chlordane	mg/kg	0.1	0	0	200	0
			trans-Nonachlor	mg/kg	0.1	0	0	200	0
			p,p'-DDE	mg/kg	0.1	0	0	200	0
			Dieldrin	mg/kg	0.2	0	0	200	0
			Endrin	mg/kg	0.2	0	0	200	0
			o,p'-DDD	mg/kg	0.1	0	0	200	0
			o,p'-DDT	mg/kg	0.1	0	0	200	0
			Beta Endosulfan	mg/kg	0.2	0	0	200	0
			p,p'-DDD	mg/kg	0.1	0	0	200	0
			p,p'-DDT	mg/kg	0.1	0	0	200	0
			Endosulfan sulphate	mg/kg	0.1	0	0	200	0
			Endrin Aldehyde	mg/kg	0.1	0	0	200	0
			Methoxychlor	mg/kg	0.1	0	0	200	0
			Endrin Ketone	mg/kg	0.1	0	0	200	0
			Isodrin	mg/kg	0.1	0	0	200	0
			Mirex	mg/kg	0.1	0	0	200	0
			Total CLP OC Pesticides	mg/kg	1	0	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.132	0.135	30	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189565.001	LB167971.025	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	184	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	0.2	0.2	89	24
		Pyrene	mg/kg	0.1	0.2	0.2	86	11
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	173	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	173	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	155	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	148	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

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 %
SE189565.001	LB167971.025		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	173	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
SE189667.006	LB167971.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189668.008	LB167971.026		Arochlor 1016	mg/kg	0.2	0	0	200	0
			Arochlor 1221	mg/kg	0.2	0	0	200	0
			Arochlor 1232	mg/kg	0.2	0	0	200	0
			Arochlor 1242	mg/kg	0.2	0	0	200	0
			Arochlor 1248	mg/kg	0.2	0	0	200	0
			Arochlor 1254	mg/kg	0.2	0	0	200	0
			Arochlor 1260	mg/kg	0.2	0	0	200	0
			Arochlor 1262	mg/kg	0.2	0	0	200	0
			Arochlor 1268	mg/kg	0.2	0	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	0	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.132	0.135	30	2

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189667.006	LB167965.014	Arsenic, As	mg/kg	1	4	4	56	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	10	13	34	22
		Copper, Cu	mg/kg	0.5	10	8.2	35	24
		Nickel, Ni	mg/kg	0.5	5.0	5.0	40	1
		Lead, Pb	mg/kg	1	6	7	46	9
		Zinc, Zn	mg/kg	2	30	32	36	6

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR

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

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

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189667.006	LB167971.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	54	59	110	9
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189667.006	LB167963.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	3.9	50	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.7	4.2	50	15
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.3	50	10
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.9	4.1	50	5
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE189668.008	LB167963.024	Monocyclic	Benzene	mg/kg	0.1	0	0	200	0
		Aromatic	Toluene	mg/kg	0.1	0	0	200	0
			Ethylbenzene	mg/kg	0.1	0	0	200	0
			m/p-xylene	mg/kg	0.2	0	0	200	0
			o-xylene	mg/kg	0.1	0	0	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	0	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.73	3.95	50	6
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.18	4.41	50	5
			d8-toluene (Surrogate)	mg/kg	-	4.18	4.14	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.83	3.7	50	3
		Totals	Total Xylenes	mg/kg	0.3	0	0	200	0
			Total BTEX	mg/kg	0.6	0	0	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE189667.006	LB167963.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	3.9	30	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.7	4.2	30	15
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.3	30	10
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.9	4.1	30	5
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE189668.008	LB167963.024		TRH C6-C10	mg/kg	25	0	0	200	0
			TRH C6-C9	mg/kg	20	0	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.73	3.95	30	6
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.18	4.41	30	5
			d8-toluene (Surrogate)	mg/kg	-	4.18	4.14	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.83	3.7	30	3
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0	0	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167966.002	Mercury	mg/kg	0.05	0.18	0.2	70 - 130	90

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167971.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	75
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	79
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	76
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	78
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	77
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	78
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	83

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167971.002		Dichlorvos	mg/kg	0.5	1.9	2	60 - 140	93
		Diazinon (Dimpylate)	mg/kg	0.5	2.0	2	60 - 140	98
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	95
		Ethion	mg/kg	0.2	1.9	2	60 - 140	93
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167971.002		Naphthalene	mg/kg	0.1	4.2	4	60 - 140	104
		Acenaphthylene	mg/kg	0.1	4.3	4	60 - 140	109
		Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	111
		Phenanthrene	mg/kg	0.1	4.5	4	60 - 140	113
		Anthracene	mg/kg	0.1	4.3	4	60 - 140	107
		Fluoranthene	mg/kg	0.1	4.3	4	60 - 140	108
		Pyrene	mg/kg	0.1	4.5	4	60 - 140	112
		Benzo(a)pyrene	mg/kg	0.1	4.8	4	60 - 140	121
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167971.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	106

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167965.002	Arsenic, As	mg/kg	1	340	336.32	79 - 120	102
	Cadmium, Cd	mg/kg	0.3	430	416.6	69 - 131	103
	Chromium, Cr	mg/kg	0.3	36	35.2	80 - 120	103
	Copper, Cu	mg/kg	0.5	330	370.46	80 - 120	88
	Nickel, Ni	mg/kg	0.5	190	210.88	79 - 120	90
	Lead, Pb	mg/kg	1	93	107.87	79 - 120	86
	Zinc, Zn	mg/kg	2	280	301.27	80 - 121	94

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167971.002		TRH C10-C14	mg/kg	20	36	40	60 - 140	90
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	85
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	80
	TRH F Bands	TRH >C10-C16	mg/kg	25	36	40	60 - 140	90
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	85
		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

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.

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167963.002	Monocyclic	Benzene	mg/kg	0.1	2.1	2.9	60 - 140	73
	Aromatic	Toluene	mg/kg	0.1	2.0	2.9	60 - 140	68
		Ethylbenzene	mg/kg	0.1	2.1	2.9	60 - 140	72
		m/p-xylene	mg/kg	0.2	4.3	5.8	60 - 140	73
		o-xylene	mg/kg	0.1	2.2	2.9	60 - 140	75
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.5	5	60 - 140	89
		d8-toluene (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.4	5	60 - 140	88

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB167963.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	86
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	82
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.5	5	60 - 140	89
		d8-toluene (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.4	5	60 - 140	88
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	119

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%
SE189648.001	LB167966.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE189648.001	LB167971.026		Naphthalene	mg/kg	0.1	4.2	<0.1	4	104
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.4	<0.1	4	109
			Acenaphthene	mg/kg	0.1	4.4	<0.1	4	110
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.6	<0.1	4	116
			Anthracene	mg/kg	0.1	4.4	<0.1	4	110
			Fluoranthene	mg/kg	0.1	4.3	<0.1	4	109
			Pyrene	mg/kg	0.1	4.6	<0.1	4	115
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.6	<0.1	4	116
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	4.6	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.8	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.7	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	36	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	94
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	92
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	94

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE189648.001	LB167965.004	Arsenic, As	mg/kg	1	51	2	50	98
		Cadmium, Cd	mg/kg	0.3	51	<0.3	50	102
		Chromium, Cr	mg/kg	0.3	120	48	50	134 ④
		Copper, Cu	mg/kg	0.5	60	6.2	50	108
		Nickel, Ni	mg/kg	0.5	53	3.0	50	100
		Lead, Pb	mg/kg	1	59	9	50	100
		Zinc, Zn	mg/kg	2	62	10	50	104

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE189648.001	LB167971.026		TRH C10-C14	mg/kg	20	<20	40	78
			TRH C15-C28	mg/kg	45	<45	40	78
			TRH C29-C36	mg/kg	45	<45	40	75
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	40	75
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	88
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE189648.001	LB167963.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	2.0	<0.1	2.9	67
			Toluene	mg/kg	0.1	1.9	<0.1	2.9	64
			Ethylbenzene	mg/kg	0.1	2.0	<0.1	2.9	69
			m/p-xylene	mg/kg	0.2	4.0	<0.2	5.8	69
			o-xylene	mg/kg	0.1	2.1	<0.1	2.9	71

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

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

VOC's in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE189648.001	LB167963.004	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.0	-	79
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	4.4	-	81
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.1	-	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.1	4.0	-	81
		Totals	Total Xylenes	mg/kg	0.3	6.1	<0.3	-	-
			Total BTEX	mg/kg	0.6	12	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE189648.001	LB167963.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	84
			TRH C6-C9	mg/kg	20	<20	<20	23.2	79
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.0	-	79
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	4.4	-	81
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.1	-	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.1	4.0	-	81
		VPH F	Benzene (F0)	mg/kg	0.1	2.0	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	120

MATRIX SPIKE DUPLICATES

SE189648 R0

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

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

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

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

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

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.

Chain of Custody Form – Ref 10182-1

Ref: 10182-1
Investigator: Envirowest Consulting
9 Cameron Place
PO Box 8158
ORANGE NSW 2800
Telephone: (02) 6361 4954
Facsimile: (02) 6360 3960
Email: ashleigh@envirowest.net.au
Contact Person: Ashleigh Adams
Invoice: accounts@envirowest.net.au

Laboratory: SGS SYDNEY
16/33 Maddox Street
ALEXANDRIA NSW 2015

Quotation #:
Courier/CN:

Sample ID	Container*	Sampling Date/Time	Sample matrix: Water	Soil	Sludge	Sample preservation: Cool	HNO3/HCl	Unpreserved	Analysis: SGS Method Code: CL17 TRH (C6-C40) BTEX/PAH/ 8 Metals/OC/PCB/OP	Asbestos (presence/absence)
B123	A	21/2/2018		X		X		X	X	X
B124	A	21/2/2018		X		X		X	X	X
B125	A	21/2/2018		X		X		X	X	X
DW	A	21/2/2018		X		X		X	X	X

SGS EHS Alexandria Laboratory

SE189648 COC

Received: 26 – Feb – 2019

3 DAY TAT PLEASE

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Adams
Date : 21/2/2019 Time:

Relinquished by: (print and signature) Ashleigh Adams A Adams. Date 21/2/2019 Time 16:00

Received by: (print and signature) Date 26/02/19 Time @ 11:00

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and green label