

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported. A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Oct 17, 2018	Indefinite

Company Name: El Australia
Address: Suite 6.01, 55 Miller Street
Pymont
NSW 2009
Project Name: RESERVE ROAD ST LEONARDS
Project ID: E23969

Order No.: 622964
Report #: 02 9516 0722
Phone:
Fax:

Received: Oct 17, 2018 3:20 PM
Due: Oct 24, 2018
Priority: 5 Day
Contact Name: Nathan Spanos

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail

					Asbestos - AS4964	Moisture Set	Eurofins mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217					X		
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	V7_A/B-4/5	Oct 17, 2018		Soil	S18-Oc20344	X	X
2	V7_B/C-3/4	Oct 17, 2018		Soil	S18-Oc20345	X	X
3	V7_B/C-2/3	Oct 17, 2018		Soil	S18-Oc20346	X	X
4	V7_D/E-2/3	Oct 17, 2018		Soil	S18-Oc20347	X	X
5	V7_D/E-3/4	Oct 17, 2018		Soil	S18-Oc20348	X	X
6	V7_D/E-4/5	Oct 17, 2018		Soil	S18-Oc20349	X	X
7	V7_D/E-5/6	Oct 17, 2018		Soil	S18-Oc20350	X	X
8	QD1	Oct 17, 2018		Soil	S18-Oc20351	X	X
9	QD2	Oct 17, 2018		Soil	S18-Oc20352	X	X

ABN : 50 005 085 521
 Email : Eurofins@eurofins.com
 Web : www.eurofins.com.au

Melbourne
 3-5 Kingston Town Close
 Oakleigh VIC 3166
 Phone : +61 3 8564 5000
 NATA # 1261
 Site # 1254 & 14271

Sydney
 Unit F3, Building F
 16 Mars Road
 Lane Cove West NSW 2066
 Phone : +61 2 9900 8400
 NATA # 1261 Site # 18217

Brisbane
 1/21 Smallwood Place
 Murarie QLD 4172
 Phone : +61 7 3902 4600
 NATA # 1261 Site # 20794

Perth
 2/91 Leach Highway
 Kewdale WA 6105
 Phone : +61 8 9251 9600
 NATA # 1261
 Site # 23736

Company Name: EI Australia
Address: Suite 6.01, 55 Miller Street
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	Moisture Set	X	
	Asbestos - AS4964	X	
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Sydney Laboratory - NATA Site # 18217			
Brisbane Laboratory - NATA Site # 20794			
Perth Laboratory - NATA Site # 23736			
Test Counts			
	7	9	9

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to "non-bonded / friable".
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Authorised by:

Sayed Abu Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Operations Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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WASTE CLASSIFICATION CERTIFICATE

EI Document Ref: E24084.E05.002.Rev0



PROJECT NO: E24084

CLIENT Details:

BDFM Pty Ltd
Suite 15, 103 George Street,
Parramatta NSW 2150

Project Name: Residential Redevelopment

Work Phase: Bulk Excavation - Waste Classification

Client Contact: Reina Menhem

Certificate Date: 05-December-2018

LOCATION (where waste was generated):

Site Address: 121 Arbutus St & 134-136 Cambridge St, Canley Heights NSW Lot / DP: Lots 5 to 7 in DP 23109

LGA: Fairfield Council

Current Zoning: R4 - Residential Site Map Attached: Yes ☒ No ☐

Site observations & History: Based on available historical information, the site was previously occupied by three residential dwellings. On 30 November 2018 all former structures had been demolished.

Surrounding land use: Surrounding land uses were predominantly residential in nature

Acid Sulfate Soil Risk: The site is not in an acid sulfate soils risk area.

Proposed site use: The proposed development is for the construction of a residential building with two level basement car parking facility. Excavations will extend to approximately 6 m below original ground level.

MATERIAL SOURCE: In-situ natural clay and shale bedrock across the entire site to be excavated as part of the proposed two level basement excavation, as shown in Figure 2.

MATERIAL CHARACTERISATION:

Material Description: Silty CLAY; high plasticity, brown mottled grey, moist, no odour; and SHALE; grey / brown, no odour

Volume: 5700 m³ (approx.)

Tonnage: 10260 Tonnes (approx.)

Bulk density taken as 1.8 t/m³ for clay (Look, 2014)²

Sampling method: Representative natural samples were collected from 6 test pit locations across the site, as shown in Figure 2.

Tested Sample(s): TP1_0.3-0.4, TP2_0.2-0.3, TP3_0.4-0.5, TP3_0.9-1.0, TP4_0.3-0.4, TP5_0.5-0.6 and TP6_0.6-0.7

Sampling procedure and Quality Assurance / Control: All samples were collected by a suitably qualified, trained and experienced environmental engineer in asbestos identification in accordance with EPA requirements. Soil samples were collected using an unused/dedicated nitrile gloves & placed into 250g laboratory-prepared glass jars, which were capped using Teflon-sealed, screw caps and immediately refrigerated prior to being delivered to the contract environmental laboratory under strict Chain-of-Custody conditions.

Sampling Date: 30-Nov-18

Sample Nos: 7

Primary Laboratory: NATA Accredited SGS, Alexandria NSW

Secondary Laboratory:

EPA (2014) Waste classification steps

Step 1 - Visual evidence Special Waste	Yes	☐	No	☒
Step 2 - Is the waste liquid waste	Yes	☐	No	☒
Step 3 - Is the waste Pre-classified	Yes	☐	No	☒
Step 4 - Are hazardous substances present	Yes	☐	No	☒
Step 5 - Is chemical assessment required	Yes	☒	No	☐
Analytical Data Attached:	Yes	☒		

Note: Only data for above-listed samples tested are representative of classified material

MATERIAL SUITABILITY FOR BENEFICIAL ONSITE RE-USE AT

Material meets Site Acceptance Criteria⁴ of:

Yes ☐ No ☐

Comment:

This material has **NOT** been assessed for onsite re-use.

CLASSIFICATION FOR OFF-SITE DISPOSAL

Waste Classification: ⁵	Assessed class.:	VIRGIN EXCAVATED NATURAL MATERIAL (VENM) ¹⁰
	Special Waste:	Not Applicable
	Scheduled Waste:	NO

Classification Comments:⁶

The material delivered must be consistent with the description given in the Material Characterisation section above and test pit logs attached. This waste classification is only applicable to in-situ natural clay and shale bedrock and not applicable to overlying fill soils which was classified in a separate certificate (Ref. E24084.E05.002).

The Waste Management Facility must satisfy itself that it is appropriately licensed to receive the material described in this certificate, Table 1 and attachments.

The waste must be removed from the site and disposed to a facility licensed to accept this type of waste, in accordance with the NSW Waste Regulation 2014.

Based on salinity results the subject material is considered non-saline.

Disposal Options:^{7,8}

Suitable for disposal at facility licensed to receive:
VIRGIN EXCAVATED NATURAL MATERIAL (VENM)¹⁰

Author:

Emmanuel Woelders

Emmanuel Woelders
Environmental Scientist - Project Manager

Reviewer:

Eric Gerges

Eric Gerges
Senior Engineer

WASTE CLASSIFICATION CERTIFICATE - Important Notes and Comments

- 1: Zoning as per the Fairfield LEP 2013.
- 2: Look, B. (2014), Handbook of Geotechnical Investigation and Design Tables, CRC Press.
- 3: Sampling conducted in accordance with EI Australia *Standard Operating Procedure for Waste Characterisation Sampling*, NSW EPA Contaminated Sites: *Sampling Design Guidelines*, 1995 and the National Environmental Protection Measure (1999) Amendment (2013) Schedule B2 Site Characterisation.
- 4: Site Acceptance Criteria as listed in National Environment Protection (Assessment of Site Contamination) Measure 1999, Amendment 2013, Schedule B(2).
- 5: Classification in Accordance with Tables 1 and 2 of the NSW Environment Protection Authority (EPA) *Waste Classification Guidelines, Part 1: Classifying waste*, November 2014.
- 6: The Waste Management Facility must satisfy itself that it is appropriately licensed to receive the material described in this certificate, Table 1 and attachments.
- 7: The Protection of the Environment Operations (POEO) Act 1997 Section 143 states that if waste is transported to a facility not lawfully authorised as a waste facility for that waste, the owner, transporter and receiver of the waste are each guilty of an offence. The owner of waste includes, in relation to waste that has been transported, the person who was the owner of the waste immediately before it was transported. It should be noted that under the POEO (waste) Regulation 2014, Part 6, a person must not transport waste that is generated in NSW to any place in or outside of NSW, which is greater than 150 km from the source site. Pre acceptance of waste by the receiving disposal operator is recommended.
- 8: Under Section 144AA of the POEO Act it is an offence to supply information, or cause or permit information to be supplied, "that is false or misleading in a material respect about waste, to another person in the course of dealing with the waste".
- 9: Generators and transporters of Asbestos Waste have a legal obligation to ensure their waste goes to a lawful place. Under Clauses 76 and 79 of the Protection of the Environment (Waste) Regulation 2014 and the NSW EPA 2015 Asbestos and Waste Tyres Guidelines, consignors and transporters of Asbestos Waste, and facilities receiving these wastes, must use "WasteLocate" to provide information to the EPA regarding their movement within NSW. Further information about the "WasteLocate" system is available online from the NSW EPA Website at: <http://www.epa.nsw.gov.au/publications/waste/150702-asbestos-waste-tyres.htm>
- 10: Virgin excavated natural material (VENM) is a waste that has been pre-classified as general solid waste (non-putrescible). Under the PoEO Act 1997, virgin excavated natural material (VENM) is, 'natural material (such as clay, gravel, sand, soil or rock fines), that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities and does not contain any sulfidic ores or soils or any other waste. .

STATEMENT OF LIMITATIONS

This report was prepared for the exclusive use of BDPM (the client), who is the only intended beneficiary of EI's work. The scope of the works carried out for the purpose of this waste classification certificate is limited to those agreed with the client.

No other party should rely on this document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

EI has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia as at the date of this document. No other warranty, expressed or implied, is made or intended. Each section of this report must be read in conjunction with the whole of this report, including its appendices and attachments.

The conclusions presented in this waste classification are based on a limited investigation of conditions, with specific sampling locations chosen to be as representative as possible under the given circumstances.

EI's professional opinions are reasonable and based on its professional judgment, experience, training and results from analytical data. EI may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified by EI.

EI's professional opinions contained in this document are subject to modification if materials are added to the previously characterised waste soil stockpile. In such cases, further testing and analysis will be required, which may result in a further waste classification certificate with different conclusions.

PHOTO LOG:



Photo 1: View of site conditions, looking north west.



Photo 2: View of site conditions, looking east.

Table 1 - Summary of Soil Analytical Results

E24064.E05.002

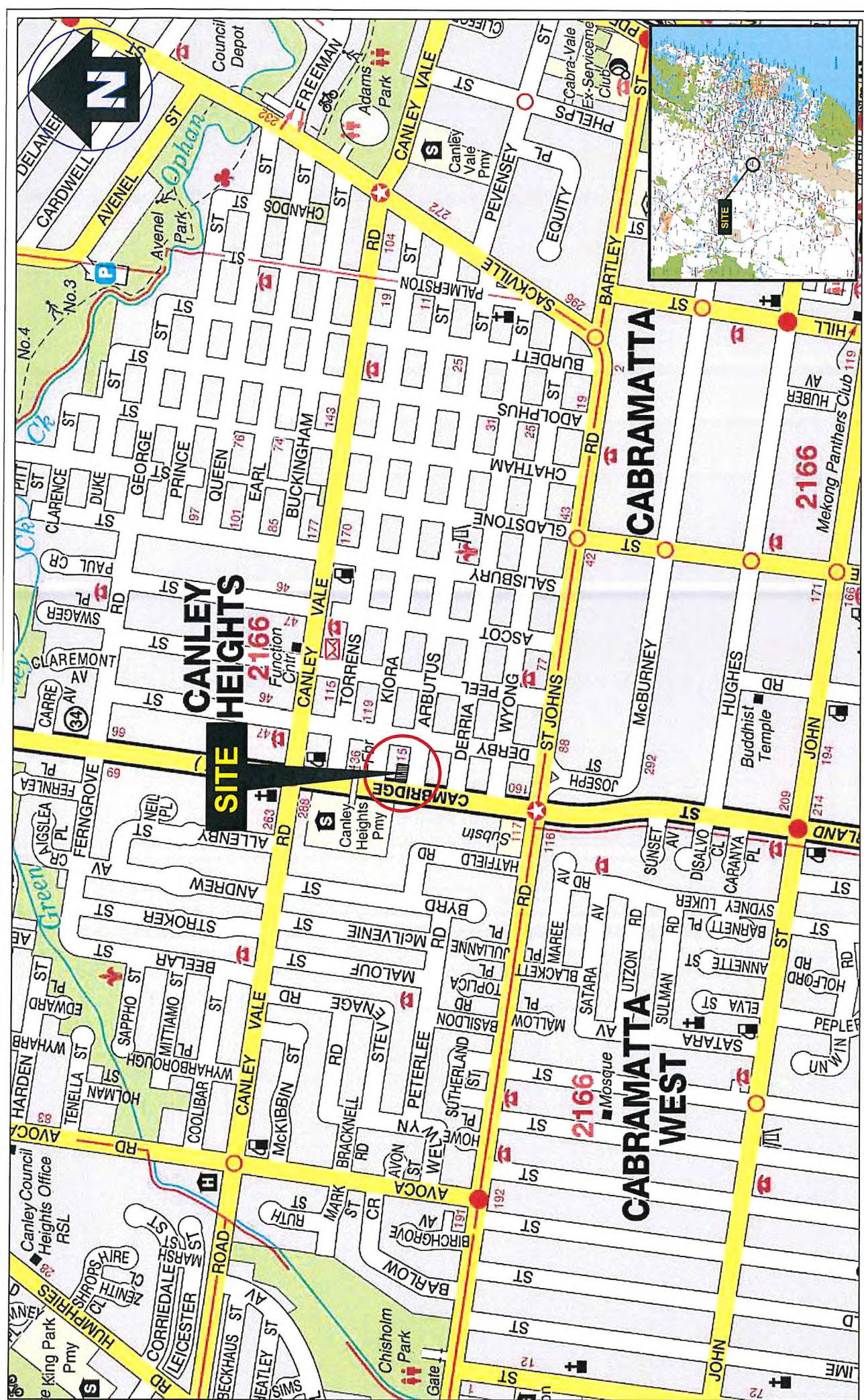
Sample ID	Heavy Metals						PAHs		BTEX				TPH		OCPs	OPP _s	Total PCBs	Asbestos	Salinity				
	As	Cd	Cr	Pb	Hg	Ni	Total PAHs	Benzene	Toluene	Ethylbenzene	Total Xylenes	C ₉ -C ₉	C ₁₀ -C ₃₆	pH					EC (us/cm)	Soil Texture Group	Adopted Multiplication Factor	eCE (ds/cm)	
TP1 0.3-0.4	6	<0.3	20	12	<0.05	1.9	<0.1	<0.8	<0.1	<0.1	<0.1	<0.3	<20	<110	<1	<1.7	<1	No	5.1	130	Heavy clay	6	0.78
TP2 0.2-0.3	3	<0.3	14	9	<0.05	1.1	<0.1	<0.8	<0.1	<0.1	<0.1	<0.3	<20	<110	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.
TP3 0.4-0.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	5.2	140	Heavy clay	6	0.84
TP3 0.8-1.0	2	<0.3	0.7	3	<0.05	<0.5	<0.1	<0.8	<0.1	<0.1	<0.1	<0.3	<20	<110	<1	<1.7	<1	No	6	28	Heavy clay	6	0.166
TP4 0.3-0.4	2	<0.3	19	12	<0.05	0.9	<0.1	<0.8	<0.1	<0.1	<0.1	<0.3	<20	<110	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.
TP5 0.5-0.6	3	<0.3	13	10	<0.05	1	<0.1	<0.8	<0.1	<0.1	<0.1	<0.3	<20	<110	<1	<1.7	<1	No	N.A.	N.A.	N.A.	N.A.	N.A.
TP6 0.6-0.7	5	<0.3	24	12	<0.05	1.9	<0.1	<0.8	<0.1	<0.1	<0.1	<0.3	<20	<110	<1	<1.7	<1	No	7.2	180	Heavy clay	6	1.08
Statistical Analysis																							
Maximum concentration	6	<0.3	24	12	<0.05	1.9	<0.1	<0.8	<0.1	<0.1	<0.1	<0.3	<20	<110	<0.1	<1.7	<1	No	7.2	180	Heavy clay	8.5	1.08
95% UCL	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Classification																							
VENM																							
Waste Classification Criteria																							
NSW EPA 2014 ¹ General Solid Waste	CT1 (mg/kg)	100	20	100	100	4	40	0.8	200	10	288	600	1,000	850	10,000	<50	<50	If detected material is Special Waste - Asbestos Waste		NR			
	TCLP1 (mg/L) / SCC1 (mg/kg)	5.0 / 500	1.0 / 100	5 / 1,900	5 / 1,500	0.2 / 50	2 / 1,050	0.04 / 10	NR / 200	0.5 / 16	14.4 / 518	30 / 1,080	50 / 1,800	NR / 650	NR / 10,000	NR / <50	NR / <50						
NSW EPA 2014 ² Restricted Solid Waste	CT2 (mg/kg)	400	80	400	400	16	160	3.2	800	40	1,152	2,400	4,000	2,600	40,000	NR	NR	NR		NR			
	TCLP2 (mg/L) / SCC2 (mg/kg)	20 / 2,000	4 / 400	20 / 7,600	20 / 6,000	0.6 / 200	8 / 4,200	0.16 / 23	NR / 800	2 / 72	57.6 / 2,073	120 / 4,320	200 / 7,200	NR / 2,600	NR / 40,000	NR / <50	NR / <50						

Notes: All results are recorded in mg/kg (unless otherwise stated)

Highlighted cell indicates concentration exceeds the EPA (2014) General Solid Waste Classification Criteria
Highlighted cell indicates EPA (2014) Waste Classification Criteria met

ND 'Not detected' i.e. all concentrations of the compounds within the analyte group were found to be below the laboratory limits of detection.
NA 'Not Analysed' i.e. the sample was not analysed.
NC 'Not Calculated'
NR 'Not Referenced' i.e. No published criteria available







Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	L.C.	BDPM Australia Waste Classification 121 Arbutus Street & 134 -136 Cambridge Street, Canley Heights NSW Site Locality Plan	Figure: 1
Approved:	-		
Date:	-		
Scale:	Not To Scale		

Project: E24084 E05_Rev0



LEGEND

- - - Approximate site boundary
- ▣ Approximate Test-pit location



Drawn:

L.C.

Approved:

Waste Classification

BDPM Australia

Figure:

2

Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Canley Heights NSW

121 Arbutus Street & 134 -136 Cambridge Street,

Sampling Location Plan

Project: E24084 E05_Rev0

Date:

-

-

Project Waste Classification
 Location 121 Arbutus Street & 134 -136 Cambridge Street, Canley Heights
 Position Refer to Figure 2
 Job No. E24084.E05
 Client BDPM Australia

Contractor
 Machine Excavator
 Bucket Size

TEST PIT: TP1

Sheet 1 OF 1
 Date 30/11/18
 Logged LY
 Checked

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP1_0.1-0.2 ES			-	Fill: Sandy CLAY; low plasticity, dark grey, with sub-angular gravels, tiles, plastics, bricks and fibre-cement pieces, no odour.	M	-	FILL
			0.20				CH	Natural: Silty CLAY, high plasticity, brown mottled pale grey, no odour.				NATURAL
							TP1_0.3-0.4 ES					
			0.5									
			0.70									
									Hole Terminated at 0.70 mBGL; Target depth reached.			
			1.0									
			1.5									
			2.0									

Sketch & Other Observations



This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

Project Waste Classification
 Location 121 Arbutus Street & 134 -136 Cambridge Street, Canley Heights
 Position Refer to Figure 2
 Job No. E24084.E05
 Client BDPM Australia

Contractor
 Machine Excavator
 Bucket Size

TEST PIT: TP2

Sheet 1 OF 1
 Date 30/11/18
 Logged LY
 Checked

Excavation					Sampling	Field Material Description						
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP2_0-0.1 ES			-	Fill: Sandy CLAY; low plasticity, dark grey, with sub-angular gravels, tiles, plastics, bricks and fibre-cement pieces, no odour.	M	-	FILL
			0.15		TP2_0.2-0.3 ES		CH	Natural: Silty CLAY, high plasticity, brown mottled pale grey, no odour.				NATURAL
			0.60									Hole Terminated at 0.60 mBGL; Target depth reached.
			1.0									
			1.5									
			2.0									

Sketch & Other Observations



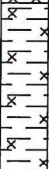
This borehole log should be read in conjunction with EIA Australia's accompanying standard notes.

Project Waste Classification
 Location 121 Arbutus Street & 134 -136 Cambridge Street, Canley Heights
 Position Refer to Figure 2
 Job No. E24084.E05
 Client BDPM Australia

Contractor
 Machine Excavator
 Bucket Size

TEST PIT: TP3

Sheet 1 OF 1
 Date 30/11/18
 Logged LY
 Checked

Excavation				Sampling			Field Material Description				
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex		GWNE	0.0		TP3_0.1-0.2 ES		-	Fill: Sandy CLAY; low plasticity, dark grey, with sub-angular gravels, tiles, plastics, bricks and fibre-cement pieces, no odour.	M	-	FILL
			0.30		TP3_0.4-0.5 ES		CH	Natural: Silty CLAY, high plasticity, brown mottled pale grey, no odour.			NATURAL
			0.80		TP3_0.9-1.0 ES		-	SHALE; brown and grey, no odour.			BEDROCK
			1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5								
			2.0								

Sketch & Other Observations



This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

Project Waste Classification
 Location 121 Arbutus Street & 134 -136 Cambridge Street, Canley Heights
 Position Refer to Figure 2
 Job No. E24084.E05
 Client BDPM Australia

Contractor
 Machine Excavator
 Bucket Size

TEST PIT: TP4

Sheet 1 OF 1
 Date 30/11/18
 Logged LY
 Checked

Excavation				Sampling		Field Material Description							
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY	DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP4_0.1-0.2 ES			-	Fill: Sandy CLAY; low plasticity, dark grey, with sub-angular gravels, tiles, plastics, bricks and fibre-cement pieces, no odour.				FILL
			0.20				CH	Natural: Silty CLAY, high plasticity, brown mottled pale grey, no odour.				NATURAL	
			0.5		TP4_0.3-0.4 ES				M	-			
			0.70						Hole Terminated at 0.70 mBGL; Target depth reached.				
			1.0										
			1.5										
			2.0										

Sketch & Other Observations



This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

Project Waste Classification
 Location 121 Arbutus Street & 134 -136 Cambridge Street, Canley Heights
 Position Refer to Figure 2
 Job No. E24084.E05
 Client BDPM Australia

Contractor
 Machine Excavator
 Bucket Size

TEST PIT: TP5

Sheet 1 OF 1
 Date 30/11/18
 Logged LY
 Checked

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP5_0.1-0.2 ES			-	Fill: Sandy CLAY; low plasticity, dark grey, with sub-angular gravels, tiles, plastics, bricks and fibre-cement pieces, no odour.	M	-	FILL
			0.40									
			0.5		TP5_0.5-0.6 ES			CH	Natural: Silty CLAY, high plasticity, brown mottled pale grey, no odour.	NATURAL		
			0.90									
			1.0						Hole Terminated at 0.90 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations



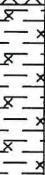
This borehole log should be read in conjunction with EIA Australia's accompanying standard notes.

Project Waste Classification
 Location 121 Arbutus Street & 134 -136 Cambridge Street, Canley Heights
 Position Refer to Figure 2
 Job No. E24084.E05
 Client BDPM Australia

Contractor
 Machine Excavator
 Bucket Size

TEST PIT: TP6

Sheet 1 OF 1
 Date 30/11/18
 Logged LY
 Checked

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
Ex	-	GWNE	0.0		TP6_0.1-0.2 ES			-	Fill: Sandy CLAY; low plasticity, dark grey, with sub-angular gravels, tiles, plastics, bricks and fibre-cement pieces, no odour.	M	-	FILL
			0.5	0.50	TP6_0.6-0.7 ES			CH	Natural: Silty CLAY, high plasticity, brown mottled pale grey, with weak hydrocarbon odour.			NATURAL
			1.0	1.00						Hole Terminated at 1.00 mBGL; Target depth reached.		
			1.5									
			2.0									

Sketch & Other Observations



This borehole log should be read in conjunction with EIA Australia's accompanying standard notes.



ANALYTICAL REPORT



Accreditation No. 2562

CLIENT DETAILS

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Project E24084-E05 Arbutus&Cambridge Canley Hts
Order Number E24084-E05
Samples 7

LABORATORY DETAILS

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SGS Reference SE186873 R0
Date Received 30/11/2018
Date Reported 5/12/2018

COMMENTS

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

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

Asbestos analysed by Approved Identifier Ravee Sivasubramaniam.

SIGNATORIES

Akheequear Beniamdeen
Chemist

Bennet Lo
Senior Organic Chemist/Metals Chemist

Dong Liang
Metals/Inorganics Team Leader

Huong Crawford
Production Manager

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

VOC's in Soil [AN433] Tested: 4/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
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	TP6_0.6-0.7
			SOIL
			30/11/2018 SE186873.007
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 4/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
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	TP6_0.6-0.7
			SOIL
			-
			30/11/2018 SE186873.007
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP6_0.6-0.7
			SOIL
			30/11/2018 SE186873.007
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
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	TP6_0.6-0.7
			SOIL
			30/11/2018 SE186873.007
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
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: 3/12/2018 (continued)

			TP6_0.6-0.7
			SOIL
			30/11/2018
			SE186873.007
PARAMETER	UOM	LOR	
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1

OP Pesticides in Soil [AN420] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
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	TP6_0.6-0.7
			SOIL
			30/11/2018 SE186873.007
Dichlorvos	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Malathion	mg/kg	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7

PCBs in Soil [AN420] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
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	TP6_0.6-0.7
			SOIL
			30/11/2018 SE186873.007
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



ANALYTICAL RESULTS

SE186873 R0

pH in soil (1:5) [AN101] Tested: 4/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP3_0.4-0.5	TP3_0.9-1.0	TP6_0.6-0.7
			SOIL - 30/11/2018 SE186873.001	SOIL - 30/11/2018 SE186873.003	SOIL - 30/11/2018 SE186873.004	SOIL - 30/11/2018 SE186873.007
pH	pH Units	0.1	5.1	5.2	6.0	7.2



ANALYTICAL RESULTS

SE186873 R0

Conductivity and TDS by Calculation - Soil [AN106] Tested: 4/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP3_0.4-0.5	TP3_0.9-1.0	TP6_0.6-0.7
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			30/11/2018 SE186873.001	30/11/2018 SE186873.003	30/11/2018 SE186873.004	30/11/2018 SE186873.007
Conductivity of Extract (1:5 as received)	µS/cm	1	130	140	28	180

Exchangeable Cations and Cation Exchange Capacity (CEC/ESP/SAR) [AN122] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP3_0.4-0.5	TP3_0.9-1.0	TP6_0.6-0.7
			SOIL	SOIL	SOIL	SOIL
			30/11/2018 SE186873.001	30/11/2018 SE186873.003	30/11/2018 SE186873.004	30/11/2018 SE186873.007
Exchangeable Sodium, Na	mg/kg	2	350	370	440	650
Exchangeable Sodium, Na	meq/100g	0.01	1.5	1.6	1.9	2.8
Exchangeable Sodium Percentage*	%	0.1	10.6	8.5	19.1	16.2
Exchangeable Potassium, K	mg/kg	2	69	67	91	78
Exchangeable Potassium, K	meq/100g	0.01	0.18	0.17	0.23	0.20
Exchangeable Potassium Percentage*	%	0.1	1.2	0.9	2.3	1.1
Exchangeable Calcium, Ca	mg/kg	2	1300	580	87	1500
Exchangeable Calcium, Ca	meq/100g	0.01	6.5	2.9	0.43	7.6
Exchangeable Calcium Percentage*	%	0.1	45.3	15.6	4.3	43.6
Exchangeable Magnesium, Mg	mg/kg	2	750	1700	900	830
Exchangeable Magnesium, Mg	meq/100g	0.02	6.2	14	7.4	6.8
Exchangeable Magnesium Percentage*	%	0.1	42.8	75.0	74.2	39.1
Cation Exchange Capacity	meq/100g	0.02	14	19	10	17



ANALYTICAL RESULTS

SE186873 R0

Soluble Anions (1:5) in Soil by Ion Chromatography [AN245] Tested: 4/12/2018

PARAMETER	UOM	LOR	TP3_0.4-0.5	TP3_0.9-1.0
			SOIL	SOIL
			-	-
			30/11/2018 SE186873.003	30/11/2018 SE186873.004
Chloride	mg/kg	0.25	7.4	8.3
Sulfate	mg/kg	5	310	45

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
Arsenic, As	mg/kg	1	6	3	2	2	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	20	14	0.7	19	13
Copper, Cu	mg/kg	0.5	3.2	3.4	2.9	3.8	2.6
Lead, Pb	mg/kg	1	12	9	3	12	10
Nickel, Ni	mg/kg	0.5	1.9	1.1	<0.5	0.9	1.0
Zinc, Zn	mg/kg	2	6.5	4.2	<2.0	7.9	4.4

PARAMETER	UOM	LOR	TP6_0.6-0.7
			SOIL
			-
			30/11/2018 SE186873.007
Arsenic, As	mg/kg	1	5
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.3	24
Copper, Cu	mg/kg	0.5	3.2
Lead, Pb	mg/kg	1	12
Nickel, Ni	mg/kg	0.5	1.9
Zinc, Zn	mg/kg	2	10

Mercury in Soil [AN312] Tested: 3/12/2018

PARAMETER	UOM	LOR	TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			30/11/2018 SE186873.001	30/11/2018 SE186873.002	30/11/2018 SE186873.004	30/11/2018 SE186873.005	30/11/2018 SE186873.006
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	TP6_0.6-0.7
			SOIL
			-
			30/11/2018 SE186873.007
Mercury	mg/kg	0.05	<0.05



ANALYTICAL RESULTS

SE186873 R0

Soil Texture (AS4419) [AN051] Tested: 3/12/2018

PARAMETER	UDM	LOR	TP1_0.3-0.4	TP3_0.4-0.5	TP3_0.9-1.0	TP6_0.6-0.7
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			30/11/2018 SE186873.001	30/11/2018 SE186873.003	30/11/2018 SE186873.004	30/11/2018 SE186873.007
Texture Classification*	No unit	1	Heavy clay	Heavy clay	Heavy clay	Heavy clay



ANALYTICAL RESULTS

SE186873 R0

Moisture Content [AN002] Tested: 3/12/2018

			TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.4-0.5	TP3_0.9-1.0	TP4_0.3-0.4
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
			SE186873.001	SE186873.002	SE186873.003	SE186873.004	SE186873.005
PARAMETER	UOM	LOR					
% Moisture	%w/w	0.5	21	20	19	9.8	25

			TP5_0.5-0.6	TP6_0.6-0.7
			SOIL	SOIL
			-	-
			30/11/2018	30/11/2018
			SE186873.006	SE186873.007
PARAMETER	UOM	LOR		
% Moisture	%w/w	0.5	15	19



ANALYTICAL RESULTS

SE186873 R0

Fibre Identification in soil [AN602] Tested: 4/12/2018

			TP1_0.3-0.4	TP2_0.2-0.3	TP3_0.9-1.0	TP4_0.3-0.4	TP5_0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			30/11/2018	30/11/2018	30/11/2018	30/11/2018	30/11/2018
			SE186873.001	SE186873.002	SE186873.004	SE186873.005	SE186873.006
PARAMETER	UOM	LOR					
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

			TP6_0.6-0.7
			SOIL
			-
			30/11/2018
			SE186873.007
PARAMETER	UOM	LOR	
Asbestos Detected	No unit	-	No
Estimated Fibres*	%w/w	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.

AN051

A small sample of soil is kneaded with water and then pressed out into a ribbon. The behaviour of this ribbon is used to classify the soil into one of the texture classes in AS 4419.

AN101

pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl₂) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.

AN106

Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.

AN122

Exchangeable Cations, CEC and ESP: Soil sample is extracted in 1M Ammonium Acetate at pH=7 (or 1M Ammonium Chloride at pH=7) with cations (Na, K, Ca & Mg) then determined by ICP OES/ICP MS and reported as Exchangeable Cations. For saline soils, these results can be corrected for water soluble cations and reported as Exchangeable cations in meq/100g or soil can be pre-treated (aqueous ethanol/aqueous glycerol) prior to extraction. Cation Exchange Capacity (CEC) is the sum of the exchangeable cations in meq/100g.

AN122

The Exchangeable Sodium Percentage (ESP) is calculated as the exchangeable sodium divided by the CEC (all in meq/100g) times 100.

ESP can be used to categorise the sodicity of the soil as below:

ESP < 6%	non-sodic
ESP 6-15%	sodic
ESP > 15%	strongly sodic

Method is referenced to Rayment and Lyons, 2011, sections 15D3 and 15N1.-

AN245

Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO₂, NO₃ and SO₄ are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B

AN312

Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500

AN403

Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.

AN403

Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.

AN403

The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.

AN420

(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

AN420

SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

AN433

VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

AN602

Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.

AN602

Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf). The fibres detected may or may not be asbestos fibres.

AN602

AS4964.2004 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.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		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:

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

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

The QC 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

SE186873 R0

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Project **E24084-E05 Arbutus&Cambridge Canley Hts**
Order Number **E24084-E05**
Samples 7

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SGS Reference **SE186873 R0**
Date Received 30 Nov 2018
Date Reported 05 Dec 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	2 items
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

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

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

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

Conductivity and TDS by Calculation - Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	07 Dec 2018	04 Dec 2018
TP3_0.4-0.5	SE186873.003	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	07 Dec 2018	04 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	07 Dec 2018	04 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	07 Dec 2018	04 Dec 2018

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162596	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP3_0.4-0.5	SE186873.003	LB162596	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162596	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162596	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162679	30 Nov 2018	30 Nov 2018	30 Nov 2019	04 Dec 2018	30 Nov 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162679	30 Nov 2018	30 Nov 2018	30 Nov 2019	04 Dec 2018	30 Nov 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162679	30 Nov 2018	30 Nov 2018	30 Nov 2019	04 Dec 2018	30 Nov 2019	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162679	30 Nov 2018	30 Nov 2018	30 Nov 2019	04 Dec 2018	30 Nov 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162679	30 Nov 2018	30 Nov 2018	30 Nov 2019	04 Dec 2018	30 Nov 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162679	30 Nov 2018	30 Nov 2018	30 Nov 2019	04 Dec 2018	30 Nov 2019	05 Dec 2018

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162593	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162593	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162593	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162593	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162593	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162593	30 Nov 2018	30 Nov 2018	28 Dec 2018	03 Dec 2018	28 Dec 2018	05 Dec 2018

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162590	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	08 Dec 2018	04 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162590	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	08 Dec 2018	04 Dec 2018
TP3_0.4-0.5	SE186873.003	LB162590	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	08 Dec 2018	04 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162590	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	08 Dec 2018	04 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162590	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	08 Dec 2018	04 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162590	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	08 Dec 2018	04 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162590	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	08 Dec 2018	04 Dec 2018

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 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
TP1_0.3-0.4	SE186873.001	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 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.

PAH (Polynuclear Aromatic Hydrocarbons) In Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP4_0.3-0.4	SE186873.005	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018

PCBs In Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018

pH In soil (1:5)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	05 Dec 2018	04 Dec 2018
TP3_0.4-0.5	SE186873.003	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	05 Dec 2018	04 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	05 Dec 2018	04 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162678	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	05 Dec 2018	04 Dec 2018

Soil Texture (AS4419)

Method: ME-(AU)-[ENV]AN051

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162629	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP3_0.4-0.5	SE186873.003	LB162629	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162629	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162629	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018

Soluble Anions (1:5) In Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP3_0.4-0.5	SE186873.003	LB162649	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	01 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162649	30 Nov 2018	30 Nov 2018	07 Dec 2018	04 Dec 2018	01 Jan 2019	05 Dec 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
TP1_0.3-0.4	SE186873.001	LB162591	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162591	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162591	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162591	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162591	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162591	30 Nov 2018	30 Nov 2018	29 May 2019	03 Dec 2018	29 May 2019	05 Dec 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
TP1_0.3-0.4	SE186873.001	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162589	30 Nov 2018	30 Nov 2018	14 Dec 2018	03 Dec 2018	12 Jan 2019	05 Dec 2018

VOC's In Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1_0.3-0.4	SE186873.001	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP4_0.3-0.4	SE186873.005	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 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
TP1_0.3-0.4	SE186873.001	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP2_0.2-0.3	SE186873.002	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP3_0.9-1.0	SE186873.004	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018



HOLDING TIME SUMMARY

SE186873 R0

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

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

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

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP4_0.3-0.4	SE186873.005	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP5_0.5-0.6	SE186873.006	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 2018
TP6_0.6-0.7	SE186873.007	LB162708	30 Nov 2018	30 Nov 2018	14 Dec 2018	04 Dec 2018	13 Jan 2019	05 Dec 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 identifier 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)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	90
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	87
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	93
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	95
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	94
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	90

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	102
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	102
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	96
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	96
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	106
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	98
d14-p-terphenyl (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	102
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	102
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	96
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	98
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	108
	TP6_0.6-0.7	SE186873.007	%	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)	TP1_0.3-0.4	SE186873.001	%	70 - 130%	102
	TP2_0.2-0.3	SE186873.002	%	70 - 130%	102
	TP3_0.9-1.0	SE186873.004	%	70 - 130%	96
	TP4_0.3-0.4	SE186873.005	%	70 - 130%	96
	TP5_0.5-0.6	SE186873.006	%	70 - 130%	106
	TP6_0.6-0.7	SE186873.007	%	70 - 130%	98
d14-p-terphenyl (Surrogate)	TP1_0.3-0.4	SE186873.001	%	70 - 130%	102
	TP2_0.2-0.3	SE186873.002	%	70 - 130%	102
	TP3_0.9-1.0	SE186873.004	%	70 - 130%	96
	TP4_0.3-0.4	SE186873.005	%	70 - 130%	98
	TP5_0.5-0.6	SE186873.006	%	70 - 130%	108
	TP6_0.6-0.7	SE186873.007	%	70 - 130%	98
d5-nitrobenzene (Surrogate)	TP1_0.3-0.4	SE186873.001	%	70 - 130%	100
	TP2_0.2-0.3	SE186873.002	%	70 - 130%	100
	TP3_0.9-1.0	SE186873.004	%	70 - 130%	94
	TP4_0.3-0.4	SE186873.005	%	70 - 130%	90
	TP5_0.5-0.6	SE186873.006	%	70 - 130%	104
	TP6_0.6-0.7	SE186873.007	%	70 - 130%	94

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	90
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	87
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	93
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	95
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	94
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	90

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	78
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	79
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	80
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	80
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	78
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	78
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	78
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	81

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

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

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	TP4_0.3-0.4	SE186873.005	%	60 - 130%	77
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	76
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	79
d8-toluene (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	81
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	81
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	84
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	80
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	78
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	80
Dibromofluoromethane (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	70
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	78
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	75
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	79
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	83
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	75

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	78
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	79
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	80
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	80
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	78
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	78
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	78
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	81
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	77
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	76
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	79
d8-toluene (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	81
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	81
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	84
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	80
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	78
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	80
Dibromofluoromethane (Surrogate)	TP1_0.3-0.4	SE186873.001	%	60 - 130%	70
	TP2_0.2-0.3	SE186873.002	%	60 - 130%	78
	TP3_0.9-1.0	SE186873.004	%	60 - 130%	75
	TP4_0.3-0.4	SE186873.005	%	60 - 130%	79
	TP5_0.5-0.6	SE186873.006	%	60 - 130%	83
	TP6_0.6-0.7	SE186873.007	%	60 - 130%	75

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

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

Conductivity and TDS by Calculation - Soil

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

Sample Number	Parameter	Units	LOR	Result
LB162678.001	Conductivity of Extract (1:5 as received)	µS/cm	1	<1

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

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

Sample Number	Parameter	Units	LOR	Result
LB162596.001	Exchangeable Sodium, Na	mg/kg	2	0
	Exchangeable Potassium, K	mg/kg	2	0
	Exchangeable Calcium, Ca	mg/kg	2	0
	Exchangeable Magnesium, Mg	mg/kg	2	0

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB162593.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB162589.001	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)	%	-	85

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB162589.001	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
	2-fluorobiphenyl (Surrogate)	%	-	100
	d14-p-terphenyl (Surrogate)	%	-	102
Surrogates				

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR
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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
LB162589.001	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)	%	-	100
	d14-p-terphenyl (Surrogate)	%	-	102

PCBs In Soil

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

Sample Number	Parameter	Units	LOR	Result
LB162589.001	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 (Arochors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	85

Soluble Anions (1:5) In Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB162649.001	Chloride	mg/kg	0.25	<0.25
	Sulfate	mg/kg	5	<5.0

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

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

Sample Number	Parameter	Units	LOR	Result
LB162591.001	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
LB162589.001	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
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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
LB162708.001	Monocyclic Aromatic	Benzene	mg/kg	0.1
	Hydrocarbons	Toluene	mg/kg	0.1
		Ethylbenzene	mg/kg	0.1
		m/p-xylene	mg/kg	0.2
		o-xylene	mg/kg	0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1
	Surrogates	Dibromofluoromethane (Surrogate)	%	-
		d4-1,2-dichloroethane (Surrogate)	%	-
		d8-toluene (Surrogate)	%	-
		Bromofluorobenzene (Surrogate)	%	-
	Totals	Total BTEX	mg/kg	0.6

Volatile Petroleum Hydrocarbons In Soil

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

Sample Number	Parameter	Units	LOR	Result
LB162708.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-
		d4-1,2-dichloroethane (Surrogate)	%	-
		d8-toluene (Surrogate)	%	-

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

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

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

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

Conductivity and TDS by Calculation - Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186805.003	LB162678.009	Conductivity of Extract (1:5 as received)	µS/cm	1	114.5	109.8	32	4

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186805.003	LB162593.014	Mercury	mg/kg	0.05	0.02025557010.0173381269		200	0
SE186829.006	LB162593.024	Mercury	mg/kg	0.05	-0.00141105950.0013281480		200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186805.002	LB162590.011	% Moisture	%w/w	0.5	11.36363636382.8766523246		38	12
SE186829.006	LB162590.022	% Moisture	%w/w	0.5	3.14606741573.3377837116		61	6

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186873.007	LB162589.020	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	-	0.14	0.142	30	5

OP Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186873.007	LB162589.020	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	0.01	200	0
		Fenitrothion	mg/kg	0.2	<0.2	0	200	0
		Malathion	mg/kg	0.2	<0.2	0	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.01	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
		Methidathion	mg/kg	0.5	<0.5	0	200	0
		Ethion	mg/kg	0.2	<0.2	0	200	0
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0

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

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

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

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

OP Pesticides In Soil (continued)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186873.007	LB162589.020	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186873.007	LB162589.020	Naphthalene	mg/kg	0.1	<0.1	0	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0	200	0
		Fluorene	mg/kg	0.1	<0.1	0	200	0
		Phenanthrene	mg/kg	0.1	<0.1	0	200	0
		Anthracene	mg/kg	0.1	<0.1	0	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Pyrene	mg/kg	0.1	<0.1	0	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0	200	0
		Chrysene	mg/kg	0.1	<0.1	0.01	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	0	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	0.5	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 %
SE186873.007	LB162589.020	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
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.142	30	5

pH In soil (1:5)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186805.003	LB162678.009	pH	pH Units	0.1	4.444	4.427	32	0

Soluble Anions (1:5) In Soil by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186740.055	LB162649.016	Chloride	mg/kg	0.25	16.76498823527.1142588235		31	2
		Sulfate	mg/kg	5	2.09562352942.2702588235		200	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 %
SE186805.003	LB162591.014	Arsenic, As	mg/kg	1	4.58514776134.1593162393		53	10
		Cadmium, Cd	mg/kg	0.3	-0.01987062950.0105299145		200	0
		Chromium, Cr	mg/kg	0.3	35.56842683827.298803418E		32	26

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

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

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 identifier 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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186805.003	LB162591.014	Copper, Cu	mg/kg	0.5	2.0417071830	1.8216752136	56	11
		Nickel, Ni	mg/kg	0.5	0.41728321980	0.6686495726	122	29
		Lead, Pb	mg/kg	1	13.98395552381	1.1827692307	38	22
		Zinc, Zn	mg/kg	2	7.19813554305	8.335726495	61	21
SE186829.006	LB162591.024	Arsenic, As	mg/kg	1	0.8680501847	3.504375	76	111 ②
		Cadmium, Cd	mg/kg	0.3	0.0229440577	0.11375	200	0
		Chromium, Cr	mg/kg	0.3	5.5524619747	4.808125	40	14
		Copper, Cu	mg/kg	0.5	36.4995273695	71.925	31	8
		Nickel, Ni	mg/kg	0.5	4.7226518862	11.624375	36	84 ②
		Lead, Pb	mg/kg	1	1.6519721577	2.09125	83	23
		Zinc, Zn	mg/kg	2	11.7320615276	15.18125	45	26

TRH (Total Recoverable Hydrocarbons) In Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186873.007	LB162589.020	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
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0

VOC's In Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE186804.002	LB162708.024	Monocyclic	Benzene	mg/kg	0.1	0.01	0.01	200	0
			Aromatic	Toluene	mg/kg	0.1	0.01	0.01	200
			Ethylbenzene	mg/kg	0.1	0	0	200	0
			m/p-xylene	mg/kg	0.2	0.01	0.01	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	-	3.85	3.62	50	6
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.94	3.64	50	8
			d8-loluene (Surrogate)	mg/kg	-	4.25	3.86	50	10
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	3.7	50	13
		Totals	Total Xylenes	mg/kg	0.3	0.01	0.01	200	0
			Total BTEX	mg/kg	0.6	0.03	0.03	200	0
		SE186821.009	LB162708.026	Monocyclic	Benzene	mg/kg	0.1	0	0
Aromatic	Toluene				mg/kg	0.1	0	0	200
	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	-	3.53	3.88	50	9
	d4-1,2-dichloroethane (Surrogate)			mg/kg	-	4.14	3.77	50	9
	d8-loluene (Surrogate)			mg/kg	-	3.62	3.91	50	8
	Bromofluorobenzene (Surrogate)			mg/kg	-	3.68	3.66	50	1
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 %	
SE186804.002	LB162708.024	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	-	3.85	3.62	30	6
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.94	3.64	30	8	
		d8-loluene (Surrogate)	mg/kg	-	4.25	3.86	30	10	
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	3.7	30	13	
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0.01	0.01	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	-0.03	-0.03	200	0	