



Received by: *S.S. 8/11/11*  
 Time: *2:00 PM*  
 Samples intact: *Yes*  
 Ice/Cooler Pack: *Yes*  
 Temperature on Receipt: *2.7°C*  
 Storage Location: *8796-7*  
*8E 103128*

Laboratory Test Request / Chain of Custody Record

Lemko Place  
 PENRITH NSW 2750  
 P O Box 880  
 PENRITH NSW 2751  
 Tel: (02) 4722 2700  
 Fax: (02) 4722 6161  
 email: info@geotech.com.au

Page 1 of 3  
 Job No: 125761  
 Project: Marsden Park Precinct  
 Location: Northwest Growth Centre, Marsden Park

TO: SGS ENVIRONMENTAL SERVICES  
 UNIT 16  
 33 MADDOX STREET  
 ALEXANDRIA NSW 2015

PH: 02 8594 0400  
 ATTN: MS ANGELA MAMALICOS  
 FAX: 02 8594 0499

Project Manager: ER  
 Sampling By: JK

Results required by:

Location	Depth (m)	Date	Time	Sample type		EC	pH	Sulphate	Chloride	ESP	KEEP SAMPLE
				Soil	Water						
1	TP-70 0.0 - 0.1 0.5-0.6	4/11/2011				✓	✓				YES
2	TP-71 1.5-1.6	4/11/2011				✓	✓	✓		✓	YES
3	TP-72 0.0 - 0.1 0.5-0.6	4/11/2011				✓	✓	✓			YES
4	TP-72 2.0-2.1	4/11/2011				✓	✓	✓			YES
5	TP-72 1.0-1.1 0.0-0.1	4/11/2011				✓	✓	✓			YES
	TP-73 2.0-2.1 0.0-0.1	4/11/2011				✓	✓	✓			YES
	TP-73 0.5-0.6 1.5-1.6					✓	✓	✓			YES

Relinquished by: *ER* Signature: *ER* Date: *8/11/2011*  
 Received by: *Suba* Signature: *Suba* Date: *07/11/11*

Legend:  
 WG Water sample, glass bottle  
 WP Water sample, plastic bottle  
 USG Undisturbed soil sample (glass jar)  
 DSG Disturbed soil sample (glass jar)  
 DSP Disturbed soil sample (small plastic bag)  
 \* Purge & Trap @ mole H<sup>+</sup>/tonne  
 # Geotechnique Screen

coc 8/11/2011 @ 3:35pm

Lemko Place  
 PENRITH NSW 2750  
 P O Box 880  
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Page 1 of 3  
 Job No: 12576/1  
 Project: Marsden Park Precinct

TO: SGS ENVIRONMENTAL SERVICES  
 UNIT 16  
 33 MADDOX STREET  
 ALEXANDRIA NSW 2015

FAX: 02 8594 0499

Project Manager: ER Location: Northwest Growth Centre, Marsden Park

PH: 02 8594 0400  
 ATTN: MS ANGELA MAMALICOS

### Results required by:

Location	Sampling details			Sample type		EC	pH	Sulphate	Chloride	ESP	KEEP SAMPLE
	Depth (m)	Date	Time	Soil	Water						
7	TP-74	0.0 - 0.1	4/11/2011			✓	✓				YES
		1.0-1.1									YES
		2.0-2.1									YES
	TP-75	0.0 - 0.1	4/11/2011								YES
		0.5-0.6				✓	✓			✓	YES
		1.5-1.6				✓	✓	✓			YES
	TP-76	0.0-0.1	4/11/2011				✓				YES
		1.0-1.1				✓					YES
		2.0-2.1									YES
	TP-77	0.0-0.1	4/11/2011				✓				YES
		0.5-0.6									YES
		1.5-1.6				✓	✓	✓		✓	YES

Relinquished by: Signature ER Date 8/1/2011  
 Received by: Signature *[Signature]* Date 07/11/2011

Legend:  
 WG Water sample, glass bottle USG Undisturbed soil sample (glass jar) DSP Disturbed soil sample (small plastic bag) \* Purge & Trap @ mole H<sup>+</sup>/tonne  
 W/P Water sample, plastic bottle DSG Disturbed soil sample (glass jar) ✓ Test required # Geotechnique Screen

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 UNIT 16  
 33 MADDOX STREET  
 ALEXANDRIA NSW 2015

**PH:** 02 8594 0400      **FAX:** 02 8594 0499  
**ATTN:** MS ANGELA MAMALICOS

**Project Manager:** ER      **Location:** Northwest Growth Centre, Marsden Park  
**Sampling By:** JK      **Job No:** 12576/1  
**Project:** Marsden Park Precinct

**Results required by:**

Location	Sampling details			Sample type		Results required by:					KEEP SAMPLE
	Depth (m)	Date	Time	Soil	Water	EC	pH	Sulphate	Chloride	ESP	
13 TP-78	0.0 - 0.1	4/11/2011				✓	✓				YES
	1.0-1.1										YES
	2.0-2.1										YES
14 TP-79	0.0 - 0.1	4/11/2011				✓	✓	✓	✓	✓	YES
	0.5-0.6										YES
	1.5-1.6										YES
15 TP-80	0.0-0.1	4/11/2011				✓	✓				YES
	1.0-1.1										YES
	2.0-2.1										YES

**Relinquished by:** Name: Emged Rizkalla      Signature: ER      Date: 8/11/2011  
**Received by:** Name: Suba      Signature: [Signature]      Date: 07/11/2011

**Legend:**  
 WG Water sample, glass bottle      USG Undisturbed soil sample (glass jar)      DSP Disturbed soil sample (small plastic bag)      \* Purge & Trap      @ mole H<sup>+</sup>/home  
 WP Water sample, plastic bottle      DSG Disturbed soil sample (glass jar)      ✓ Test required      # Geotechnique Screen



## SAMPLE RECEIPT ADVICE

SE103128

### CLIENT DETAILS

Contact Emged Rizkalla  
Client Geotechnique  
Address P.O. Box 880  
PENRITH NSW 2751

Telephone 02 4722 2700  
Facsimile 02 4722 6161  
Email Emged@geotech.com.au

Project **12576/1 - Marsden Park Precinct**  
Order Number (Not specified)  
Samples 15

### LABORATORY DETAILS

Manager Huong Crawford  
Laboratory SGS Alexandria Environmental  
Address Unit 16, 33 Maddox St  
Alexandria NSW 2015

Telephone +61 2 8594 0400  
Facsimile +61 2 8594 0499  
Email au.environmental.sydney@sgs.com

Samples Received Mon 7/11/2011  
Report Due Thu 17/11/2011  
SGS Reference **SE103128**

### SUBMISSION DETAILS

This is to confirm that 15 samples were received on Monday 7/11/2011. Results are expected to be ready by Thursday 17/11/2011. Please quote SGS reference SE103128 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	15 Soils	Type of documentation received	Email
Date documentation received	8/11/11@3:35pm	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	2.7°C
Sample container provider	Client	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

### COMMENTS

ESP subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.  
Site: Northwest Growth Centre, Marsden Park.

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

CLIENT DETAILS

Client	Geotechnique	Project	12576/1 - Marsden Park Precinct
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SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Soil	Exchangeable Cations and Cation Exchange Capacity	Moisture Content	pH in soil (1:5)	Soluble Anions in Soil by Ion Chromatography
001	TP-70 0.0-0.1	1	-	1	1	-
002	TP-70 1.5-1.6	1	11	1	1	2
003	TP-71 0.5-0.6	1	-	1	1	-
004	TP-71 2.0-2.1	1	-	1	1	-
005	TP-72 1.0-1.1	1	-	1	1	-
006	TP-73 1.5-1.6	1	11	1	1	2
007	TP-74 0.0-0.1	1	-	1	1	-
008	TP-75 0.5-0.6	1	-	1	1	-
009	TP-75 1.5-1.6	1	11	1	1	2
010	TP-76 1.0-1.1	1	-	1	1	-
011	TP-77 0.0-0.1	1	-	1	1	-
012	TP-77 1.5-1.6	1	11	1	1	2
013	TP-78 0.0-0.1	1	-	1	1	-
014	TP-79 0.5-0.6	1	11	1	1	2
015	TP-80 1.0-1.1	1	-	1	1	-

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

## CLIENT DETAILS

Contact **Emged Rizkalla**  
 Client Geotechnique  
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 PENRITH NSW 2751

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 Facsimile 02 4722 6161  
 Email [Emged@geotech.com.au](mailto:Emged@geotech.com.au)

Project **12576/1 - Marsden Park Precinct**  
 Order Number (Not specified)  
 Samples 3

## LABORATORY DETAILS

Manager **Huong Crawford**  
 Laboratory SGS Alexandria Environmental  
 Address Unit 16, 33 Maddox St  
 Alexandria NSW 2015

Telephone +61 2 8594 0400  
 Facsimile +61 2 8594 0499  
 Email [au.environmental.sydney@sgs.com](mailto:au.environmental.sydney@sgs.com)

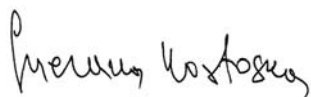
SGS Reference SE103142 R0  
 Report Number 0000011743  
 Date Reported 15 Nov 2011  
 Date Received 03 Nov 2011

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.  
 Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

Site: Northwest Growth Centre, Marsden Park.

## SIGNATORIES



**Snezana Kostoska**  
 Inorganics Chemist

Sample Number	SE103142.001	SE103142.002	SE103142.003
Sample Matrix	Water	Water	Water
Sample Date	03 Nov 2011	03 Nov 2011	03 Nov 2011
Sample Name	DW4	DW5	DW6

Parameter	Units	LOR
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**Conductivity and TDS by Calculation - Water Method: AN106**

Conductivity @ 25 C	µS/cm	2	740	710	1200
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**pH in water Method: AN101**

pH	pH Units	-	7.3	7.8	7.3
----	----------	---	-----	-----	-----

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

Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Conductivity @ 25 C	LB008542	µS/cm	2	<2	0 - 2%	100%

pH in water Method: ME-(AU)-[ENV]AN101

Parameter	QC Reference	Units	LOR	DUP %RPD	LCS %Recovery
pH	LB008490	pH Units	-	0%	99%



METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water 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 $\mu\text{mhos/cm}$ or $\mu\text{S/cm @ 25}^\circ\text{C}$ . 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 2520 B.

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	This analysis is not covered by the scope of accreditation.	-	The sample was not analysed for this analyte
^	Performed by outside laboratory.	NVL	Not Validated
LOR	Limit of Reporting		
↑↓	Raised or Lowered Limit of Reporting		

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

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

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# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE103142 R0

## CLIENT DETAILS

Contact Emged Rizkalla  
Client Geotechnique  
Address P.O. Box 880  
PENRITH NSW 2751

Telephone 02 4722 2700  
Facsimile 02 4722 6161  
Email Emged@geotech.com.au

Project **12576/1 - Marsden Park Precinct**  
Order Number (Not specified)  
Samples 3

## LABORATORY DETAILS

Manager Huong Crawford  
Laboratory SGS Alexandria Environmental  
Address Unit 16, 33 Maddox St  
Alexandria NSW 2015

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Email au.environmental.sydney@sgs.com

SGS Reference SE103142 R0  
Report Number 0000011757  
Date Reported 15 Nov 2011

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' 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:

Extraction Date	pH in water	3 Items
Analysis Date	pH in water	3 Items

## SAMPLE SUMMARY

Sample counts by matrix	3 Waters	Type of documentation received	Email
Date documentation received	9/11/11@11:15am	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.6°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

## HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
<b>Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106</b>								
DW4	SE103142.001	LB008542	03 Nov 2011	03 Nov 2011	01 Dec 2011	10 Nov 2011	01 Dec 2011	10 Nov 2011
DW5	SE103142.002	LB008542	03 Nov 2011	03 Nov 2011	01 Dec 2011	10 Nov 2011	01 Dec 2011	10 Nov 2011
DW6	SE103142.003	LB008542	03 Nov 2011	03 Nov 2011	01 Dec 2011	10 Nov 2011	01 Dec 2011	10 Nov 2011
<b>pH in water Method: ME-(AU)-[ENV]AN101</b>								
DW4	SE103142.001	LB008490	03 Nov 2011	03 Nov 2011	04 Nov 2011	<b>09 Nov 2011†</b>	04 Nov 2011	<b>10 Nov 2011†</b>
DW5	SE103142.002	LB008490	03 Nov 2011	03 Nov 2011	04 Nov 2011	<b>09 Nov 2011†</b>	04 Nov 2011	<b>10 Nov 2011†</b>
DW6	SE103142.003	LB008490	03 Nov 2011	03 Nov 2011	04 Nov 2011	<b>09 Nov 2011†</b>	04 Nov 2011	<b>10 Nov 2011†</b>

pH holding times were breached due to the late receiving of COC- samples were received at SGS on 03/11/11, COC was received on 09/11/11.

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 **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Surrogates were required for this job.



Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).  
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control LOR	BLK MB
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-ENVJAN106 LB008542.001			
Conductivity @ 25 C	µS/cm	2	<2

Duplicates are calculated as relative percent difference (RPD) using the formula  $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$   
 The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times StatisticalDetectionLimit / Mean + LimitingRepeatability$   
 Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.  
 RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Sample Name		SE103142.003-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-[ENV]AN106						
LB008542.006						
Conductivity @ 25 C	µS/cm	2	1200	1200	15	<b>2</b>

<b>pH In water</b> Method: ME-(AU)-[ENV]AN101						
LB008490.005						
pH	pH Units	-	7.3	7.3	16	<b>0</b>

Sample Name		SE103163.003-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-[ENV]AN106						
LB008542.010						
Conductivity @ 25 C	µS/cm	2	382.09	380	16	<b>0</b>

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report.  
 Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Control		LCS STD			
	Units	LOR	Result	Expected Result	Criteria %	Recovery %
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-[ENV]AN106 LB008542.002						
Conductivity @ 25 C	µS/cm	2	300	303	90 - 110	<b>100</b>
<b>pH in water</b> Method: ME-(AU)-[ENV]AN101 LB008490.001						
pH	pH Units	-	7.4	7.415	98 - 102	<b>99</b>

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Matrix Spikes were required for this job.



Matrix spike duplicates are calculated as relative percent difference using the formula  $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$   
 The original result is the analyte concentration of the matrix spike and the replicate result is the analyte concentration of the matrix spike duplicate.  
 The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $\text{MaxAllowableDifference} = 100 \times \text{StatisticalDetectionLimit} / \text{Mean} + \text{LimitingRepeatability}$   
 RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Matrix Spike Duplicates were required for this job.

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	NATA Accreditation does not cover this analysis.	NA	The sample was not analysed for this analyte
^	Performed by outside laboratory.		
LOR	Limit of Reporting		

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

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This test report shall not be reproduced, except in full.

loc received 9/11/11 @ 11:15 am



Laboratory Test Request / Chain of Custody Record

Lenko Place P O Box 880  
 PENRITH NSW 2750 PENRITH NSW 2751  
 Tel: (02) 4722 2700  
 Fax: (02) 4722 6161  
 email: info@geotech.com.au

TO: SGS ENVIRONMENTAL SERVICES  
 UNIT 16  
 33 MADDOX STREET  
 ALEXANDRIA NSW 2015

PH: 02 8594 0400 FAX: 02 8594 0499  
 ATTN: MS ANGELA MAMALICOS Project Manager: ER Location: Northwest Growth Centre, Marsden Park

Sampling By: AN Job No: 12576/1 Page 1 of 1  
 Project: Marsden Park Precinct

Results required by:

Location	Sampling details			Sample type		EC	pH	Name	Signature	Date	Received by	Signature	Date	KEEP SAMPLE
	Depth (m)	Date	Time	Soil	Water									
1 DW4					WG	✓	✓							YES
2 DW5					WG	✓	✓							YES
3 DW6					WG	✓	✓							YES

Reinquished by: ER Signature Date: 9/11/2011  
 Received by: Suba Signature: [Signature] Date: 03/11/11

Legend: WG Water sample, glass bottle USG Undisturbed soil sample (glass jar) DSP Disturbed soil sample (small plastic bag) \* Purge & Trap @ mole H<sup>2</sup>/tonne  
 WP Water sample, plastic bottle DSG Disturbed soil sample (glass jar) ✓ Test required # Geotechnique Screen



## SAMPLE RECEIPT ADVICE

SE103142

### CLIENT DETAILS

Contact Emged Rizkalla  
Client Geotechnique  
Address P.O. Box 880  
PENRITH NSW 2751

Telephone 02 4722 2700  
Facsimile 02 4722 6161  
Email Emged@geotech.com.au

Project **12576/1 - Marsden Park Precinct**  
Order Number (Not specified)  
Samples 3

### LABORATORY DETAILS

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Laboratory SGS Alexandria Environmental  
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Facsimile +61 2 8594 0499  
Email au.environmental.sydney@sgs.com

Samples Received Thu 3/11/2011  
Report Due Wed 16/11/2011  
SGS Reference **SE103142**

### SUBMISSION DETAILS

This is to confirm that 3 samples were received on Thursday 3/11/2011. Results are expected to be ready by Wednesday 16/11/2011. Please quote SGS reference SE103142 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	3 Waters	Type of documentation received	Email
Date documentation received	9/11/11@11:15am	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.6°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

### COMMENTS

Site: Northwest Growth Centre, Marsden Park.  
Sampling date was not provided. It is assumed to be as date samples were received.  
Samples analysed after the recommended maximum holding time had elapsed due to late receipt of request documentation.

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# SAMPLE RECEIPT ADVICE

SE103142

## CLIENT DETAILS

Client **Geotechnique** Project **12576/1 - Marsden Park Precinct**

## SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Water	pH in water
001	DW4	1	1
002	DW5	1	1
003	DW6	1	1

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

## CLIENT DETAILS

Contact **Emged Rizkalla**  
 Client Geotechnique  
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 PENRITH NSW 2751

Telephone 02 4722 2700  
 Facsimile 02 4722 6161  
 Email [Emged@geotech.com.au](mailto:Emged@geotech.com.au)

Project **12576/1-Marsden Park Precinct**  
 Order Number (Not specified)  
 Samples 2

## LABORATORY DETAILS

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 Alexandria NSW 2015

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 Email [au.environmental.sydney@sgs.com](mailto:au.environmental.sydney@sgs.com)

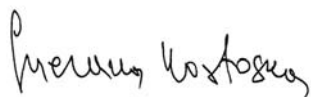
SGS Reference SE103362 R0  
 Report Number 0000012219  
 Date Reported 22 Nov 2011  
 Date Received 16 Nov 2011

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.  
 Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

Site: Northwest Growth Centre, Marsden Park

## SIGNATORIES



Snezana Kostoska  
 Inorganics Chemist

Sample Number	SE103362.001	SE103362.002
Sample Matrix	Water	Water
Sample Date	16 Nov 2011	16 Nov 2011
Sample Name	MW1-1	MW2-1

Parameter	Units	LOR
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**pH in water Method: AN101**

pH	pH Units	-	7.1	7.0
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**Conductivity and TDS by Calculation - Water Method: AN106**

Conductivity @ 25 C	µS/cm	2	24000	17000
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MB blank results are compared to the Limit of Reporting  
 LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.  
 DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Conductivity @ 25 C	LB009039	µS/cm	2	<2	2%	97%

pH in water Method: ME-(AU)-[ENV]AN101

Parameter	QC Reference	Units	LOR	DUP %RPD	LCS %Recovery
pH	LB009040	pH Units	-	0 - 2%	99%

METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water 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 $\mu\text{mhos/cm}$ or $\mu\text{S/cm @ 25}^\circ\text{C}$ . 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 2520 B.

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	This analysis is not covered by the scope of accreditation.	-	The sample was not analysed for this analyte
^	Performed by outside laboratory.	NVL	Not Validated
LOR	Limit of Reporting		
↑↓	Raised or Lowered Limit of Reporting		

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

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

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# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE103362 R0

## CLIENT DETAILS

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Project **12576/1-Marsden Park Precinct**  
Order Number (Not specified)  
Samples 2

## LABORATORY DETAILS

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SGS Reference SE103362 R0  
Report Number 0000012237  
Date Reported 22 Nov 2011

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' 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.

## SAMPLE SUMMARY

Sample counts by matrix	2 Waters	Type of documentation received	COC
Date documentation received	16/11/2011	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

## HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-[ENV]AN106								
MW1-1	SE103362.001	LB009039	16 Nov 2011	16 Nov 2011	14 Dec 2011	18 Nov 2011	14 Dec 2011	18 Nov 2011
MW2-1	SE103362.002	LB009039	16 Nov 2011	16 Nov 2011	14 Dec 2011	18 Nov 2011	14 Dec 2011	18 Nov 2011
<b>pH in water</b> Method: ME-(AU)-[ENV]AN101								
MW1-1	SE103362.001	LB009040	16 Nov 2011	16 Nov 2011	17 Nov 2011	17 Nov 2011	17 Nov 2011	17 Nov 2011
MW2-1	SE103362.002	LB009040	16 Nov 2011	16 Nov 2011	17 Nov 2011	17 Nov 2011	17 Nov 2011	17 Nov 2011

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 **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Surrogates were required for this job.



Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).  
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control LOR	BLK MB
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-[ENV]AN106 LB009039.001			
Conductivity @ 25 C	µS/cm	2	<2

Duplicates are calculated as relative percent difference (RPD) using the formula  $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$   
 The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times StatisticalDetectionLimit / Mean + LimitingRepeatability$   
 Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.  
 RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Sample Name			SE103340.001-DUP			
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %
<b>pH in water</b> Method: ME-(AU)-ENVJAN101						
LB009040.006						
pH	pH Units	-	7.497	7.6	16	<b>2</b>

Sample Name			SE103341.001-DUP			
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %
<b>pH in water</b> Method: ME-(AU)-ENVJAN101						
LB009040.008						
pH	pH Units	-	6.378	6.5	17	<b>2</b>

Sample Name			SE103362.002-DUP			
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-ENVJAN106						
LB009039.005						
Conductivity @ 25 C	µS/cm	2	17000	17000	15	<b>2</b>

<b>pH in water</b> Method: ME-(AU)-ENVJAN101						
LB009040.012						
pH	pH Units	-	7.0	7.0	16	<b>0</b>

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report.  
 Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Control		LCS STD			
	Units	LOR	Result	Expected Result	Criteria %	Recovery %
<b>Conductivity and TDS by Calculation - Water</b> Method: ME-(AU)-[ENV]AN106 LB009039.002						
Conductivity @ 25 C	µS/cm	2	290	303	90 - 110	<b>97</b>
<b>pH in water</b> Method: ME-(AU)-[ENV]AN101 LB009040.001						
pH	pH Units	-	7.4	7.415	98 - 102	<b>99</b>

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Matrix Spikes were required for this job.

Matrix spike duplicates are calculated as relative percent difference using the formula  $RPD = \frac{|OriginalResult - ReplicateResult|}{Mean} \times 100$

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

The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times \frac{StatisticalDetectionLimit}{Mean} + LimitingRepeatability$

RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Matrix Spike Duplicates were required for this job.

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	NATA Accreditation does not cover this analysis.	NA	The sample was not analysed for this analyte
^	Performed by outside laboratory.		
LOR	Limit of Reporting		

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

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## SAMPLE RECEIPT ADVICE

SE103362

### CLIENT DETAILS

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Project **12576/1-Marsden Park Precinct**  
Order Number (Not specified)  
Samples 2

### LABORATORY DETAILS

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Samples Received Wed 16/11/2011  
Report Due Thu 24/11/2011  
SGS Reference **SE103362**

### SUBMISSION DETAILS

This is to confirm that 2 samples were received on Wednesday 16/11/2011. Results are expected to be ready by Thursday 24/11/2011. Please quote SGS reference SE103362 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	2 Waters	Type of documentation received	COC
Date documentation received	16/11/2011	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

### COMMENTS

Site: Northwest Growth Centre, Marsden Park.  
Samples received at SGS on 16/11/2011@5:19pm.. Samples were not registered until the next working day.

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# SAMPLE RECEIPT ADVICE

SE103362

## CLIENT DETAILS

Client	Geotechnique	Project	12576/1-Marsden Park Precinct
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## SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Water	pH in water
001	MW1-1	1	1
002	MW2-1	1	1

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

## APPENDIX G

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### SALINITY TABLES

**TABLE AA1**  
**ELECTRICAL CONDUCTIVITY RESULTS (Depth 0.0 to 0.1m)**

Sample Location	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	TP9	TP10	TP11	TP12	TP13	TP14	TP15
Depth	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
pH	5.7	5.8	6	6.2	5.8	5.4	5.6	5.2	5.4	7.4	6.3	5.6	5.8	5.7	6
Electrical Conductivity (µS/cm)	380	600	32	40	91	140	33	3200	260	260	200	110	87	360	53
Electrical Conductivity (dS/m)	0.38	0.6	0.032	0.04	0.091	0.14	0.033	3.2	0.26	0.26	0.2	0.11	0.087	0.36	0.053
Multiplication Factor*	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	10	8.5	8.5	8.5	8.5	8.5
Electrical Conductivity of Saturated Extract (dS/m)	3.23	5.10	0.27	0.34	0.77	1.19	0.28	27.20	2.21	2.60	1.70	0.94	0.74	3.06	0.45
Sample Location	TP16	TP17	TP18	TP19	TP20	TP21	TP22	TP23	TP24	TP25	TP26	TP27	TP28	TP29	TP30
Depth	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
pH	5.3	6	5.9	5.6	5.9	6.1	5.7	5.8	6.4	5.3	6.1	5.5	5.9	6.2	5.8
Electrical Conductivity (µS/cm)	1.7	14	170	140	140	41	270	440	340	3900	260	1200	43	38	21
Electrical Conductivity (dS/m)	0.0017	0.014	0.17	0.14	0.14	0.041	0.27	0.44	0.34	3.9	0.26	1.2	0.043	0.038	0.021
Multiplication Factor*	8.5	8.5	8.5	8.5	9.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
Electrical Conductivity of Saturated Extract (dS/m)	0.01	0.12	1.45	1.19	1.33	0.35	2.30	3.74	2.89	33.15	2.21	10.20	0.37	0.32	0.18
Sample Location	TP31	TP32	TP33	TP34	TP35	TP36	TP37	TP38	TP39	TP40	TP41	TP42	TP43	TP44	TP45
Depth	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
pH	6.6	6.2	5.3	5.9	6.4	5.9	5.5	5.5	6.1	6	6.2	6.5	7	6.2	6.7
Electrical Conductivity (µS/cm)	160	1200	1500	52	61	99	21	22	720	36	38	33	130	47	61
Electrical Conductivity (dS/m)	0.16	1.2	1.5	0.052	0.061	0.099	0.021	0.022	0.72	0.036	0.038	0.033	0.13	0.047	0.061
Multiplication Factor*	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
Electrical Conductivity of Saturated Extract (dS/m)	1.36	10.20	12.75	0.44	0.52	0.84	0.18	0.19	6.12	0.31	0.32	0.28	1.11	0.40	0.52
Sample Location	TP46	TP47	TP48	TP49	TP50	TP51	TP52	TP53	TP54	TP55	TP56	TP57	TP58	TP59	TP60
Depth	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
pH	6.3	7.1	7.2	6.5	6.4	6.2	6.2	7.4	6.5	7.6	5.6	6.4	6.8	6.6	5.3
Electrical Conductivity (µS/cm)	48	110	62	70	54	58	37	120	72	250	43	42	180	110	610
Electrical Conductivity (dS/m)	0.048	0.11	0.062	0.07	0.054	0.058	0.037	0.12	0.072	0.25	0.043	0.042	0.18	0.11	0.61
Multiplication Factor*	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8	8	8	8.5	8.5	8	8	8.5
Electrical Conductivity of Saturated Extract (dS/m)	0.41	0.94	0.53	0.60	0.46	0.49	0.31	0.96	0.58	2.00	0.37	0.36	1.44	0.88	5.19
Sample Location	TP61	TP62	TP63	TP64	TP65	TP66	TP67	TP68	TP69	TP70	TP74	TP77	TP78	Average	
Depth	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	8.1	
pH	6.2	6.4	6	8.3	6	7.3	6.8	6	6	6.5	6.3	150	5.5	8.1	
Electrical Conductivity (µS/cm)	54	81	35	370	150	290	140	44	18	140	830	36	160	8.1	
Electrical Conductivity (dS/m)	0.054	0.081	0.035	0.37	0.15	0.29	0.14	0.044	0.018	0.14	0.83	0.036	0.16	8.1	
Multiplication Factor*	8.5	8.5	8.5	8	6	8	8.5	8.5	8.5	8.5	8.5	8	8	8.1	
Electrical Conductivity of Saturated Extract (dS/m)	0.46	0.69	0.30	2.96	0.90	2.32	1.19	0.37	0.15	1.19	7.06	0.29	1.28	2.5	

\*Multiplication factors:

- 9 Clay loams
- 8.5 Light (low plasticity) clays
- 8 Low to medium plasticity clay
- 7 Medium plasticity clays
- 6 High plasticity clays

- Moderately Saline (4-8dS/m)
- Very Saline (8 -16dS/m)
- Highly Saline (>16dS/m)

**TABLE AA2**  
**ELECTRICAL CONDUCTIVITY RESULTS (Depth 0.5m to 1m)**

Sample Location	TP2	TP3	TP5	TP6	TP9	TP11	TP14	TP16	TP19	TP20	TP23	TP26	TP27	TP28
Depth	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.6-0.7	0.6-0.7	0.6-0.7	0.6-0.7	0.5-0.6	0.5-0.7	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6
pH	4.6	5.2	5.5	0.5	4.6	5.3	4.8	5.3	5	5.7	5.8	5.6	4.8	5.2
Electrical Conductivity (uS/cm)	490	79	100	88	610	480	580	350	460	720	500	300	620	280
Electrical Conductivity (dS/m)	0.49	0.079	0.1	0.088	0.61	0.48	0.58	0.35	0.46	0.72	0.5	0.3	0.62	0.28
Multiplication Factor*	6	7	6	8.5	6	6	6	6	6	7	6	6	7	6
Electrical Conductivity of Saturated Extract (dS/m)	2.94	0.55	0.60	0.75	3.66	2.88	3.48	2.10	2.76	5.04	3.00	1.80	4.34	1.68
Sample Location	TP32	TP34	TP38	TP40	TP42	TP44	TP46	TP48	TP50	TP52	TP54	TP56	TP58	TP60
Depth	0.6-0.7	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6
pH	7.3	5.9	6.7	8.9	5.9	5	5.2	5.1	5.1	5.7	5.1	5	5.3	5.3
Electrical Conductivity (uS/cm)	2000	52	320	250	44	570	170	140	320	310	520	260	810	1300
Electrical Conductivity (dS/m)	2	0.052	0.32	0.25	0.044	0.57	0.17	0.14	0.32	0.31	0.52	0.26	0.81	1.3
Multiplication Factor*	7	6	8.5	7	6	6	8.5	6	8	6	6	6	6	6
Electrical Conductivity of Saturated Extract (dS/m)	14.00	0.31	2.72	1.75	0.26	3.42	1.45	0.84	2.56	1.86	3.12	1.56	4.86	7.80
Sample Location	TP62	TP63	TP65	TP67	TP69	TP71	TP75	TP79					Average	
Depth:	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6					5.4	
pH	6.3	5	6.7	5.2	5.1	8.2	4.8	4.9						
Electrical Conductivity (uS/cm)	240	150	230	420	210	1100	500	310						
Electrical Conductivity (dS/m)	0.24	0.15	0.23	0.42	0.21	1.1	0.5	0.31						
Multiplication Factor*	6	7	6	6	6	7	6	7						
Electrical Conductivity of Saturated Extract (dS/m)	1.44	1.05	1.38	2.52	1.26	7.70	3.00	2.17					2.9	

\*Multiplication factors:

- 9 Clay loams
- 8.5 Light (low plasticity) clays
- 8 Low to medium plasticity clay
- 7 Medium plasticity clays
- 6 High plasticity clays

- Moderately Saline (4-8dS/m)
- Very Saline (8 -16dS/m)
- Highly Saline (>16dS/m)

**TABLE AA3**  
**ELECTRICAL CONDUCTIVITY RESULTS (Depth 1.0 - 2.0m)**

<b>Sample Location</b>	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	TP9	TP10	TP11	TP12	TP13	TP14	TP15	TP16
<b>Depth</b>	1.0-1.1	1.5-1.6	1.5-1.6	1.0-1.1	1.5-1.6	1.5-1.6	1.0-1.1	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.0-1.1	1.7-1.8	1.0-1.1	1.5-1.6
<b>pH</b>	5.6	5.8	4.9	6.2	6.1	5.7	6.2	7	4.5	4.7	5.6	4.8	5	6.2	5	5
<b>Electrical Conductivity (µS/cm)</b>	450	700	54	40	28	67	56	1800	400	420	1200	530	490	570	290	830
<b>Electrical Conductivity (dS/m)</b>	0.45	0.7	0.054	0.04	0.028	0.067	0.056	1.8	0.4	0.42	1.2	0.53	0.49	0.57	0.29	0.83
<b>Multiplication Factor*</b>	6	6	7	6	8	6	8.5	6	6	6	7	6	6	6	6.5	6
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	2.70	4.20	0.38	0.24	0.22	0.40	0.48	10.80	2.40	2.52	8.40	3.18	2.94	3.42	1.89	4.98
<b>Sample Location</b>	TP17	TP18	TP19	TP20	TP21	TP22	TP23	TP24	TP25	TP26	TP27	TP28	TP29	TP30	TP31	TP32
<b>Depth</b>	1.0-1.1	1.0-1.1	1.5-1.6	1.5-1.6	1.0-1.1	1.0-1.1	1.5-1.6	1.5-1.6	1.2-1.3	1.5-1.6	1.5-1.6	1.5-1.6	1.1-1.2	1.0-1.1	1.0-1.1	1.5-1.6
<b>pH</b>	5.4	5	4.4	6.4	5	7.1	5.1	6.7	7.6	5.4	5.9	5.2	5.8	5.8	6.4	7.8
<b>Electrical Conductivity (µS/cm)</b>	200	940	1200	1100	980	980	1400	1100	1900	400	560	280	540	61	94	1700
<b>Electrical Conductivity (dS/m)</b>	0.2	0.94	1.2	1.1	0.98	0.98	1.4	1.1	1.9	0.4	0.56	0.28	0.54	0.061	0.094	1.7
<b>Multiplication Factor*</b>	7	6	6	7	6	6	6	6	7	7	7	7	6	6	7	7
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	1.40	5.64	7.20	7.70	5.88	5.88	8.40	6.60	13.30	2.80	3.92	1.96	3.24	0.37	0.66	11.90
<b>Sample Location</b>	TP33	TP34	TP35	TP36	TP37	TP38	TP39	TP40	TP41	TP42	TP43	TP44	TP45	TP46	TP47	TP48
<b>Depth</b>	1.0-1.1	1.5-1.6	1.0-1.1	1.0-1.1	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.0-1.1
<b>pH</b>	6.8	5.1	6.5	5.1	6.4	7.5	6.1	7.3	6.5	6.5	4.9	4.7	4.5	6	4.9	5.6
<b>Electrical Conductivity (µS/cm)</b>	1300	790	1200	1100	440	670	25	180	35	34	860	760	1200	44	1000	69
<b>Electrical Conductivity (dS/m)</b>	1.3	0.79	1.2	1.1	0.44	0.67	0.025	0.18	0.035	0.034	0.86	0.76	1.2	0.044	1	0.069
<b>Multiplication Factor*</b>	6	7	6	6	6.5	6	6	7	8.5	8	6.5	7	6	6	6	8.5
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	7.80	5.53	7.20	6.60	2.86	4.02	0.15	1.26	0.30	0.27	5.59	5.32	7.20	0.26	6.00	0.59
<b>Sample Location</b>	TP49	TP50	TP51	TP52	TP53	TP54	TP55	TP56	TP57	TP58	TP59	TP60	TP61	TP62	TP63	TP64
<b>Depth</b>	1.5-1.6	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.0-1.1	1.0-1.1	1.5-1.6	1.0-1.1	1.0-1.1
<b>pH</b>	6.5	4.4	9.5	9.2	6	7	6.7	4.9	7.4	6.3	4.5	4.5	5.7	4.6	5	4.4
<b>Electrical Conductivity (µS/cm)</b>	70	1100	520	860	800	1100	390	1100	1300	1200	1200	1600	160	2000	550	1200
<b>Electrical Conductivity (dS/m)</b>	0.07	1.1	0.52	0.86	0.8	1.1	0.39	1.1	1.3	1.2	1.2	1.6	0.16	2	0.55	1.2
<b>Multiplication Factor*</b>	6	6	8.5	8.5	8	8.5	8.5	6	6	6	6	6	6	6	8.5	6
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	0.42	6.60	4.42	7.31	6.40	9.35	3.32	6.60	7.80	7.20	7.20	9.60	0.96	12.00	4.68	7.20
<b>Sample Location</b>	TP65	TP66	TP67	TP68	TP69	TP71	TP72	TP73	TP75	TP76	TP77	TP80	<b>Average</b>			
<b>Depth</b>	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1	1.5-1.6	1.5-1.6	1.0-1.1	1.5-1.6	1.5-1.6	1.0-1.1	1.5-1.6	1.0-1.1				
<b>pH</b>	4.9	4.9	6.7	4.8	4.8	4.8	4.6	4.6	4.5	4.6	4.9	4.4				
<b>Electrical Conductivity (µS/cm)</b>	1400	520	680	660	890	910	630	1100	640	780	240	830				
<b>Electrical Conductivity (dS/m)</b>	1.4	0.52	0.68	0.66	0.89	0.91	0.63	1.1	0.64	0.78	0.24	0.83				
<b>Multiplication Factor*</b>	6	6	6	6	6	8.5	6	6	6	6	6	7				
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	8.40	3.12	4.08	3.96	5.34	7.74	3.78	6.60	3.84	4.68	1.44	5.81				

\*Multiplication factors:

- 9 Clay loams
- 8.5 Light (low plasticity) clays
- 8 Low to medium plasticity clay
- 7 Medium plasticity clays
- 6 High plasticity clays

- Moderately Saline (4-8dS/m)
- Very Saline (8 -16dS/m)
- Highly Saline (>16dS/m)

**TABLE AA4  
ELECTRICAL CONDUCTIVITY RESULTS (>2m)**

<b>Sample Location</b>	TP1	TP4	TP7	TP8	TP10	TP12	TP13	TP15	TP17	TP18	TP21	TP22	TP24
<b>Depth</b>	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.3-2.4
<b>pH</b>	6.4	5.6	6.5	7.3	4.6	4.9	5.2	5.3	5.6	5.3	5.1	7.3	6.8
<b>Electrical Conductivity (µS/cm)</b>	760	120	34	1800	930	940	330	920	350	810	1600	1400	1300
<b>Electrical Conductivity (dS/m)</b>	0.76	0.12	0.034	1.8	0.93	0.94	0.33	0.92	0.35	0.81	1.6	1.4	1.3
<b>Multiplication Factor*</b>	6	6	8.5	7	6	6	6	6	7	7	6	6	6
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	4.56	0.72	0.29	12.60	5.58	5.64	1.98	5.52	2.45	5.67	9.60	8.40	7.80
<b>Sample Location</b>	TP25	TP29	TP30	TP33	TP35	TP36	TP37	TP39	TP41	TP43	TP45	TP47	TP49
<b>Depth</b>	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-1.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1
<b>pH</b>	7.4	6	6.7	6.7	7.2	4.9	6.3	5.1	6.5	4.7	4.9	4.8	4.7
<b>Electrical Conductivity (µS/cm)</b>	1700	520	63	1200	1200	1100	480	880	28	1100	800	910	850
<b>Electrical Conductivity (dS/m)</b>	1.7	0.52	0.063	1.2	1.2	1.1	0.48	0.88	0.028	1.1	0.8	0.91	0.85
<b>Multiplication Factor*</b>	7	6	6	6	7	6	6.5	6.5	6.5	6.5	6.5	6.5	6.5
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	11.90	3.12	0.38	7.20	8.40	6.60	3.12	5.72	0.18	7.15	5.20	5.92	5.53
<b>Sample Location</b>	TP51	TP53	TP55	TP57	TP59	TP61	TP61	TP64	TP66	TP68	TP71	<b>Average</b>	
<b>Depth</b>	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1		
<b>pH</b>	9.4	5.4	5	7.5	4.5	6.5	6.5	4.8	5.8	5	8	<b>5.5</b>	
<b>Electrical Conductivity (µS/cm)</b>	310	910	940	1200	1400	550	550	840	1000	730	220		
<b>Electrical Conductivity (dS/m)</b>	0.31	0.91	0.94	1.2	1.4	0.55	0.55	0.84	1	0.73	0.22		
<b>Multiplication Factor*</b>	6.5	6.5	6.5	8	9	6.5	6.5	6.5	6.5	6.5	6.5		
<b>Electrical Conductivity of Saturated Extract (dS/m)</b>	2.02	5.92	6.11	9.60	12.60	3.58	3.58	5.46	6.50	4.75	1.43	<b>5.3</b>	

\*Multiplication factors:

- 9 Clay loams
- 8.5 Light (low plasticity) clays
- 8 Low to medium plasticity clay
- 7 Medium plasticity clays
- 6 High plasticity clays

- Moderately Saline (4-8dS/m)
- Very Saline (8 -16dS/m)
- Highly Saline (>16dS/m)



**TABLE AB**  
**AGGRESSIVITY RESULTS**

<b>Sample Location</b>	TP1	TP3	TP6	TP7	TP9	TP14	TP19	TP28	TP31	TP33
<b>Depth (m)</b>	0.0-0.1	0.0-0.1	0.0-0.1	1.0-1.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
<b>Chloride, Cl (mg/kg)</b>	580	13	9.8	45	390	380	150	19	97	2100
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	55	8.6	33	43	2.1	170	34	13	96	310
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	44	7	26	34	2	136	27	10	77	248
<b>Magnesium (mg/kg)</b>	620	150	430	320	250	700	330	170	520	420
<b>Sample Location</b>	TP36	TP42	TP49	TP55	TP58	TP2	TP11	TP16	TP20	TP23
<b>Depth (m)</b>	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.5-0.6	0.6-0.7	0.6-0.7	0.5-0.6	0.5-0.6
<b>Chloride, Cl (mg/kg)</b>	65	28	23	150	140	740	670	690	990	460
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	31	13	11	67	77	6.9	42	110	230	180
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	25	10	9	54	62	6	34	88	184	144
<b>Magnesium (mg/kg)</b>	220	500	430	760	390	800	1100	970	520	720
<b>Sample Location</b>	TP26	TP32	TP38	TP43	TP44	TP54	TP60	TP62	TP63	TP67
<b>Depth (m)</b>	0.5-0.6	0.6-0.7	0.5-0.6	0.6-0.9	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6
<b>Chloride, Cl (mg/kg)</b>	390	2700	290	2700	540	560	2000	210	190	210
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	56	330	240	330	430	190	380	90	960	420
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	45	264	192	264	344	152	304	72	768	336
<b>Magnesium (mg/kg)</b>	400	780	1000	782	1100	1300	1000	1100	1300	1400
<b>Sample Location</b>	TP79	TP10	TP15	TP17	TP21	TP22	TP25	TP29	TP30	TP35
<b>Depth (m)</b>	0.5-0.6	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.2-1.3	1.1-1.2	1.0-1.1	1.0-1.1
<b>Chloride, Cl (mg/kg)</b>	310	470	260	180	890	1100	2200	540	48	1200
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	140	210	190	130	270	190	370	250	24	220
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	112	168	152	104	216	152	296	200	19	176
<b>Magnesium (mg/kg)</b>	760	810	680	1200	2500	870	1300	870	630	2100
<b>Sample Location</b>	TP39	TP48	TP51	TP53	TP59	TP68	TP75	TP5	TP19	TP27
<b>Depth (m)</b>	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.5-1.6	1.5-1.6	1.5-1.6
<b>Chloride, Cl (mg/kg)</b>	7.6	45	210	210	1900	540	500	130	1500	630
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	8.5	59	320	320	390	270	340	130	47	160
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	7	47	256	256	312	216	272	104	38	128
<b>Magnesium (mg/kg)</b>	400	250	640	400	640	2200	1300	850	1300	670
<b>Sample Location</b>	TP34	TP40	TP46	TP50	TP52	TP56	TP65	TP69	TP70	TP73
<b>Depth (m)</b>	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6
<b>Chloride, Cl (mg/kg)</b>	910	140	80	1000	900	1600	1500	930	840	1100
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	180	120	150	350	140	360	230	330	400	290
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	144	96	120	280	112	288	184	264	320	232
<b>Magnesium (mg/kg)</b>	830	470	1100	1300	490	860	870	1300	710	1900
<b>Sample Location</b>	TP77	TP4	TP8	TP12	TP13	TP18	TP24	TP37	TP41	TP45
<b>Depth (m)</b>	1.5-1.6	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.3-2.4	2.0-2.1	2.0-2.1	2.0-2.1
<b>Chloride, Cl (mg/kg)</b>	140	96	2700	1200	290	640	1600	600	9.1	1100
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	73	110	210	320	100	92	280	160	30	240
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	58	88	168	256	80	74	224	128	24	192
<b>Magnesium (mg/kg)</b>	1100	710	620	1200	1000	1600	1100	680	240	700
<b>Sample Location</b>	TP47	TP57	TP61	TP64	TP66					
<b>Depth (m)</b>	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1					
<b>Chloride, Cl (mg/kg)</b>	1100	1700	700	1200	1300					
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	610	220	200	1.8	390					
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	488	176	160	1	312					
<b>Magnesium (mg/kg)</b>	1200	1100	680	930	960					
<b>Average</b>	<b>Overall</b>	<b>Surface</b>	<b>0.1-1.0m</b>	<b>1.0-2.0</b>	<b>&gt;2.0m</b>					
<b>Chloride, Cl (mg/kg)</b>	<b>717</b>	<b>378</b>	<b>710</b>	<b>723</b>	<b>1017</b>					
<b>Sulphate, SO<sub>4</sub> (mg/kg)</b>	<b>194</b>	<b>78</b>	<b>667</b>	<b>217</b>	<b>212</b>					
<b>Sulphate, SO<sub>3</sub> (mg/kg)</b>	<b>156</b>	<b>54</b>	<b>251</b>	<b>174</b>	<b>169</b>					
<b>Magnesium (mg/kg)</b>	<b>860</b>	<b>271</b>	<b>435</b>	<b>1018</b>	<b>909</b>					

**TABLE AC  
SODICITY RESULTS**

<b>Sample Location</b>	TP1	TP3	TP6	TP9	TP14	TP19	TP28	TP31	TP33	TP36	TP42
<b>Depth (m)</b>	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
<b>Sodium (meq%)</b>	1.9	4	0.2	0.96	2	0.65	0.42	1	5.6	0.52	0.28
<b>CEC (meq%)</b>	4.9	8.8	5.2	3.8	10	5.5	3	7.5	9.8	34	12
<b>ESP (%)</b>	39	45	4	25	20	12	14	13	57	2	2
<b>Sample Location</b>	TP49	TP55	TP58	TP2	TP11	TP16	TP20	TP23	TP26	TP32	TP38
<b>Depth (m)</b>	0.0-0.1	0.0-0.1	0.0-0.1	0.5-0.6	0.6-0.7	0.6-0.7	0.5-0.6	0.5-0.6	0.5-0.6	0.6-0.7	0.5-0.6
<b>Sodium (meq%)</b>	0.17	1.3	0.7	2.2	2.1	4	4	2.6	1.1	7.8	4.3
<b>CEC (meq%)</b>	12	16	15	9.1	14	13	8.8	9	4.6	15	13
<b>ESP (%)</b>	1	8	5	24	15	31	45	29	24	52	33
<b>Sample Location</b>	TP54	TP60	TP62	TP63	TP67	TP79	TP7	TP10	TP15	TP17	TP21
<b>Depth (m)</b>	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	0.5-0.6	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1
<b>Sodium (meq%)</b>	4.8	5.2	1.8	3.2	2.9	2.7	0.33	2.6	2.4	4.3	8.3
<b>CEC (meq%)</b>	19	14	15	15	21	12	6.2	10	8.5	14	30
<b>ESP (%)</b>	25	37	12	21	14	23	5	26	28	31	28
<b>Sample Location</b>	TP22	TP25	TP29	TP30	TP35	TP39	TP43	TP48	TP51	TP53	TP59
<b>Depth (m)</b>	1.0-1.1	1.2-1.3	1.1-1.2	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1	1.0-1.1
<b>Sodium (meq%)</b>	7.4	12	4.8	0.42	10	0.15	4.8	0.37	3.6	2.2	4.3
<b>CEC (meq%)</b>	15	24	12	6.2	28	10	12	17	26	11	11
<b>ESP (%)</b>	49	50	40	7	36	2	40	2	14	20	39
<b>Sample Location</b>	TP68	TP75	TP5	TP19	TP27	TP34	TP40	TP46	TP50	TP52	TP56
<b>Depth (m)</b>	1.0-1.1	1.0-1.1	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6
<b>Sodium (meq%)</b>	10	5.2	3.3	8.3	3.3	3.9	1.7	3.7	5.6	3.6	5.6
<b>CEC (meq%)</b>	29	17	11	19	9.4	11	8.5	13	18	31	14
<b>ESP (%)</b>	34	31	30	44	35	35	20	28	31	12	40
<b>Sample Location</b>	TP65	TP69	TP70	TP73	TP77	TP4	TP8	TP12	TP13	TP18	TP24
<b>Depth (m)</b>	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	1.5-1.6	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.3-2.4
<b>Sodium (meq%)</b>	5.2	4.8	4.2	10	2.6	2	7.8	7.8	4	8.7	8.3
<b>CEC (meq%)</b>	13	17	12	26	12	8.3	14	19	13	23	18
<b>ESP (%)</b>	40	28	35	38	22	24	56	41	31	38	46
<b>Sample Location</b>	TP37	TP41	TP45	TP47	TP57	TP61	TP64	TP66			
<b>Depth (m)</b>	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1	2.0-2.1			
<b>Sodium (meq%)</b>	3.8	0.19	4.8	5.2	7	4	3.7	6.5			
<b>CEC (meq%)</b>	10	4.1	11	16	17	11	12	15			
<b>ESP (%)</b>	38	5	44	33	41	36	31	43			
<b>Average Surface</b>	18										
<b>Average &lt;1m</b>	28										
<b>Average 1 -2m</b>	29										
<b>Average &gt;2m</b>	36										
<b>Average ESP (%)</b>	28										

## APPENDIX H

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### LABORATORY TEST METHOD & QUALITY AND QA/QC DATA EVALUATION

## LABORATORY QUALITY ASSESSMENT AND QUALITY CONTROL

### Laboratory Accreditation

Laboratories accredited by NATA for chemical analyses were used for analysis of samples recovered as part of this assessment. The laboratories must also incorporate quality laboratory management systems to ensure that trained analysts, using validated methods and suitably calibrated equipment, produce reliable results.

In addition to the quality control samples, the laboratories must also ensure that all analysts receive certification as to their competence in carrying out the analysis and participate in national and international proficiency studies. SGS and Envirolab, the two laboratories used for this assessment, are both accredited by NATA. The two laboratories also operate Quality Systems that are designed to comply with ISO/IEC 17025.

### Sample Holding Times

The following table lists the allowable holding times of soils, detailed in Schedule B(3) of The National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM) prepared by the National Environment Protection Council (NEPC). No specific holding time for asbestos identification.

ANALYTE	HOLDING TIME
Metals *	6 months
Mercury (Hg)	28 days
Total Petroleum Hydrocarbons (TPH)	14 days
Benzene, Toluene, Ethyl benzene and Xylenes (BTEX)	14 days
Polycyclic Aromatic Hydrocarbons (PAH)	14 days
Organochlorine Pesticides (OCP)	14 days
Polychlorinated Biphenyls (PCB)	14 days
Phenols	14 days
Conductivity (EC)	7 days
pH	7 days
Sulphate	7 days
Chloride	7 days

\* Metals include Arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb) and zinc (Zn)

The following table lists the allowable holding times of water, detailed in Standard Methods for the Examination of Water and Wastewater (APHA).

ANALYTE	HOLDING TIME
Metals *	6 months
Hg	28 days
TPH	14 days
BTEX	14 days
PAH	7 days

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ANALYTE	HOLDING TIME
OCP	14 days
PCB	14 days
Phenols	7 days
Nitrate	2 days
Nitrite	2 days
Ammonia Nitrogen	28 days
Total Kjeldahl Nitrogen (TKN)	28 days
Phosphorus	28 days
Hardness as CaCO <sub>3</sub>	6 months
EC	28 days
pH	6 hours

\* Metals include Arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg) and zinc (Zn)

The actual holding times of the two laboratories used for this assessment are shown in the following table. All analyses were conducted generally within the relevant holding times.

Laboratory	Report No	Sampling Date	Sample Receipt	Date Extracted (Analysed)	Holding Time
SGS	SE102942 R1	27-28/09/2011	31/10/2011	01-08/11/2011 (03-08/11/2011)	4-12 days
SGS	SE102942A R0	27-28/10/2011	31/10/2011	10-14/11/2011 (14-16/11/2011)	11-18 days
SGS	SE103054 R0	31/10/2011 to 02/11/2011	03/11/2011	08-10/11/2011 (08-10/11/2011)	6-10 days
SGS	SE103054A R1	31/10/2011 to 02/11/2011	03/11/2011	14-18/11/2011 (18-22/11/2011)	12-18 days
SGS	SE103066 R0	03/11/2011	04/11/2011	08-10/11/2011 (08-11/11/2011)	5-7 days
SGS	SE103091 R1	04/11/2011	07/11/2011	08-09/11/2011 (09-11/11/2011)	4-5 days
SGS	SE103363 R0	16/11/2011	16/11/2011	17-28/11/2011 (18-28/11/2011)	1-12 days
SGS	SE103363A R0	16/11/2011	16/11/2011	05/12/2011 (05/12/2011)	19 days
SGS	SE102941 R0	27-28/10/2011	31/10/2011	01/11/2011 (02/11/2011)	4-5 days
SGS	SE102938 R0	27-28/10/2011	31/10/2011	01-02/11/2011 (01-07/11/2011)	4-5 days
SGS	SE102128 R0	04/11/2011	07/11/2011	10/11/2011 (11- 14/11/2011)	6 days
SGS	SE103142 R0	03/11/2011	03/11/2011	09-10/11/2011 (10/11/2011)	6-7 days

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Laboratory Test Methods & Quality and QA/QC Data Evaluation

Laboratory	Report No	Sampling Date	Sample Receipt	Date Extracted (Analysed)	Holding Time
SGS	SE103092 R0	31-03/11/2011	04/11/2011	07-09/11/2011 (07-16/11/2011)	4-9 days
SGS	SE103362 R0	16/11/2011	16/11/2011	17-18/11/2011 (17-18/11/2011)	1-2 days
ENVIROLAB	64171	28/10/2010	31/10/2011	01/11/2011 (02-03/11/2011)*	4-5 days
ENVIROLAB	64416	01/11/2011	04/11/2011	05/11/2011 (06-07/11/2011)	4 days
ENVIROLAB	64522	04/11/2011	07/11/2011	08-09/11/2011 (09-10/11/2011)	4-5 days
ENVIROLAB	65082	16/11/2011	16/11/2011	16-22/11/2011 (17-22/11/2011)	0-6 days

Note: \* : Extracted and analysed dates for metals analyses are not reported in all Envirolab reports  
NA: Not Applicable (Asbestos)

#### **Test Methods and Limits of Reporting (LOR)/ Practical Quantitation Limits (PQL)**

The test methods adopted by SGS and Envirolab are indicated with the certificates in Appendix B. The methods used by the laboratories generally comply with those listed in the NEPM and the Australian and New Zealand Environment and Conservation Council (ANZECC)-1996 "Guidelines for the Laboratory Analysis of Contaminated Soils". Alternate methods used by the laboratories (i.e. not identified in the NEPM and ANZECC guidelines) have been validated by the laboratories, as recommended in the NEPM and ANZECC guidelines, and endorsed by NATA.

The samples analysed for TPH (C<sub>6</sub>-C<sub>9</sub>) and/or BTEX were extracted by the purge and trap method recommended by the NSW EPA.

All reported laboratory Limits of Reporting (LOR) / Practical Quantitation Limits (PQL) were less than the assessment criteria adopted for each analyte or analyte group.

#### **Reagent Blanks**

Reagent blank samples are designed to monitor the introduction of incidental or accidental interferences into the analysis, which might result in a false increase in analyte concentration. The blank comprises reagents specific to each individual analytical method and is analysed in the same manner as the site sample. The reagents are carried through the preparation, extraction and digestion procedures and analysed at the beginning of every sample batch analysis, or at least 1 in 20 samples.

Reagent blank samples for soil samples were analysed by the primary and secondary laboratories for Metals, TPH, TPH-Silica gel, BTEX, PAH, OCP, PCB, Phenol, Phosphorus, Nitrate, Nitrite, Ammonia, Hardness as CaCO<sub>3</sub>, EC, pH, Chloride and Sulphate.

The reagent blank sample for the rinsate water sample was analysed for Metals by the primary laboratory (SGS).

All reported blank concentrations were below the LOR or PQL, as detailed in the laboratory test results certificates from SGS and Envirolab respectively. The results complied with the acceptance criteria for each laboratory (must not be detected at the LOR/PQL).

The test results indicate that there was no interference to the analysis.

### **Laboratory Duplicate Samples**

The laboratory prepares duplicate samples from the supplied samples (original samples) and/or laboratory spiked samples and carries out preparation and testing in the same manner as the original sample. The duplicate sample provides an indication of laboratory precision and reproducibility.

The laboratory prepared duplicates were analysed for Metals, TPH, BTEX, PAH, OCP, and PCB.

The comparisons between the laboratory duplicates and original samples are reported on the laboratory test results certificates as RPD. The reported RPD range and acceptance criteria for both laboratories are presented below.

**SGS:** Requires 1 duplicate analysed for at least every 10 samples (achieved with 106 duplicate samples analysed out of 336 samples analysed).

The reported RPD for SGS fall generally within the acceptance limits (organics in soil and water (30%) and inorganics in water (15%)) of the laboratory, except for 3 PAH in soil (31% - 46%) and Hg in water (65%) in SE103054 R0; Hg in water (65%) in SE103066 R0; TPH in soil (45%) in SE103091 R1; and TKN in water (42%) and Zn in water (32%) in SE103363 R0. High RPD are due to low concentration detected.

**Envirolab:** No duplicate sample was reported for metals and OCP. The laboratory claims that duplicate samples were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20 samples. The results are generally not reported with the laboratory certificates provided to clients; however, claim to be within the laboratory acceptance criteria.

### **Matrix Spikes**

The purpose of matrix spikes is to monitor the performance of the analytical methods used and to determine whether matrix interferences exist. Samples are spiked with identical concentrations of the target analyte before extraction or digestion. The results are reported as percentage recoveries of the known spike concentration.

The reported percentage recoveries and acceptance criteria for each of the laboratories used are presented below.

**SGS:** Requires 1 matrix spike sample analysed for at least every 20 samples (achieved with 30 matrix spike added out of 106 samples analysed).

Acceptable percentage recoveries are between 70% to 130% for inorganics and 60% to 130% for organics. Recoveries were generally within the acceptance criteria, except for Pb in soil (53%) and Hg in water (133%) in SE102942 R1; Phenol (54%), TPH (C<sub>6</sub>-C<sub>9</sub>) (133) and 1 PAH (135) in SE103054 R0; Benzene 206%, Toluene 145%, m/p-xylene - 46%, o-xylene -115% and TPH (C<sub>6</sub>-C<sub>9</sub>) -274% in SE103066 R0; Cr (63%) and 4 OCP (135%) SE103091 R1.

**Envirolab:** Requires 1 matrix spike sample analysed for at least every 20 samples.

The matrix spike samples were analysed for a larger batch including the samples for this assessment, but not included in the certificates.

The matrix spike data presented by SGS and Envirolab generally falls within the acceptance limits of the laboratory.

**Surrogate Spikes**

Surrogate spikes are used during analysis for organics to provide a means of checking that no gross errors have occurred at any stage of the procedure, leading to significant analyte losses. The surrogate spikes are added to each sample, blank, matrix spike, duplicate and control sample before the extraction stage. The percentage recovery of the known spike is recorded and reported on the laboratory certificates.

The reported percentage recoveries and acceptance criteria for each of the laboratories used are presented below.

SGS: Acceptance limits in general are between 60% and 130%. Percentage recoveries reported 66% to 130%, except for 1 surrogate of BTEX in soil (137%) in SE103066 R0.

Envirolab: Acceptance limits in general are between 70% and 130% for organics. Percentage recoveries reported 76% to 122%.

The surrogate spike data presented by the laboratories generally falls within the acceptance limits of the laboratories.

**Laboratory Control Samples**

A laboratory control sample is a sample of material with known concentrations of various analytes, such as a standard reference material or control matrix. To ensure spike recoveries can be determined for every batch of samples, a control matrix is spiked with identical concentrations of target analyte(s) and analysed. The results are reported as percentage recoveries of the known spike concentration. These results allow recoveries to be determined in the event that the matrix spikes are unusable (e.g., matrix spikes performed on heavily contaminated samples). These are generally analysed at least every 20 samples.

The reported percentage recoveries and acceptance criteria for each of the laboratories used are presented below:

SGS: Requires 1 control sample analysed for at least every 20 samples. (achieved with 88 control samples analysed out of 336 samples submitted).

Acceptable percentage recoveries between 80% and 120% for inorganics, and between 60% and 140% for organics. Recoveries were generally within the acceptance criteria.

Envirolab: Requires 1 control sample analysed for at least every 20 samples (achieved with 9 control samples analysed out of 5 sample submitted)

Acceptable percentage recoveries between 80% and 120% for inorganics, and between 60% and 140% for organics. Recoveries were generally within the acceptance criteria, except for Zn (77%) in report 64522.

The control samples data presented by the laboratories generally fall within the acceptance limits of the laboratories.



### QA/QC DATA EVALUATION

The following table provides a list of the data quality indicators for the analytical phase of the assessment and the methods adopted in ensuring that the data quality indicators were met.

DATA QUALITY INDICATOR	METHOD(S) OF ACHIEVEMENT
Data Precision and Accuracy	<p>Use of analytical laboratories experienced in the analyses undertaken, with appropriate NATA certification.</p> <p>NATA accreditation requires adequately trained and experienced testing staff.</p> <p>Rinsate blank water, trip spike, field duplicate, and inter-laboratory duplicate / split samples analysed</p> <p>Acceptable concentrations in rinsate blank water samples</p> <p>Acceptable recoveries of spike concentrations in trip spike samples</p> <p>Acceptable RPD for duplicate comparison overall</p> <p>Acceptable RPD for inter-laboratory duplicate / split sample comparison overall</p> <p>Appropriate and validated laboratory test methods used</p> <p>Adequate laboratory performance based on results of the blank samples, matrix spike samples, control samples, duplicates and surrogate spike samples</p>
Data Representativeness	<p>Representative coverage of potential contaminants, salinity indicator parameters and geotechnical parameters</p> <p>Adequate duplicate, split, trip spike and rinsate sample numbers</p> <p>Adequate laboratory internal quality control and quality assurance methods, complying with the NEPM.</p>
Documentation Completeness	<p>Preparation of chain of custody records</p> <p>Laboratory sample receipt information received confirming receipt of samples intact and appropriate chain of custody</p> <p>NATA registered laboratory results certificates provided</p>
Data Completeness	<p>Field duplicate sample numbers generally complying with NEPM</p> <p>Inter-laboratory duplicate numbers generally complying with NEPM</p> <p>Rinsate sample recovered daily</p> <p>Trip spike samples sent with the sample batch</p>
Data Comparability	<p>Use of NATA registered laboratories</p> <p>Test methods consistent for each sample</p> <p>Test methods comparable between primary and secondary laboratory</p> <p>Acceptable Relative Percentage Differences between original samples and field duplicates and inter-laboratory triplicate / split samples.</p>

Based on the above, it is considered that all laboratories have complied with the quality assurance and quality control data quality indicators. As such, it is concluded that the laboratory test data obtained are reliable and useable for this assessment.

**APPENDIX I**

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**LABORATORY TEST RESULTS CERTIFICATES**

Chemical Analysis and Asbestos

## CLIENT DETAILS

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Project **12576/1 - Marsden Park Precinct**  
Order Number **(Not specified)**  
Samples **55**

## LABORATORY DETAILS

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SGS Reference **SE102942 R1**  
Report Number **0000011535**  
Date Reported **10 Nov 2011**  
Date Received **31 Oct 2011**

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.  
Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

This report cancels and supersedes the report No.SE102942 R0 issued by SGS Environmental Services due to amendment of sample description for asbestos sample # 9.

No respirable fibres detected using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

## SIGNATORIES



Andy Sutton  
Organics Chemist



Dong Liang  
Inorganics Metals Team Leader



Ly Kim Ha  
Organics Supervisor



Ravee Sivasubramaniam  
Hygienist

	Sample Number	SE102942.001	SE102942.002	SE102942.003	SE102942.004	SE102942.005
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name	TP1 0-0.1	TP2 0-0.1	TP4 0-0.1	TP5 0-0.1	TP6 0-0.15	

Parameter Units LOR

### VOC's in Soil Method: AN433/AN434

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE102942.001	SE102942.002	SE102942.003	SE102942.004	SE102942.005
Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

### Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434

TRH C6-C9	mg/kg	20	-	-	-	-	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

### TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
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### PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420

Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a,h)anthracene	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.001	SE102942.002	SE102942.003	SE102942.004	SE102942.005
Sample Number			SE102942.001	SE102942.002	SE102942.003	SE102942.004	SE102942.005
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			27 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name			TP1 0-0.1	TP2 0-0.1	TP4 0-0.1	TP5 0-0.1	TP6 0-0.15

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.001	SE102942.002	SE102942.003	SE102942.004	SE102942.005
Sample Number			SE102942.001	SE102942.002	SE102942.003	SE102942.004	SE102942.005
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			27 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name			TP1 0-0.1	TP2 0-0.1	TP4 0-0.1	TP5 0-0.1	TP6 0-0.15

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	-
Copper, Cu	mg/kg	0.5	-	-	-	-	-
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Sample Number	SE102942.001	SE102942.002	SE102942.003	SE102942.004	SE102942.005
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name	TP1 0-0.1	TP2 0-0.1	TP4 0-0.1	TP5 0-0.1	TP6 0-0.15

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR					
Mercury	mg/L	0.0001	-	-	-	-	-

Sample Number	SE102942.006	SE102942.007	SE102942.008	SE102942.009	SE102942.010
Sample Matrix	Soil	Soil	Soil	Soil	Material
Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name	TP7 0-0.15	TP8 0-0.15	TP9 0-0.1	TP10 0-0.3	TP10 0-0.3_ZLB

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR					
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	-

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	<0.1	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	<b>97</b>	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	<b>97</b>	-
d8-toluene (Surrogate)	%	-	-	-	-	<b>97</b>	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	<b>99</b>	-

Totals

Total BTEX*	mg/kg	-	-	-	-	<b>0</b>	-
Total Xylenes*	mg/kg	0.3	-	-	-	<0.3	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20	-	-	-	<20	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	<b>96</b>	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20	-	-	-	<20	-
TRH C15-C28	mg/kg	50	-	-	-	<50	-
TRH C29-C40	mg/kg	150	-	-	-	<150	-

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

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	-	-	-	<b>0.4</b>	-
Acenaphthene	mg/kg	0.1	-	-	-	<0.1	-
Fluorene	mg/kg	0.1	-	-	-	<0.1	-
Phenanthrene	mg/kg	0.1	-	-	-	<b>1.9</b>	-
Anthracene	mg/kg	0.1	-	-	-	<b>0.6</b>	-

Parameter	Units	LOR	SE102942.006	SE102942.007	SE102942.008	SE102942.009	SE102942.010
Sample Number			SE102942.006	SE102942.007	SE102942.008	SE102942.009	SE102942.010
Sample Matrix			Soil	Soil	Soil	Soil	Material
Sample Date			28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name			TP7 0-0.15	TP8 0-0.15	TP9 0-0.1	TP10 0-0.3	TP10 0-0.3_ZLB

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)

Fluoranthene	mg/kg	0.1	-	-	-	3.0	-
Pyrene	mg/kg	0.1	-	-	-	3.4	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	2.4	-
Chrysene	mg/kg	0.1	-	-	-	1.0	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	1.6	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	0.5	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	1.2	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	0.7	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	0.2	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	0.8	-
Total PAH	mg/kg	1.75	-	-	-	17	-

Surrogates

d5-nitrobenzene (Surrogate)	%	-	-	-	-	105	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	100	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	110	-

OC Pesticides in Soil Method: AN400/AN420

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	0.05	-	-	-	<0.05	-
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	-



Parameter	Units	LOR	SE102942.006	SE102942.007	SE102942.008	SE102942.009	SE102942.010
Sample Number			SE102942.006	SE102942.007	SE102942.008	SE102942.009	SE102942.010
Sample Matrix			Soil	Soil	Soil	Soil	Material
Sample Date			28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name			TP7 0-0.15	TP8 0-0.15	TP9 0-0.1	TP10 0-0.3	TP10 0-0.3_ZLB

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	<b>106</b>	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1221	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1232	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1242	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1248	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1254	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1260	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1262	mg/kg	0.1	-	-	-	<0.1	-
Arochlor 1268	mg/kg	0.1	-	-	-	<0.1	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	<0.9	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	<b>106</b>	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	<b>9</b>	-
Cadmium, Cd	mg/kg	0.3	-	-	-	<b>0.4</b>	-
Chromium, Cr	mg/kg	0.3	-	-	-	<b>12</b>	-
Copper, Cu	mg/kg	0.5	-	-	-	<b>22</b>	-
Lead, Pb	mg/kg	1	-	-	-	<b>97</b>	-
Nickel, Ni	mg/kg	0.5	-	-	-	<b>4.5</b>	-
Zinc, Zn	mg/kg	0.5	-	-	-	<b>130</b>	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	<b>0.12</b>	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	<b>10</b>	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-	Yes
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	No	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	<0.01	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

	Sample Number	SE102942.006	SE102942.007	SE102942.008	SE102942.009	SE102942.010
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Material
Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name	TP7 0-0.15	TP8 0-0.15	TP9 0-0.1	TP10 0-0.3	TP10 0-0.3	TP10 0-0.3_ZLB

Parameter Units LOR

**Mercury (dissolved) in Water Method: AN311/AN312**

	mg/L	0.0001	-	-	-	-	-
Mercury							

	Sample Number	SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP11 0-0.15	TP12 0-0.1	TP13 0-0.15	TP14 0-0.1	TP14 0-0.1	TP15 0-0.1

Parameter Units LOR

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

	mg/kg	0.1	-	-	-	-	-
Benzene							
Toluene							
Ethylbenzene							
m/p-xylene							
o-xylene							

Oxygenated Compounds

	mg/kg	0.1	-	-	-	-	-
MTBE (Methyl-tert-butyl ether)							

Surrogates

	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)							
d4-1,2-dichloroethane (Surrogate)							
d8-toluene (Surrogate)							
Bromofluorobenzene (Surrogate)							

Totals

	mg/kg	-	-	-	-	-	-
Total BTEX*							
Total Xylenes*		0.3					

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

	mg/kg	20	-	-	-	-	-
TRH C6-C9							

Surrogates

	%	-	-	-	-	-	-
Trifluorotoluene (Surrogate)							
Dibromofluoromethane (Surrogate)							
d4-1,2-dichloroethane (Surrogate)							
d8-toluene (Surrogate)							
Bromofluorobenzene (Surrogate)							

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

	mg/kg	20	-	-	-	-	-
TRH C10-C14							
TRH C15-C28		50					
TRH C29-C40		150					

Surrogates

	%	-	-	-	-	-	-
TRH (Surrogate)							

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

	mg/kg	0.1	-	-	-	-	-
Naphthalene							
2-methylnaphthalene							
1-methylnaphthalene							
Acenaphthylene							
Acenaphthene							
Fluorene							
Phenanthrene							
Anthracene							

Parameter	Units	LOR	Sample Number	SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
			Sample Name	TP11 0-0.15	TP12 0-0.1	TP13 0-0.15	TP14 0-0.1	TP15 0-0.1

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
Sample Number			SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name			TP11 0-0.15	TP12 0-0.1	TP13 0-0.15	TP14 0-0.1	TP15 0-0.1

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	-
Copper, Cu	mg/kg	0.5	-	-	-	-	-
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Sample Number	SE102942.011	SE102942.012	SE102942.013	SE102942.014	SE102942.015
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP11 0-0.15	TP12 0-0.1	TP13 0-0.15	TP14 0-0.1	TP15 0-0.1

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR					
Mercury	mg/L	0.0001	-	-	-	-	-

Sample Number	SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP16 0-0.1	TP18 0-0.1	TP19 0-0.1	TP21 0-0.1	TP22 0-0.15

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR					
Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20	-	-	-	-	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	Sample Number	SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	27 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
			Sample Name	TP16 0-0.1	TP18 0-0.1	TP19 0-0.1	TP21 0-0.1	TP22 0-0.15

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
Sample Number			SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			27 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name			TP16 0-0.1	TP18 0-0.1	TP19 0-0.1	TP21 0-0.1	TP22 0-0.15

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	-
Copper, Cu	mg/kg	0.5	-	-	-	-	-
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Sample Number	SE102942.016	SE102942.017	SE102942.018	SE102942.019	SE102942.020
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP16 0-0.1	TP18 0-0.1	TP19 0-0.1	TP21 0-0.1	TP22 0-0.15
Parameter	Units	LOR			

**Mercury (dissolved) in Water Method: AN311/AN312**

Mercury	mg/L	0.0001	-	-	-	-	-
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Sample Number	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP23 0-0.15	TP24 0-0.15	TP25 0-0.15	TP26 0-0.15	TP27 0-0.15
Parameter	Units	LOR			

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20	-	-	-	-	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-



Parameter	Units	LOR	Sample Number	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
			Sample Name	TP23 0-0.15	TP24 0-0.15	TP25 0-0.15	TP26 0-0.15	TP27 0-0.15

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
Sample Number			SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name			TP23 0-0.15	TP24 0-0.15	TP25 0-0.15	TP26 0-0.15	TP27 0-0.15

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	<b>10</b>	<b>5</b>	-	-	-
Cadmium, Cd	mg/kg	0.3	<b>0.5</b>	<0.3	-	-	-
Chromium, Cr	mg/kg	0.3	<b>25</b>	<b>13</b>	-	-	-
Copper, Cu	mg/kg	0.5	<b>2.9</b>	<b>6.1</b>	-	-	-
Lead, Pb	mg/kg	1	<b>18</b>	<b>17</b>	-	-	-
Nickel, Ni	mg/kg	0.5	<b>1.9</b>	<b>2.4</b>	-	-	-
Zinc, Zn	mg/kg	0.5	<b>7.9</b>	<b>7.3</b>	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	<0.05	<0.05	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	<b>7.5</b>	<b>12</b>	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Sample Number	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP23 0-0.15	TP24 0-0.15	TP25 0-0.15	TP26 0-0.15	TP27 0-0.15

Parameter Units LOR

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR	SE102942.021	SE102942.022	SE102942.023	SE102942.024	SE102942.025
Mercury	mg/L	0.0001	-	-	-	-	-

Sample Number	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP28 0-0.1	TP29 0-0.1	TP30 0-0.1	TP31 0-0.15	TP32 0-0.15

Parameter Units LOR

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
TRH C6-C9	mg/kg	20	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
TRH (Surrogate)	%	-	-	-	-	-	-

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	Sample Number	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
			Sample Name	TP28 0-0.1	TP29 0-0.1	TP30 0-0.1	TP31 0-0.15	TP32 0-0.15

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Sample Number			SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name			TP28 0-0.1	TP29 0-0.1	TP30 0-0.1	TP31 0-0.15	TP32 0-0.15

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	-
Copper, Cu	mg/kg	0.5	-	-	-	-	-
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Sample Number	SE102942.026	SE102942.027	SE102942.028	SE102942.029	SE102942.030
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP28 0-0.1	TP29 0-0.1	TP30 0-0.1	TP31 0-0.15	TP32 0-0.15
Parameter	Units	LOR			

**Mercury (dissolved) in Water Method: AN311/AN312**

Mercury	mg/L	0.0001	-	-	-	-	-
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Sample Number	SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011	28 Oct 2011	27 Oct 2011
Sample Name	TP33 0-0.15	TP34 0-0.1	TP35 0-0.1	TP36 0-0.1	SD1
Parameter	Units	LOR			

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20	-	-	-	-	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	Sample Number	SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011	28 Oct 2011	27 Oct 2011
			Sample Name	TP33 0-0.15	TP34 0-0.1	TP35 0-0.1	TP36 0-0.1	SD1

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
Sample Number			SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			27 Oct 2011	27 Oct 2011	27 Oct 2011	28 Oct 2011	27 Oct 2011
Sample Name			TP33 0-0.15	TP34 0-0.1	TP35 0-0.1	TP36 0-0.1	SD1

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	-
Copper, Cu	mg/kg	0.5	-	-	-	-	-
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-



Parameter	Units	LOR	Sample Number	SE102942.031	SE102942.032	SE102942.033	SE102942.034	SE102942.035
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011	28 Oct 2011	27 Oct 2011
			Sample Name	TP33 0-0.15	TP34 0-0.1	TP35 0-0.1	TP36 0-0.1	SD1

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR	Sample Number	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
Mercury	mg/L	0.0001	Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	27 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
			Sample Name	SD2	SD3	X1	X2	X3

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	Sample Number	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
Benzene	mg/kg	0.1	Sample Matrix	Soil	Soil	Soil	Soil	Soil
Toluene	mg/kg	0.1	Sample Date	27 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
Ethylbenzene	mg/kg	0.1	Sample Name	SD2	SD3	X1	X2	X3
m/p-xylene	mg/kg	0.2						
o-xylene	mg/kg	0.1						

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1						
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Surrogates

Dibromofluoromethane (Surrogate)	%	-						
d4-1,2-dichloroethane (Surrogate)	%	-						
d8-toluene (Surrogate)	%	-						
Bromofluorobenzene (Surrogate)	%	-						

Totals

Total BTEX*	mg/kg	-						
Total Xylenes*	mg/kg	0.3						

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20						
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Surrogates

Trifluorotoluene (Surrogate)	%	-						
Dibromofluoromethane (Surrogate)	%	-						
d4-1,2-dichloroethane (Surrogate)	%	-						
d8-toluene (Surrogate)	%	-						
Bromofluorobenzene (Surrogate)	%	-						

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20						
TRH C15-C28	mg/kg	50						
TRH C29-C40	mg/kg	150						

Surrogates

TRH (Surrogate)	%	-						
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Naphthalene	mg/kg	0.1						
2-methylnaphthalene	mg/kg	0.1						
1-methylnaphthalene	mg/kg	0.1						
Acenaphthylene	mg/kg	0.1						
Acenaphthene	mg/kg	0.1						
Fluorene	mg/kg	0.1						
Phenanthrene	mg/kg	0.1						
Anthracene	mg/kg	0.1						

Parameter	Units	LOR	Sample Number	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	27 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
			Sample Name	SD2	SD3	X1	X2	X3

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
Sample Number			SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			27 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name			SD2	SD3	X1	X2	X3

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	-
Copper, Cu	mg/kg	0.5	-	-	-	-	-
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Sample Number	SE102942.036	SE102942.037	SE102942.038	SE102942.039	SE102942.040
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	SD2	SD3	X1	X2	X3

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR					
Mercury	mg/L	0.0001	-	-	-	-	-

Sample Number	SE102942.041	SE102942.042	SE102942.043	SE102942.044	SE102942.045
Sample Matrix	Water	Water	Soil	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name	Rinsate D1	Rinsate R2	C1	C2	C3

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR					
Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20	-	-	-	-	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE102942.041	SE102942.042	SE102942.043	SE102942.044	SE102942.045
Sample Number			SE102942.041	SE102942.042	SE102942.043	SE102942.044	SE102942.045
Sample Matrix			Water	Water	Soil	Soil	Soil
Sample Date			27 Oct 2011	28 Oct 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			Rinsate D1	Rinsate R2	C1	C2	C3

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	-	-	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05	-	-	<0.05	<0.05	<0.05
Endrin	mg/kg	0.2	-	-	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	-	-	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	-	-	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	-	-	<0.1	<0.1	<0.1

Parameter	Units	LOR	SE102942.041	SE102942.042	SE102942.043	SE102942.044	SE102942.045
Sample Number			SE102942.041	SE102942.042	SE102942.043	SE102942.044	SE102942.045
Sample Matrix			Water	Water	Soil	Soil	Soil
Sample Date			27 Oct 2011	28 Oct 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			Rinsate D1	Rinsate R2	C1	C2	C3

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	<b>109</b>	<b>99</b>	<b>95</b>
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	<b>7</b>	<b>9</b>	<b>8</b>
Cadmium, Cd	mg/kg	0.3	-	-	<b>0.6</b>	<b>0.6</b>	<b>0.4</b>
Chromium, Cr	mg/kg	0.3	-	-	<b>17</b>	<b>26</b>	<b>19</b>
Copper, Cu	mg/kg	0.5	-	-	<b>17</b>	<b>6.9</b>	<b>9.3</b>
Lead, Pb	mg/kg	1	-	-	<b>22</b>	<b>30</b>	<b>18</b>
Nickel, Ni	mg/kg	0.5	-	-	<b>9.1</b>	<b>4.9</b>	<b>4.2</b>
Zinc, Zn	mg/kg	0.5	-	-	<b>33</b>	<b>13</b>	<b>16</b>

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	<0.05	<0.05	<0.05
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	<b>19</b>	<b>16</b>	<b>11</b>
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	<0.05	<0.05	-	-	-
Cadmium, Cd	mg/L	0.005	<0.005	<0.005	-	-	-
Chromium, Cr	mg/L	0.005	<0.005	<0.005	-	-	-
Copper, Cu	mg/L	0.01	<0.01	<0.01	-	-	-
Lead, Pb	mg/L	0.02	<0.02	<0.02	-	-	-
Nickel, Ni	mg/L	0.01	<0.010	<0.010	-	-	-
Zinc, Zn	mg/L	0.01	<0.01	<0.01	-	-	-

Parameter	Units	LOR	Sample Number	SE102942.041	SE102942.042	SE102942.043	SE102942.044	SE102942.045
			Sample Matrix	Water	Water	Soil	Soil	Soil
			Sample Date	27 Oct 2011	28 Oct 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	Rinsate D1	Rinsate R2	C1	C2	C3

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Mercury	mg/L	0.0001	Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	C4	C5	C6	C7	C8

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Benzene	mg/kg	0.1	Sample Matrix	Soil	Soil	Soil	Soil	Soil
Toluene	mg/kg	0.1	Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Ethylbenzene	mg/kg	0.1	Sample Name	C4	C5	C6	C7	C8
m/p-xylene	mg/kg	0.2						
o-xylene	mg/kg	0.1						

Oxygenated Compounds

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	C4	C5	C6	C7	C8

Surrogates

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Dibromofluoromethane (Surrogate)	%	-	Sample Matrix	Soil	Soil	Soil	Soil	Soil
d4-1,2-dichloroethane (Surrogate)	%	-	Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
d8-toluene (Surrogate)	%	-	Sample Name	C4	C5	C6	C7	C8
Bromofluorobenzene (Surrogate)	%	-						

Totals

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Total BTEX*	mg/kg	-	Sample Matrix	Soil	Soil	Soil	Soil	Soil
Total Xylenes*	mg/kg	0.3	Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	C4	C5	C6	C7	C8

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
TRH C6-C9	mg/kg	20	Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	C4	C5	C6	C7	C8

Surrogates

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Trifluorotoluene (Surrogate)	%	-	Sample Matrix	Soil	Soil	Soil	Soil	Soil
Dibromofluoromethane (Surrogate)	%	-	Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
d4-1,2-dichloroethane (Surrogate)	%	-	Sample Name	C4	C5	C6	C7	C8
d8-toluene (Surrogate)	%	-						
Bromofluorobenzene (Surrogate)	%	-						

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
TRH C10-C14	mg/kg	20	Sample Matrix	Soil	Soil	Soil	Soil	Soil
TRH C15-C28	mg/kg	50	Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
TRH C29-C40	mg/kg	150	Sample Name	C4	C5	C6	C7	C8

Surrogates

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
TRH (Surrogate)	%	-	Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	C4	C5	C6	C7	C8

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Naphthalene	mg/kg	0.1	Sample Matrix	Soil	Soil	Soil	Soil	Soil
2-methylnaphthalene	mg/kg	0.1	Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
1-methylnaphthalene	mg/kg	0.1	Sample Name	C4	C5	C6	C7	C8
Acenaphthylene	mg/kg	0.1						
Acenaphthene	mg/kg	0.1						
Fluorene	mg/kg	0.1						
Phenanthrene	mg/kg	0.1						
Anthracene	mg/kg	0.1						

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	C4	C5	C6	C7	C8

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	<0.1	-	<0.1
Alpha BHC	mg/kg	0.1	-	-	<0.1	-	<0.1
Lindane	mg/kg	0.1	-	-	<0.1	-	<0.1
Heptachlor	mg/kg	0.1	-	-	<0.1	-	<0.1
Aldrin	mg/kg	0.1	-	-	<0.1	-	<0.1
Beta BHC	mg/kg	0.1	-	-	<0.1	-	<0.1
Delta BHC	mg/kg	0.1	-	-	<0.1	-	<0.1
Heptachlor epoxide	mg/kg	0.1	-	-	<0.1	-	<0.1
o,p'-DDE	mg/kg	0.1	-	-	<0.1	-	<0.1
Alpha Endosulfan	mg/kg	0.2	-	-	<0.2	-	<0.2
Gamma Chlordane	mg/kg	0.1	-	-	<0.1	-	<0.1
Alpha Chlordane	mg/kg	0.1	-	-	<0.1	-	<0.1
trans-Nonachlor	mg/kg	0.1	-	-	<0.1	-	<0.1
p,p'-DDE	mg/kg	0.1	-	-	<0.1	-	<0.1
Dieldrin	mg/kg	0.05	-	-	<0.05	-	<0.05
Endrin	mg/kg	0.2	-	-	<0.2	-	<0.2
o,p'-DDD	mg/kg	0.1	-	-	<0.1	-	<0.1
o,p'-DDT	mg/kg	0.1	-	-	<0.1	-	<0.1
Beta Endosulfan	mg/kg	0.2	-	-	<0.2	-	<0.2
p,p'-DDD	mg/kg	0.1	-	-	<0.1	-	<0.1
p,p'-DDT	mg/kg	0.1	-	-	<0.1	-	<0.1
Endosulfan sulphate	mg/kg	0.1	-	-	<0.1	-	<0.1
Endrin Aldehyde	mg/kg	0.1	-	-	<0.1	-	<0.1
Methoxychlor	mg/kg	0.1	-	-	<0.1	-	<0.1
Endrin Ketone	mg/kg	0.1	-	-	<0.1	-	<0.1



Parameter	Units	LOR	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Sample Number			SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			C4	C5	C6	C7	C8

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	<b>97</b>	-	<b>98</b>
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	<b>5</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>7</b>
Cadmium, Cd	mg/kg	0.3	<b>0.4</b>	<b>0.5</b>	<b>0.4</b>	<b>0.6</b>	<b>0.3</b>
Chromium, Cr	mg/kg	0.3	<b>15</b>	<b>31</b>	<b>15</b>	<b>15</b>	<b>15</b>
Copper, Cu	mg/kg	0.5	<b>9.8</b>	<b>4.4</b>	<b>7.7</b>	<b>6.5</b>	<b>5.0</b>
Lead, Pb	mg/kg	1	<b>29</b>	<b>20</b>	<b>16</b>	<b>15</b>	<b>17</b>
Nickel, Ni	mg/kg	0.5	<b>5.6</b>	<b>3.4</b>	<b>3.8</b>	<b>4.0</b>	<b>3.6</b>
Zinc, Zn	mg/kg	0.5	<b>34</b>	<b>12</b>	<b>13</b>	<b>98</b>	<b>18</b>

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
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**Moisture Content Method: AN234**

% Moisture	%	0.5	<b>11</b>	<b>15</b>	<b>11</b>	<b>20</b>	<b>13</b>
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Parameter	Units	LOR	Sample Number	SE102942.046	SE102942.047	SE102942.048	SE102942.049	SE102942.050
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
			Sample Name	C4	C5	C6	C7	C8

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR	Sample Number	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Mercury	mg/L	0.0001	Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	28 Oct 2011
			Sample Name	C9	C10	C11	Duplicate DD1	TP10 0.5-0.8

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	Sample Number	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Benzene	mg/kg	0.1	Sample Matrix	Soil	Soil	Soil	Soil	Soil
Toluene	mg/kg	0.1	Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	28 Oct 2011
Ethylbenzene	mg/kg	0.1	Sample Name	C9	C10	C11	Duplicate DD1	TP10 0.5-0.8
m/p-xylene	mg/kg	0.2						
o-xylene	mg/kg	0.1						

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1						
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Surrogates

Dibromofluoromethane (Surrogate)	%	-						
d4-1,2-dichloroethane (Surrogate)	%	-						
d8-toluene (Surrogate)	%	-						
Bromofluorobenzene (Surrogate)	%	-						

Totals

Total BTEX*	mg/kg	-						
Total Xylenes*	mg/kg	0.3						

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20						
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Surrogates

Trifluorotoluene (Surrogate)	%	-						
Dibromofluoromethane (Surrogate)	%	-						
d4-1,2-dichloroethane (Surrogate)	%	-						
d8-toluene (Surrogate)	%	-						
Bromofluorobenzene (Surrogate)	%	-						

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20						
TRH C15-C28	mg/kg	50						
TRH C29-C40	mg/kg	150						

Surrogates

TRH (Surrogate)	%	-						
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Naphthalene	mg/kg	0.1						
2-methylnaphthalene	mg/kg	0.1						
1-methylnaphthalene	mg/kg	0.1						
Acenaphthylene	mg/kg	0.1						
Acenaphthene	mg/kg	0.1						
Fluorene	mg/kg	0.1						
Phenanthrene	mg/kg	0.1						
Anthracene	mg/kg	0.1						

Parameter	Units	LOR	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Sample Number			SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	28 Oct 2011
Sample Name			C9	C10	C11	Duplicate DD1	TP10 0.5-0.8

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Parameter	Units	LOR	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	1.75	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	-
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	-
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	-
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	-
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	-

Parameter	Units	LOR	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Sample Number			SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	28 Oct 2011
Sample Name			C9	C10	C11	Duplicate DD1	TP10 0.5-0.8

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	97	100	102	99	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.1	-	-	-	-	-
Arochlor 1221	mg/kg	0.1	-	-	-	-	-
Arochlor 1232	mg/kg	0.1	-	-	-	-	-
Arochlor 1242	mg/kg	0.1	-	-	-	-	-
Arochlor 1248	mg/kg	0.1	-	-	-	-	-
Arochlor 1254	mg/kg	0.1	-	-	-	-	-
Arochlor 1260	mg/kg	0.1	-	-	-	-	-
Arochlor 1262	mg/kg	0.1	-	-	-	-	-
Arochlor 1268	mg/kg	0.1	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.9	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	6	8	11	8	-
Cadmium, Cd	mg/kg	0.3	0.5	0.8	0.6	0.6	-
Chromium, Cr	mg/kg	0.3	27	27	23	18	-
Copper, Cu	mg/kg	0.5	4.6	9.0	11	17	-
Lead, Pb	mg/kg	1	20	22	23	24	-
Nickel, Ni	mg/kg	0.5	5.3	7.3	8.2	11	-
Zinc, Zn	mg/kg	0.5	14	64	51	34	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	11	13	31	18	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	No
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	<0.01
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-



# ANALYTICAL REPORT

SE102942 R1

Sample Number	SE102942.051	SE102942.052	SE102942.053	SE102942.054	SE102942.055
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	28 Oct 2011
Sample Name	C9	C10	C11	Duplicate DD1	TP10 0.5-0.8

Parameter	Units	LOR					
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Mercury (dissolved) in Water Method: AN311/AN312

Mercury	mg/L	0.0001	-	-	-	-	-
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MB blank results are compared to the Limit of Reporting  
 LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.  
 DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

**Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB008188	mg/L	0.0001	<0.0001	0%	105%	133%

**Mercury in Soil Method: ME-(AU)-[ENV]AN312**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB007971	mg/kg	0.05	<0.05	0%	106%	107%

**Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Arsenic, As	LB008197	mg/L	0.05	<0.05	0%	101%
Cadmium, Cd	LB008197	mg/L	0.005	<0.005	0%	102%
Chromium, Cr	LB008197	mg/L	0.005	<0.005	0%	101%
Copper, Cu	LB008197	mg/L	0.01	<0.01	0%	103%
Lead, Pb	LB008197	mg/L	0.02	<0.02	0%	101%
Nickel, Ni	LB008197	mg/L	0.01	<0.010	0%	101%
Zinc, Zn	LB008197	mg/L	0.01	<0.01	0%	102%

**OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420**

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Hexachlorobenzene (HCB)	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Alpha BHC	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Lindane	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Heptachlor	LB008147	mg/kg	0.1	<0.1	118%
	LB008376	mg/kg	0.1	<0.1	118%
Aldrin	LB008147	mg/kg	0.1	<0.1	121%
	LB008376	mg/kg	0.1	<0.1	121%
Beta BHC	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Delta BHC	LB008147	mg/kg	0.1	<0.1	113%
	LB008376	mg/kg	0.1	<0.1	113%
Heptachlor epoxide	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
o,p'-DDE	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Alpha Endosulfan	LB008147	mg/kg	0.2	<0.2	NA
	LB008376	mg/kg	0.2	<0.2	NA
Gamma Chlordane	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Alpha Chlordane	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
trans-Nonachlor	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
p,p'-DDE	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Dieldrin	LB008147	mg/kg	0.05	<0.05	114%
	LB008376	mg/kg	0.05	<0.05	114%
Endrin	LB008147	mg/kg	0.2	<0.2	120%
	LB008376	mg/kg	0.2	<0.2	120%
o,p'-DDD	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
o,p'-DDT	LB008147	mg/kg	0.1	<0.1	NA

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420 (continued)

				MB	LCS %Recovery
o,p'-DDT	LB008376	mg/kg	0.1	<0.1	NA
Beta Endosulfan	LB008147	mg/kg	0.2	<0.2	NA
	LB008376	mg/kg	0.2	<0.2	NA
p,p'-DDD	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
p,p'-DDT	LB008147	mg/kg	0.1	<0.1	108%
	LB008376	mg/kg	0.1	<0.1	108%
Endosulfan sulphate	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Endrin Aldehyde	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Methoxychlor	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA
Endrin Ketone	LB008147	mg/kg	0.1	<0.1	NA
	LB008376	mg/kg	0.1	<0.1	NA

Surrogates

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Tetrachloro-m-xylene (TCMX) (Surrogate)	LB008147	%	-	93%	101%
	LB008376	%	-	93%	101%

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

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

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Naphthalene	LB008148	mg/kg	0.1	<0.1	0%	97%	98%
2-methylnaphthalene	LB008148	mg/kg	0.1	<0.1	0%	NA	NA
1-methylnaphthalene	LB008148	mg/kg	0.1	<0.1	0%	NA	NA
Acenaphthylene	LB008148	mg/kg	0.1	<0.1	17%	97%	100%
Acenaphthene	LB008148	mg/kg	0.1	<0.1	0%	109%	112%
Fluorene	LB008148	mg/kg	0.1	<0.1	0%	NA	NA
Phenanthrene	LB008148	mg/kg	0.1	<0.1	17%	97%	97%
Anthracene	LB008148	mg/kg	0.1	<0.1	12%	99%	100%
Fluoranthene	LB008148	mg/kg	0.1	<0.1	15%	100%	105%
Pyrene	LB008148	mg/kg	0.1	<0.1	15%	110%	115%
Benzo(a)anthracene	LB008148	mg/kg	0.1	<0.1	2%	NA	NA
Chrysene	LB008148	mg/kg	0.1	<0.1	12%	NA	NA
Benzo(b)fluoranthene	LB008148	mg/kg	0.1	<0.1	20%	NA	NA
Benzo(k)fluoranthene	LB008148	mg/kg	0.1	<0.1	21%	NA	NA
Benzo(a)pyrene	LB008148	mg/kg	0.1	<0.1	19%	96%	98%
Indeno(1,2,3-cd)pyrene	LB008148	mg/kg	0.1	<0.1	21%	NA	NA
Dibenzo(a&h)anthracene	LB008148	mg/kg	0.1	<0.1	0%	NA	NA
Benzo(ghi)perylene	LB008148	mg/kg	0.1	<0.1	15%	NA	NA
Total PAH	LB008148	mg/kg	1.75	<1.8	14%	NA	NA

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
d5-nitrobenzene (Surrogate)	LB008148	%	-	111%	8%	105%	91%
2-fluorobiphenyl (Surrogate)	LB008148	%	-	89%	8%	95%	82%
d14-p-terphenyl (Surrogate)	LB008148	%	-	108%	8%	110%	109%

**PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420**

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Arochlor 1016	LB008147	mg/kg	0.1	<0.2	NA
Arochlor 1221	LB008147	mg/kg	0.1	<0.2	NA
Arochlor 1232	LB008147	mg/kg	0.1	<0.2	NA
Arochlor 1242	LB008147	mg/kg	0.1	<0.2	NA
Arochlor 1248	LB008147	mg/kg	0.1	<0.2	NA
Arochlor 1254	LB008147	mg/kg	0.1	<0.2	NA
Arochlor 1260	LB008147	mg/kg	0.1	<0.2	94%
Arochlor 1262	LB008147	mg/kg	0.1	<0.2	NA
Arochlor 1268	LB008147	mg/kg	0.1	<0.2	NA
Total PCBs (Arochlors)	LB008147	mg/kg	0.9	<1.0	NA

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Arsenic, As	LB007973	mg/kg	3	<3	3 - 10%	102%	89%
Cadmium, Cd	LB007973	mg/kg	0.3	<0.3	2 - 13%	104%	94%
Chromium, Cr	LB007973	mg/kg	0.3	<0.3	3 - 7%	105%	97%
Copper, Cu	LB007973	mg/kg	0.5	<0.5	1 - 2%	103%	95%
Lead, Pb	LB007973	mg/kg	1	<1	6 - 22%	105%	54%
Nickel, Ni	LB007973	mg/kg	0.5	<0.5	5 - 7%	106%	96%
Zinc, Zn	LB007973	mg/kg	0.5	<0.5	3 - 25%	102%	73%



MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

**TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403**

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
TRH C10-C14	LB007953	mg/kg	20	<20	123%
TRH C15-C28	LB007953	mg/kg	50	<50	113%
TRH C29-C40	LB007953	mg/kg	150	<150	NA

**VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Benzene	LB007995	mg/kg	0.1	<0.1	0%	117%	100%
Toluene	LB007995	mg/kg	0.1	<0.1	0%	122%	102%
Ethylbenzene	LB007995	mg/kg	0.1	<0.1	0%	130%	114%
m/p-xylene	LB007995	mg/kg	0.2	<0.2	0%	128%	114%
o-xylene	LB007995	mg/kg	0.1	<0.1	0%	126%	113%

Oxygenated Compounds

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery	MS %Recovery
MtBE (Methyl-tert-butyl ether)	LB007995	mg/kg	0.1	<0.1	NA	NA

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Dibromofluoromethane (Surrogate)	LB007995	%	-	101%	4%	99%	99%
d4-1,2-dichloroethane (Surrogate)	LB007995	%	-	100%	7%	100%	98%
d8-toluene (Surrogate)	LB007995	%	-	94%	9%	98%	97%
Bromofluorobenzene (Surrogate)	LB007995	%	-	102%	4%	100%	101%

Totals

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Total BTEX*	LB007995	mg/kg	-	0	NA	NA	NA
Total Xylenes*	LB007995	mg/kg	0.3	<0.3	0%	NA	NA

**Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
TRH C6-C9	LB007995	mg/kg	20	<20	0%	132%	128%

Surrogates

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Trifluorotoluene (Surrogate)	LB007995	%	-	79%	11%	97%	79%

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
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.
AN088	Orbital rolling for Organic pollutants are extracted from soil/sediment by transferring an appropriate mass of sample to a clear soil jar and extracting with 1:1 Dichloromethane/Acetone. Orbital Rolling method is intended for the extraction of semi-volatile organic compounds from soil/sediment samples, and is based somewhat on USEPA method 3570 (Micro Organic extraction and sample preparation). Method 3700.
AN234	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.
AN311/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN320/AN321	Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN320/AN321	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the elluent 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, dependant 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).

METHOD

METHODOLOGY SUMMARY

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/AN434	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.

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	This analysis is not covered by the scope of accreditation.	-	The sample was not analysed for this analyte
^	Performed by outside laboratory.	NVL	Not Validated
LOR	Limit of Reporting		
↑↓	Raised or Lowered Limit of Reporting		

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

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

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# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE102942 R1

## CLIENT DETAILS

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Project **12576/1 - Marsden Park Precinct**  
Order Number (Not specified)  
Samples 55

## LABORATORY DETAILS

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SGS Reference SE102942 R1  
Report Number 0000011536  
Date Reported 10 Nov 2011

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' 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:

MS	Mercury (dissolved) in Water	1 Item
	Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest	1 Item

## SAMPLE SUMMARY

Sample counts by matrix	39 Soil, 1 Bulk, 2 Water	Type of documentation received	COC
Date documentation received	31/10/2011	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

## HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
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### Fibre ID in bulk materials Method: ME-(AU)-[ENV]AN602

TP10 0-0.3_ZLB	SE102942.010	LB008211	28 Oct 2011	31 Oct 2011	27 Oct 2012	04 Nov 2011	27 Oct 2012	04 Nov 2011
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### Fibre Identification in soil Method: ME-(AU)-[ENV]AN602

TP10 0-0.3	SE102942.009	LB008238	28 Oct 2011	31 Oct 2011	27 Oct 2012	04 Nov 2011	27 Oct 2012	04 Nov 2011
TP10 0.5-0.8	SE102942.055	LB008238	28 Oct 2011	31 Oct 2011	27 Oct 2012	04 Nov 2011	27 Oct 2012	04 Nov 2011

### Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312

Rinsate D1	SE102942.041	LB008188	27 Oct 2011	31 Oct 2011	24 Nov 2011	04 Nov 2011	24 Nov 2011	04 Nov 2011
Rinsate R2	SE102942.042	LB008188	28 Oct 2011	31 Oct 2011	25 Nov 2011	04 Nov 2011	25 Nov 2011	04 Nov 2011

### Mercury in Soil Method: ME-(AU)-[ENV]AN312

TP10 0-0.3	SE102942.009	LB007971	28 Oct 2011	31 Oct 2011	25 Nov 2011	02 Nov 2011	25 Nov 2011	03 Nov 2011
TP23 0-0.15	SE102942.021	LB007971	27 Oct 2011	31 Oct 2011	24 Nov 2011	02 Nov 2011	24 Nov 2011	03 Nov 2011
TP24 0-0.15	SE102942.022	LB007971	27 Oct 2011	31 Oct 2011	24 Nov 2011	02 Nov 2011	24 Nov 2011	03 Nov 2011
C1	SE102942.043	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C2	SE102942.044	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C3	SE102942.045	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C4	SE102942.046	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C5	SE102942.047	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C6	SE102942.048	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C7	SE102942.049	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C8	SE102942.050	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C9	SE102942.051	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C10	SE102942.052	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
C11	SE102942.053	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011
Duplicate DD1	SE102942.054	LB007971	01 Nov 2011	31 Oct 2011	29 Nov 2011	02 Nov 2011	29 Nov 2011	03 Nov 2011

### Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321

Rinsate D1	SE102942.041	LB008197	27 Oct 2011	31 Oct 2011	24 Apr 2012	04 Nov 2011	24 Apr 2012	07 Nov 2011
Rinsate R2	SE102942.042	LB008197	28 Oct 2011	31 Oct 2011	25 Apr 2012	04 Nov 2011	25 Apr 2012	07 Nov 2011

### Moisture Content Method: ME-(AU)-[ENV]AN234

TP1 0-0.1	SE102942.001	LB008096	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP2 0-0.1	SE102942.002	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP4 0-0.1	SE102942.003	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP5 0-0.1	SE102942.004	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP6 0-0.15	SE102942.005	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP7 0-0.15	SE102942.006	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP8 0-0.15	SE102942.007	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP9 0-0.1	SE102942.008	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP10 0-0.3	SE102942.009	LB007965	28 Oct 2011	31 Oct 2011	11 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
TP11 0-0.15	SE102942.011	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP12 0-0.1	SE102942.012	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP13 0-0.15	SE102942.013	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP14 0-0.1	SE102942.014	LB008096	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP15 0-0.1	SE102942.015	LB008096	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP16 0-0.1	SE102942.016	LB008096	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP18 0-0.1	SE102942.017	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP19 0-0.1	SE102942.018	LB008096	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP21 0-0.1	SE102942.019	LB008096	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011

## HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP22 0-0.15	SE102942.020	LB008096	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP23 0-0.15	SE102942.021	LB007965	27 Oct 2011	31 Oct 2011	10 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
TP24 0-0.15	SE102942.022	LB007965	27 Oct 2011	31 Oct 2011	10 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
TP25 0-0.15	SE102942.023	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP26 0-0.15	SE102942.024	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP27 0-0.15	SE102942.025	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP28 0-0.1	SE102942.026	LB008097	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP29 0-0.1	SE102942.027	LB008097	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP30 0-0.1	SE102942.028	LB008097	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP31 0-0.15	SE102942.029	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP32 0-0.15	SE102942.030	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP33 0-0.15	SE102942.031	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP34 0-0.1	SE102942.032	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP35 0-0.1	SE102942.033	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
TP36 0-0.1	SE102942.034	LB008097	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
SD1	SE102942.035	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
SD2	SE102942.036	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
SD3	SE102942.037	LB008097	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
X1	SE102942.038	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
X2	SE102942.039	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
X3	SE102942.040	LB008097	27 Oct 2011	31 Oct 2011	10 Nov 2011	03 Nov 2011	08 Nov 2011	07 Nov 2011
C1	SE102942.043	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C2	SE102942.044	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C3	SE102942.045	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C4	SE102942.046	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C5	SE102942.047	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C6	SE102942.048	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C7	SE102942.049	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C8	SE102942.050	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C9	SE102942.051	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C10	SE102942.052	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
C11	SE102942.053	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011
Duplicate DD1	SE102942.054	LB007965	01 Nov 2011	31 Oct 2011	15 Nov 2011	02 Nov 2011	07 Nov 2011	03 Nov 2011

## HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
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### OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420

TP10 0-0.3	SE102942.009	LB008147	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	13 Dec 2011	07 Nov 2011
C1	SE102942.043	LB008147	01 Nov 2011	31 Oct 2011	15 Nov 2011	03 Nov 2011	13 Dec 2011	07 Nov 2011
C2	SE102942.044	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011
C3	SE102942.045	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011
C6	SE102942.048	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011
C8	SE102942.050	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011
C9	SE102942.051	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011
C10	SE102942.052	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011
C11	SE102942.053	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011
Duplicate DD1	SE102942.054	LB008376	01 Nov 2011	31 Oct 2011	15 Nov 2011	08 Nov 2011	18 Dec 2011	08 Nov 2011

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

TP10 0-0.3	SE102942.009	LB008148	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	13 Dec 2011	07 Nov 2011
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### PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420

TP10 0-0.3	SE102942.009	LB008147	28 Oct 2011	31 Oct 2011	11 Nov 2011	03 Nov 2011	13 Dec 2011	07 Nov 2011
C1	SE102942.043	LB008147	01 Nov 2011	31 Oct 2011	15 Nov 2011	03 Nov 2011	13 Dec 2011	07 Nov 2011
C2	SE102942.044	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011
C3	SE102942.045	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011
C6	SE102942.048	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011
C8	SE102942.050	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011
C9	SE102942.051	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011
C10	SE102942.052	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011
C11	SE102942.053	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011
Duplicate DD1	SE102942.054	LB007954	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	07 Nov 2011

### Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320

TP10 0-0.3	SE102942.009	LB007973	28 Oct 2011	31 Oct 2011	25 Apr 2012	02 Nov 2011	25 Apr 2012	04 Nov 2011
TP23 0-0.15	SE102942.021	LB007973	27 Oct 2011	31 Oct 2011	24 Apr 2012	02 Nov 2011	24 Apr 2012	04 Nov 2011
TP24 0-0.15	SE102942.022	LB007973	27 Oct 2011	31 Oct 2011	24 Apr 2012	02 Nov 2011	24 Apr 2012	04 Nov 2011
C1	SE102942.043	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C2	SE102942.044	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C3	SE102942.045	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C4	SE102942.046	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C5	SE102942.047	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C6	SE102942.048	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C7	SE102942.049	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C8	SE102942.050	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C9	SE102942.051	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C10	SE102942.052	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
C11	SE102942.053	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011
Duplicate DD1	SE102942.054	LB007973	01 Nov 2011	31 Oct 2011	29 Apr 2012	02 Nov 2011	29 Apr 2012	04 Nov 2011

## HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
<b>TRH (Total Recoverable Hydrocarbons) in Soil</b> Method: ME-(AU)-[ENV]AN403								
TP10 0-0.3	SE102942.009	LB007953	28 Oct 2011	31 Oct 2011	11 Nov 2011	01 Nov 2011	11 Dec 2011	04 Nov 2011
C1	SE102942.043	LB007953	01 Nov 2011	31 Oct 2011	15 Nov 2011	01 Nov 2011	11 Dec 2011	04 Nov 2011
<b>VOC's in Soil</b> Method: ME-(AU)-[ENV]AN433/AN434								
TP10 0-0.3	SE102942.009	LB007995	28 Oct 2011	31 Oct 2011	11 Nov 2011	02 Nov 2011	12 Dec 2011	03 Nov 2011
<b>Volatile Petroleum Hydrocarbons in Soil</b> Method: ME-(AU)-[ENV]AN433/AN434								
TP10 0-0.3	SE102942.009	LB007995	28 Oct 2011	31 Oct 2011	11 Nov 2011	02 Nov 2011	12 Dec 2011	07 Nov 2011



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 **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
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**OC Pesticides in Soil** Method: ME-(AU)-[ENV]AN400/AN420

Tetrachloro-m-xylene (TCMX) (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	106
	C1	SE102942.043	%	60 - 130%	109
Tetrachloro-m-xylene (TCMX) (Surrogate)	C2	SE102942.044	%	60 - 130%	99
	C3	SE102942.045	%	60 - 130%	95
	C6	SE102942.048	%	60 - 130%	97
	C8	SE102942.050	%	60 - 130%	98
	C9	SE102942.051	%	60 - 130%	97
	C10	SE102942.052	%	60 - 130%	100
	C11	SE102942.053	%	60 - 130%	102
	Duplicate DD1	SE102942.054	%	60 - 130%	99

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

2-fluorobiphenyl (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	100
d14-p-terphenyl (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	110
d5-nitrobenzene (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	105

**PCBs in Soil** Method: ME-(AU)-[ENV]AN400/AN420

Tetrachloro-m-xylene (TCMX) (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	106
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**VOC's in Soil** Method: ME-(AU)-[ENV]AN433/AN434

Bromofluorobenzene (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	99
d4-1,2-dichloroethane (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	97
d8-toluene (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	97
Dibromofluoromethane (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	97

**Volatile Petroleum Hydrocarbons in Soil** Method: ME-(AU)-[ENV]AN433/AN434

Trifluorotoluene (Surrogate)	TP10 0-0.3	SE102942.009	%	60 - 130%	96
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Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).  
 Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control LOR	BLK MB
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**Mercury (dissolved) in Water** Method: ME-(AU)-[ENV]AN311/AN312  
 LB008188.001

Mercury	mg/L	0.0001	<0.0001
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**Mercury in Soil** Method: ME-(AU)-[ENV]AN312  
 LB007971.001

Mercury	mg/kg	0.05	<0.05
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**Metals in Water (Dissolved) by ICPOES** Method: ME-(AU)-[ENV]AN320/AN321  
 LB008197.001

Arsenic, As	mg/L	0.05	<0.05
Cadmium, Cd	mg/L	0.005	<0.005
Chromium, Cr	mg/L	0.005	<0.005
Copper, Cu	mg/L	0.01	<0.01
Lead, Pb	mg/L	0.02	<0.02
Nickel, Ni	mg/L	0.01	<0.010
Zinc, Zn	mg/L	0.01	<0.01

**OC Pesticides in Soil** Method: ME-(AU)-[ENV]AN400/AN420  
 LB008147.001

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	0.05	<0.05
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

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	93
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LB008376.001

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

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).  
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control LOR	BLK MB
<b>Continued... OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420</b>			
LB008376.001			
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.05	<0.05
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
Surrogates			
Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	93

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

LB008148.001

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(a&h)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Total PAH	mg/kg	1.75	<1.8
Surrogates			
d5-nitrobenzene (Surrogate)	%	-	111
2-fluorobiphenyl (Surrogate)	%	-	89
d14-p-terphenyl (Surrogate)	%	-	108

**PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420**

LB008147.001

Arochlor 1016	mg/kg	0.1	<0.2
Arochlor 1221	mg/kg	0.1	<0.2
Arochlor 1232	mg/kg	0.1	<0.2
Arochlor 1242	mg/kg	0.1	<0.2
Arochlor 1248	mg/kg	0.1	<0.2
Arochlor 1254	mg/kg	0.1	<0.2
Arochlor 1260	mg/kg	0.1	<0.2
Arochlor 1262	mg/kg	0.1	<0.2
Arochlor 1268	mg/kg	0.1	<0.2
Total PCBs (Arochlors)	mg/kg	0.9	<1.0

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320**

LB007973.001

Arsenic, As	mg/kg	3	<3
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.3	<0.3
Copper, Cu	mg/kg	0.5	<0.5

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).  
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control LOR	BLK MB
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**Continued... Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320**

LB007973.001

Lead, Pb	mg/kg	1	<1
Nickel, Ni	mg/kg	0.5	<0.5
Zinc, Zn	mg/kg	0.5	<0.5

**TRH (Total Recoverable Hydrocarbons) In Soil Method: ME-(AU)-[ENV]AN403**

LB007953.001

TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	50	<50

**VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434**

LB007995.003

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1

Oxygenated Compounds

MIBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	101
d4-1,2-dichloroethane (Surrogate)	%	-	100
d8-toluene (Surrogate)	%	-	94
Bromofluorobenzene (Surrogate)	%	-	102

Totals

Total BTEX*	mg/kg	-	0
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**Volatile Petroleum Hydrocarbons In Soil Method: ME-(AU)-[ENV]AN433/AN434**

LB007995.001

TRH C6-C9	mg/kg	20	<20
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Surrogates

Trifluorotoluene (Surrogate)	%	-	79
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Duplicates are calculated as relative percent difference (RPD) using the formula  $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$   
 The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times StatisticalDetectionLimit / Mean + LimitingRepeatability$   
 Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.  
 RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Sample Name		SE102797.010-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312  
 LB008188.014

Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0
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Sample Name		SE102942.009-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420  
 LB008148.007

Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
Acenaphthylene	mg/kg	0.1	0.4	0.4	55	17
Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
Fluorene	mg/kg	0.1	<0.1	0.1	200	0
Phenanthrene	mg/kg	0.1	1.9	2.2	35	17
Anthracene	mg/kg	0.1	0.6	0.7	45	12
Fluoranthene	mg/kg	0.1	3.0	3.5	33	15
Pyrene	mg/kg	0.1	3.4	3.9	33	15
Benzo(a)anthracene	mg/kg	0.1	2.4	2.5	34	2
Chrysene	mg/kg	0.1	1.0	1.1	39	12
Benzo(b)fluoranthene	mg/kg	0.1	1.6	1.9	36	20
Benzo(k)fluoranthene	mg/kg	0.1	0.5	0.6	49	21
Benzo(a)pyrene	mg/kg	0.1	1.2	1.4	38	19
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.7	0.9	43	21
Dibenzo(a&h)anthracene	mg/kg	0.1	0.2	0.2	72	0
Benzo(ghi)perylene	mg/kg	0.1	0.8	0.9	42	15
Total PAH	mg/kg	1.75	17	20	34	14

Surrogates

d5-nitrobenzene (Surrogate)	%	-	105	114	30	8
2-fluorobiphenyl (Surrogate)	%	-	100	108	30	8
d14-p-terphenyl (Surrogate)	%	-	110	119	30	8

Sample Name		SE102942.042-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312  
 LB008188.020

Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0
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Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321  
 LB008197.007

Arsenic, As	mg/L	0.05	<0.05	<0.05	200	0
Cadmium, Cd	mg/L	0.005	<0.005	<0.005	200	0
Chromium, Cr	mg/L	0.005	<0.005	<0.005	200	0
Copper, Cu	mg/L	0.01	<0.01	<0.01	200	0
Lead, Pb	mg/L	0.02	<0.02	<0.02	200	0
Nickel, Ni	mg/L	0.01	<0.010	<0.010	200	0
Zinc, Zn	mg/L	0.01	<0.01	<0.01	200	0

Duplicates are calculated as relative percent difference (RPD) using the formula  $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$   
 The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times StatisticalDetectionLimit / Mean + LimitingRepeatability$   
 Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.  
 RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Sample Name		SE102942.049-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Mercury in Soil Method: ME-(AU)-[ENV]AN312  
 LB007971.014

Mercury	mg/kg	0.05	<0.05	<0.05	200	0
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Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320  
 LB007973.014

Arsenic, As	mg/kg	3	5	5	95	3
Cadmium, Cd	mg/kg	0.3	0.6	0.6	81	13
Chromium, Cr	mg/kg	0.3	15	16	32	7
Copper, Cu	mg/kg	0.5	6.5	6.6	38	1
Lead, Pb	mg/kg	1	15	18	36	22
Nickel, Ni	mg/kg	0.5	4.0	4.2	42	5
Zinc, Zn	mg/kg	0.5	98	130	30	25

Sample Name		SE102942.054-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Mercury in Soil Method: ME-(AU)-[ENV]AN312  
 LB007971.020

Mercury	mg/kg	0.05	<0.05	<0.05	194	0
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Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320  
 LB007973.020

Arsenic, As	mg/kg	3	8	7	71	10
Cadmium, Cd	mg/kg	0.3	0.6	0.6	83	2
Chromium, Cr	mg/kg	0.3	18	17	32	3
Copper, Cu	mg/kg	0.5	17	17	33	2
Lead, Pb	mg/kg	1	24	23	34	6
Nickel, Ni	mg/kg	0.5	11	10	35	7
Zinc, Zn	mg/kg	0.5	34	33	31	3

Sample Name		SE102958.001-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434  
 LB007995.014

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	<0.1	<0.1	200	0
Toluene	mg/kg	0.1	<0.1	<0.1	200	0
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
o-xylene	mg/kg	0.1	<0.1	<0.1	200	0

Surrogates

Dibromofluoromethane (Surrogate)	%	-	99.0	95.0	50	4
d4-1,2-dichloroethane (Surrogate)	%	-	98.0	91.0	50	7
d8-toluene (Surrogate)	%	-	98.0	90.0	50	9
Bromofluorobenzene (Surrogate)	%	-	100.0	96.0	50	4

Duplicates are calculated as relative percent difference (RPD) using the formula  $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$   
 The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times StatisticalDetectionLimit / Mean + LimitingRepeatability$   
 Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.  
 RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Sample Name		SE102958.001-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %
<b>Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434</b>						
LB007995.014						
Totals						
Total BTEX*	mg/kg	-	0	0	200	NA
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
<b>Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434</b>						
LB007995.014						
TRH C6-C9	mg/kg	20	<20	<20	200	0
Surrogates						
Trifluorotoluene (Surrogate)	%	-	72	80	30	11

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

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

Parameter	Control		LCS STD			
	Units	LOR	Result	Expected Result	Criteria %	Recovery %

**Mercury (dissolved) in Water** Method: ME-(AU)-[ENV]AN311/AN312  
LB008188.002

Mercury	mg/L	0.0001	0.0084	0.008	80 - 120	105
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**Mercury in Soil** Method: ME-(AU)-[ENV]AN312  
LB007971.002

Mercury	mg/kg	0.05	0.21	0.2	70 - 130	106
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**Metals in Water (Dissolved) by ICPOES** Method: ME-(AU)-[ENV]AN320/AN321  
LB008197.002

Arsenic, As	mg/L	0.05	2.0	2	80 - 120	101
Cadmium, Cd	mg/L	0.005	2.0	2	80 - 120	102
Chromium, Cr	mg/L	0.005	2.0	2	80 - 120	101
Copper, Cu	mg/L	0.01	2.1	2	80 - 120	103
Lead, Pb	mg/L	0.02	2.0	2	80 - 120	101
Nickel, Ni	mg/L	0.01	2.0	2	80 - 120	101
Zinc, Zn	mg/L	0.01	2.0	2	80 - 120	102

**OC Pesticides in Soil** Method: ME-(AU)-[ENV]AN400/AN420  
LB008147.002

Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	118
Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	121
Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	113
Dieldrin	mg/kg	0.05	0.23	0.2	60 - 140	114
Endrin	mg/kg	0.2	0.2	0.2	60 - 140	120
p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	108

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101	100	60 - 140	101
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LB008376.002

Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	118
Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	121
Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	113
Dieldrin	mg/kg	0.05	0.23	0.2	60 - 140	114
Endrin	mg/kg	0.2	0.2	0.2	60 - 140	120
p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	108

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	101	100	60 - 140	101
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil** Method: ME-(AU)-[ENV]AN420  
LB008148.002

Naphthalene	mg/kg	0.1	3.3	3.37	60 - 140	97
Acenaphthylene	mg/kg	0.1	3.3	3.37	60 - 140	97
Acenaphthene	mg/kg	0.1	3.7	3.37	60 - 140	109
Phenanthrene	mg/kg	0.1	3.3	3.37	60 - 140	97
Anthracene	mg/kg	0.1	3.4	3.37	60 - 140	99
Fluoranthene	mg/kg	0.1	3.4	3.37	60 - 140	100
Pyrene	mg/kg	0.1	3.7	3.37	60 - 140	110
Benzo(a)pyrene	mg/kg	0.1	3.2	3.37	60 - 140	96



Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report.  
 Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Control		LCS STD			
	Units	LOR	Result	Expected Result	Criteria %	Recovery %

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

LB008148.002  
 Surrogates

d5-nitrobenzene (Surrogate)	%	-	105	100	60 - 140	105
2-fluorobiphenyl (Surrogate)	%	-	95	100	60 - 140	95
d14-p-terphenyl (Surrogate)	%	-	110	100	60 - 140	110

**PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420**

LB008147.002

Arochlor 1260	mg/kg	0.1	0.4	0.4	60 - 140	94
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320**

LB007973.002

Arsenic, As	mg/kg	3	51	50	80 - 120	102
Cadmium, Cd	mg/kg	0.3	52	50	80 - 120	104
Chromium, Cr	mg/kg	0.3	52	50	80 - 120	105
Copper, Cu	mg/kg	0.5	52	50	80 - 120	103
Lead, Pb	mg/kg	1	52	50	80 - 120	105
Nickel, Ni	mg/kg	0.5	53	50	80 - 120	106
Zinc, Zn	mg/kg	0.5	51	50	80 - 120	102

**TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403**

LB007953.002

TRH C10-C14	mg/kg	20	49	40	60 - 140	123
TRH C15-C28	mg/kg	50	<50	40	60 - 140	113

**VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434**

LB007995.004

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	2.7	2.27	60 - 140	117
Toluene	mg/kg	0.1	2.8	2.27	60 - 140	122
Ethylbenzene	mg/kg	0.1	2.9	2.27	60 - 140	130
m/p-xylene	mg/kg	0.2	5.8	4.54	60 - 140	128
o-xylene	mg/kg	0.1	2.9	2.27	60 - 140	126

Surrogates

Dibromofluoromethane (Surrogate)	%	-	99.0	100	60 - 140	99
d4-1,2-dichloroethane (Surrogate)	%	-	100.0	100	60 - 140	100
d8-toluene (Surrogate)	%	-	98.0	100	60 - 140	98
Bromofluorobenzene (Surrogate)	%	-	100.0	100	60 - 140	100

**Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434**

LB007995.002

TRH C6-C9	mg/kg	20	30	23	60 - 140	132
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Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control		MS		
		LOR	Result	Original Result	Spike Added	Recovery %

**Mercury (dissolved) in Water** Method: ME-(AU)-[ENV]AN311/AN312  
LB008188.004

Mercury	mg/L	0.0001	0.011	<0.0001	0.008	<b>133†</b>
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Recovery failed acceptance criteria due to matrix interference.

**Mercury in Soil** Method: ME-(AU)-[ENV]AN312  
LB007971.004

Mercury	mg/kg	0.05	0.34	0.12	0.2	<b>107</b>
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil** Method: ME-(AU)-[ENV]AN420  
LB008148.021

Parameter	Units	LOR	Result	Original Result	Spike Added	Recovery %
Naphthalene	mg/kg	0.1	3.3	<0.1	3.37	<b>98</b>
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	NA
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	NA
Acenaphthylene	mg/kg	0.1	3.4	<0.1	3.37	<b>100</b>
Acenaphthene	mg/kg	0.1	3.8	<0.1	3.37	<b>112</b>
Fluorene	mg/kg	0.1	<0.1	<0.1	-	NA
Phenanthrene	mg/kg	0.1	3.3	<0.1	3.37	<b>97</b>
Anthracene	mg/kg	0.1	3.4	<0.1	3.37	<b>100</b>
Fluoranthene	mg/kg	0.1	3.5	<0.1	3.37	<b>105</b>
Pyrene	mg/kg	0.1	3.9	<0.1	3.37	<b>115</b>
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	NA
Chrysene	mg/kg	0.1	<0.1	<0.1	-	NA
Benzo(b)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	NA
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	NA
Benzo(a)pyrene	mg/kg	0.1	3.3	<0.1	3.37	<b>98</b>
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	NA
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	-	NA
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	NA
Total PAH	mg/kg	1.75	28	<1.8	-	NA

Surrogates

d5-nitrobenzene (Surrogate)	%	-	91	113	100	<b>91</b>
2-fluorobiphenyl (Surrogate)	%	-	82	91	100	<b>82</b>
d14-p-terphenyl (Surrogate)	%	-	109	117	100	<b>109</b>

**Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest** Method: ME-(AU)-[ENV]AN040/AN320  
LB007973.004

Parameter	Units	LOR	Result	Original Result	Spike Added	Recovery %
Arsenic, As	mg/kg	3	53	9	50	<b>89</b>
Cadmium, Cd	mg/kg	0.3	48	0.4	50	<b>94</b>
Chromium, Cr	mg/kg	0.3	60	12	50	<b>97</b>
Copper, Cu	mg/kg	0.5	70	22	50	<b>95</b>
Lead, Pb	mg/kg	1	120	97	50	<b>54†</b>
Nickel, Ni	mg/kg	0.5	53	4.5	50	<b>96</b>
Zinc, Zn	mg/kg	0.5	160	130	50	<b>73</b>

Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).

**VOC's In Soil** Method: ME-(AU)-[ENV]AN433/AN434  
LB007995.002  
Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	Result	Original Result	Spike Added	Recovery %
Benzene	mg/kg	0.1	2.3	<0.1	2.27	<b>100</b>
Toluene	mg/kg	0.1	2.3	<0.1	2.27	<b>102</b>
Ethylbenzene	mg/kg	0.1	2.6	<0.1	2.27	<b>114</b>
m/p-xylene	mg/kg	0.2	5.2	<0.2	4.54	<b>114</b>
o-xylene	mg/kg	0.1	2.6	<0.1	2.27	<b>113</b>

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control		MS		
		LOR	Result	Original Result	Spike Added	Recovery %

**Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434**

LB007995.002

Oxygenated Compounds

MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	-	NA
--------------------------------	-------	-----	------	------	---	----

Surrogates

Dibromofluoromethane (Surrogate)	%	-	99.0	99.0	100	99
d4-1,2-dichloroethane (Surrogate)	%	-	98.0	98.0	100	98
d8-toluene (Surrogate)	%	-	97.0	94.0	100	97
Bromofluorobenzene (Surrogate)	%	-	101.0	100.0	100	101

Totals

Total BTEX*	mg/kg	-	15	0	-	NA
Total Xylenes*	mg/kg	0.3	7.8	<0.3	-	NA

**Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434**

LB007995.012

TRH C6-C9	mg/kg	20	29	<20	23	128
-----------	-------	----	----	-----	----	-----

Surrogates

Trifluorotoluene (Surrogate)	%	-	79	74	-	79
------------------------------	---	---	----	----	---	----

Matrix spike duplicates are calculated as relative percent difference using the formula  $RPD = \frac{|OriginalResult - ReplicateResult|}{Mean} \times 100$

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

The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times \frac{StatisticalDetectionLimit}{Mean} + LimitingRepeatability$

RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Matrix Spike Duplicates were required for this job.

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	NATA Accreditation does not cover this analysis.	NA	The sample was not analysed for this analyte
^	Performed by outside laboratory.		
LOR	Limit of Reporting		

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

This test report shall not be reproduced, except in full.

## CLIENT DETAILS

Contact Anwar Barbhuyia  
Client Geotechnique  
Address P.O. Box 880  
PENRITH NSW 2751

Telephone 02 4722 2700  
Facsimile 02 4722 6161  
Email anwar.barbhuyia@geotech.com.au

Project **12576/1 - Marsden Park Precinct**  
Order Number (Not specified)  
Samples 55

## LABORATORY DETAILS

Manager Huong Crawford  
Laboratory SGS Alexandria Environmental  
Address Unit 16, 33 Maddox St  
Alexandria NSW 2015

Telephone +61 2 8594 0400  
Facsimile +61 2 8594 0499  
Email au.environmental.sydney@sgs.com

SGS Reference SE102942 R1  
Report Number 0000011537  
Date Reported 10/11/2011 4:42:27PM  
Date Received 31 Oct 2011

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.  
Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

This report cancels and supersedes the report No.SE102942 R0 issued by SGS Environmental Services due to amendment of sample description for asbestos sample # 9.

No respirable fibres detected using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

## SIGNATORIES



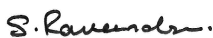
Andy Sutton  
Organics Chemist



Dong Liang  
Inorganics Metals Team Leader



Ly Kim Ha  
Organics Supervisor



Ravee Sivasubramaniam  
Hygienist

RESULTS

Fibre ID in bulk materials

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w
SE102942.010	TP10 0-0.3_ZLB	Other	40x35x4mm Cement sheet fragments	28 Oct 2011	Chrysotile Asbestos Found	

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est. %w/w
SE102942.009	TP10 0-0.3	Soil	Appox 10g Soil,sand	28 Oct 2011	No Asbestos Found Organic Fibres Detected	<0.01
SE102942.055	TP10 0.5-0.8	Soil	Appox 10g Soil,sand	28 Oct 2011	No Asbestos Found Organic Fibres Detected	<0.01

METHOD

METHODOLOGY SUMMARY

AN602

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

FOOTNOTES

Amosite	- Brown Asbestos	NA	- Not Analysed
Chrysotile	- White Asbestos	LNR	- Listed Not Required
Crocidolite	- Blue Asbestos	*	- Not Accredited

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."

This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Sampled by the client

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

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

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

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

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: <http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

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can received 31/10/11 @ 2:44 pm

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place  
 PENRITH NSW 2750  
 P O Box 880  
 PENRITH NSW 2751  
 Tel: (02) 4722 2700  
 Fax: (02) 4722 6161  
 email: info@geotech.com.au

Project Manager: AN  
 Job No: 12576/1  
 Page 1 of 5

TO: SGS ENVIRONMENTAL SERVICES  
 UNIT 16  
 33 MADDOX STREET  
 ALEXANDRIA NSW 2015  
 PH: 02 8594 0400  
 FAX: 02 8594 0499  
 Project: Marsden Park Precinct  
 Location: Marsden Park Precinct

ATTN: MS ANGELA MAMALICOS

Results required by: Normal Turnaround Time



Location	Sampling details			Sample type		Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	TPH* & BTEX	PAH	OCP	PCB	ASBESTOS	Received by 31/10/11 3:25 PM	KEEP SAMPLE
	Depth (m)	Date	Time	Soil	Material								
1 TP1	0-0.1	27/10/2011	-	SG									YES
2 TP2	0-0.1	28/10/2011	-	SG									YES
3 TP4	0-0.1	28/10/2011	-	SG									YES
4 TP5	0-0.1	28/10/2011	-	SG									YES
5 TP6	0-0.15	28/10/2011	-	SG									YES
6 TP7	0-0.15	28/10/2011	-	SG									YES
7 TP8	0-0.15	28/10/2011	-	SG									YES
8 TP9	0-0.1	28/10/2011	-	SG									YES
9 TP10	0-0.3	28/10/2011	-	SG/SP	FCP	✓	✓	✓	✓	✓	✓		YES
10 TP10	0-0.3	28/10/2011	-	SG/SP									YES
55 TP10	0.5-0.8	28/10/2011	-	SG/SP									YES
TP10	0.95-1.1	28/10/2011	-	SG									YES

Relinquished by: ANWAR BARBUYIA  
 Signature: AB  
 Date: 31/10/2011

Received by: Subha  
 Signature: [Signature]  
 Date: 31/10/11

Legend:  
 WG Water sample, glass bottle  
 WP Water sample, plastic bottle  
 SG Soil sample (glass jar)  
 FCP Fibro Cement Piece  
 SP Soil sample (plastic bag)  
 Test required

\* Purge & Trap

Lemko Place  
 PENRITH NSW 2750  
 P O Box 880  
 PENRITH NSW 2751

Tel: (02) 4722 2700  
 Fax: (02) 4722 6161  
 email: info@geotech.com.au

TO: SGS ENVIRONMENTAL SERVICES

UNIT 16

33 MADDOX STREET  
 ALEXANDRIA NSW 2015

Project Manager: AN

Job No: 125761

Page 2 of 5

PH: 02 8594 0400

FAX: 02 8594 0499

Project: Marsden Park Precinct

Location: Marsden Park Precinct

ATTN: MS ANGELA MAMALICOS

Sampling details				Sample type					Results required by: Normal Turnaround Time				
Location	Depth (m)	Date	Time	Soil	Water	Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	TPH* & BTEX	PAH	OCP	PCB	Received by	Date	KEEP SAMPLE
11	TP11 0-0.15	28/10/2011	-	SG									YES
12	TP12 0-0.1	28/10/2011	-	SG									YES
13	TP13 0-0.15	28/10/2011	-	SG									YES
14	TP14 0-0.1	27/10/2011	-	SG									YES
15	TP15 0-0.1	27/10/2011	-	SG									YES
16	TP16 0-0.1	27/10/2011	-	SG									YES
17	TP18 0-0.1	28/10/2011	-	SG									YES
18	TP19 0-0.1	28/10/2011	-	SG									YES
19	TP21 0-0.1	27/10/2011	-	SG									YES
20	TP22 0-0.15	27/10/2011	-	SG									YES
21	TP23 0-0.15	27/10/2011	-	SG									YES
22	TP24 0-0.15	27/10/2011	-	SG									YES

Relinquished by: ANWAR BARBHUYIA  
 Signature: AB  
 Date: 31/10/2011

Received by: *Suba*  
 Signature: *[Signature]*  
 Date: 31/10/2011

Legend:  
 WG Water sample, glass bottle  
 WWP Water sample, plastic bottle  
 SG Soil sample (glass jar)  
 FCP Fibro Cement Piece  
 SP Soil sample (plastic bag)  
 \*Purge & Trap

Lemko Place  
 PENRITH NSW 2750  
 P O Box 880  
 PENRITH NSW 2751

Tel: (02) 4722 2700  
 Fax: (02) 4722 6161  
 email: info@geotech.com.au

TO: SGS ENVIRONMENTAL SERVICES

Sampling By: AN

Job No: 125761

UNIT 16  
 33 MADDOX STREET  
 ALEXANDRIA NSW 2015

Project:

PH: 02 8594 0400

FAX: 02 8594 0499

Project Manager: AB

Location: Marsden Park Precinct

ATTN: MS ANGELA MAMALICOS

### Results required by: Normal Turnaround Time

Sampling details				Sample type		Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	TPH+ & BTEX	PAH	OCP	PCB	KEEP SAMPLE
Location	Depth (m)	Date	Time	Soil	Water						
TP25	0-0.15	27/10/2011	-	SG							YES
TP26	0-0.15	27/10/2011	-	SG							YES
TP27	0-0.15	27/10/2011	-	SG							YES
TP28	0-0.1	28/10/2011	-	SG							YES
TP29	0-0.1	28/10/2011	-	SG							YES
TP30	0-0.1	28/10/2011	-	SG							YES
TP31	0-0.15	27/10/2011	-	SG							YES
TP32	0-0.15	27/10/2011	-	SG							YES
TP33	0-0.15	27/10/2011	-	SG							YES
TP34	0-0.1	27/10/2011	-	SG							YES
TP35	0-0.1	27/10/2011	-	SG							YES
TP36	0-0.1	28/10/2011	-	SG							YES

Relinquished by

Signature

AB

Received by

Signature

*[Signature]*

Date

31/10/11

ANWAR BARBUVIA

Legend: WG Water sample, glass bottle SG Soil sample (glass jar) SP Soil sample (plastic bag) \* Purge & Trap  
 WP Water sample, plastic bottle FCP Fibro Cement Piece Test required

Lemko Place  
 PENRITH NSW 2750  
 P O Box 880  
 PENRITH NSW 2751

Tel: (02) 4722 2700  
 Fax: (02) 4722 6161  
 email: info@geotech.com.au

Page 4 of 5

TO: SGS ENVIRONMENTAL SERVICES  
 UNIT 16  
 33 MADDOX STREET  
 ALEXANDRIA NSW 2015

PH: 02 8594 0400  
 FAX: 02 8594 0499

Project Manager: AB

Location: Marsden Park Precinct

ATTN: MS ANGELA MAMALICOS

### Results required by: Normal Turnaround Time

Sampling details				Sample type		Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	TPH* & BTEX	PAH	OCP	PCB	KEEP SAMPLE
Location	Depth (m)	Date	Time	Soil	Water						
35 SD1	0-0.1	27/10/2011	-	SG							YES
35 SD2	0-0.1	27/10/2011	-	SG							YES
37 SD3	0-0.1	28/10/2011	-	SG							YES
38 X1		27/10/2011	-	SG							YES
38 X2		27/10/2011	-	SG							YES
40 X3		27/10/2011	-	SG							YES
41 Rinsate R1		27/10/2011	-	WG	WG						YES
42 Rinsate R2		28/10/2011	-	WG	WG						YES

Relinquished by: ANWAR BARBUYIA Signature: AB Date: 31/10/2011  
 Received by: Suba Signature: [Signature] Date: 31/10/11

Legend: WG Water sample, glass bottle SG Soil sample (glass jar) SP Soil sample (plastic bag) \* Purge & Trap  
 W/P Water sample, plastic bottle FCP Fibro Cement Piece Test required

**SGS ENVIRONMENTAL SERVICES**

Sampling Date: 27 & 28/10/2011 Job No: 12576/1  
 Sampled by: AN  
 Project Manager: AB Location: Marsden Park Precinct

Results Required by: Normal Turnaround Time

Composite Sample	Sub-Samples	Analyte	
		Metals	OCP
1+14+15 43 Composite C1	TP1 (0-0.1) + TP14 (0-0.1m) + TP15 (0-0.1m)	✓	✓
2+3+4 44 Composite C2	TP2 (0-0.1m) + TP4 (0-0.1m) + TP5(0-0.1m)	✓	✓
5+7+13 45 Composite C3	TP6 (0-0.15m) + TP8 (0-0.15m) + TP13 (0-0.15m)	✓	✓
6+11+20 46 Composite C4	TP7 (0-0.15m) + TP11 (0-0.15m) + TP22 (0-0.15m)	✓	-
8+17+18 47 Composite C5	TP9 (0-0.1m) + TP18 (0-0.1m) + TP19 (0-0.1m)	✓	-
12+16+19 48 Composite C6	TP12 (0-0.1m) + TP16 (0-0.1m) + TP21 (0-0.1m)	✓	✓
23+24+29 49 Composite C7	TP25 (0-0.15m) + TP26 (0-0.15m) + TP31 (0-0.15m)	✓	-
25+31+32 50 Composite C8	TP27 (0-0.15m) + TP33 (0-0.15m) + TP34 (0-0.1m)	✓	✓
26+27+37 51 Composite C9	TP28 (0-0.1m) + TP29 (0-0.1m) + TP36 (0-0.1m)	✓	✓
28+30+33 52 Composite C10	TP30 (0-0.1m) + TP32 (0-0.15m) + TP35 (0-0.1m)	✓	✓
5+36+37 53 Composite C11	SD1 (0-0.1m) + SD2 (0-0.1m) + SD3 (0-0.1m)	✓	✓
8+35+40 54 Duplicate DD1	X1 + X2 + X3	✓	✓

✓ Test required  
 Metals include arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni) and zinc (Zn)  
 OCP = Organochlorine Pesticides

AB  
 31/10/2011  
 (ANWAR BARBHUYIA)  
 Geotechnique Pty Ltd



## SAMPLE RECEIPT ADVICE

SE102942

### CLIENT DETAILS

Contact Anwar Barbhuyia  
Client Geotechnique  
Address P.O. Box 880  
PENRITH NSW 2751

Telephone 02 4722 2700  
Facsimile 02 4722 6161  
Email anwar.barbhuyia@geotech.com.au

Project **12576/1 - Marsden Park Precinct**  
Order Number (Not specified)  
Samples 55

### LABORATORY DETAILS

Manager Huong Crawford  
Laboratory SGS Alexandria Environmental  
Address Unit 16, 33 Maddox St  
Alexandria NSW 2015

Telephone +61 2 8594 0400  
Facsimile +61 2 8594 0499  
Email au.environmental.sydney@sgs.com

Samples Received Mon 31/10/2011  
Report Due Mon 7/11/2011  
SGS Reference **SE102942**

### SUBMISSION DETAILS

This is to confirm that 55 samples were received on Monday 31/10/2011. Results are expected to be ready by Monday 7/11/2011. Please quote SGS reference SE102942 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	39 Soil, 1 Bulk, 2 Water	Type of documentation received	COC
Date documentation received	31/10/2011	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

### COMMENTS

Filtration & acidification will be conducted at SGS for dissolved metals analysis.  
1 soil samples have been placed on hold and no tests assigned. These samples will not be processed.  
This sample receipt advice cancels and supercedes previous SRA issued by SGS due to addition of testing to workorder.  
Email request made by client 04/11/2011@3:03pm, TP10(0-0.3m)(SE102942-9) and TP10 (0.5-0.8m)(SE102942-55) to be analysed for Asbestos testing.

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

CLIENT DETAILS

Client	Geotechnique	Project	12576/1 - Marsden Park Precinct
--------	--------------	---------	---------------------------------

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in	PCBs in Soil	Total Recoverable Metals in Soil by ICPOES from	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
009	TP10 0-0.3	1	26	22	11	7	3	12	2
021	TP23 0-0.15	1	-	-	-	7	-	-	-
022	TP24 0-0.15	1	-	-	-	7	-	-	-

CONTINUED OVERLEAF

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

CLIENT DETAILS

Client **Geotechnique** Project **12576/1 - Marsden Park Precinct**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	OC Pesticides in Soil	Total Recoverable Metals in Soil by ICPOES from
043	C1	1	26	7
044	C2	1	26	7
045	C3	1	26	7
046	C4	1	-	7
047	C5	1	-	7
048	C6	1	26	7

CONTINUED OVERLEAF

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



CLIENT DETAILS

Client **Geotechnique** Project **12576/1 - Marsden Park Precinct**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	OC Pesticides in Soil	Total Recoverable Metals in Soil by ICPOES from
049	C7	1	-	7
050	C8	1	26	7
051	C9	1	26	7
052	C10	1	26	7
053	C11	1	26	7
054	Duplicate DD1	1	26	7

CONTINUED OVERLEAF

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

CLIENT DETAILS

Client **Geotechnique** Project **12576/1 - Marsden Park Precinct**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre ID in bulk materials	Fibre Identification in soil	Moisture Content
009	TP10 0-0.3	-	2	1
010	TP10 0-0.3_ZLB	1	-	-
021	TP23 0-0.15	-	-	1
022	TP24 0-0.15	-	-	1

CONTINUED OVERLEAF

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

CLIENT DETAILS

Client **Geotechnique** Project **12576/1 - Marsden Park Precinct**

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Metals in Water (Dissolved) by ICPOES	Moisture Content
041	Rinsate D1	1	7	-
042	Rinsate R2	1	7	-
043	C1	-	-	1
044	C2	-	-	1
045	C3	-	-	1
046	C4	-	-	1
047	C5	-	-	1
048	C6	-	-	1

CONTINUED OVERLEAF

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

CLIENT DETAILS

Client **Geotechnique** Project **12576/1 - Marsden Park Precinct**

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Moisture Content
049	C7	-	1
050	C8	-	1
051	C9	-	1
052	C10	-	1
053	C11	-	1
054	Duplicate DD1	-	1
055	TP10 0.5-0.8	2	-

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

## CLIENT DETAILS

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 Geotechnique  
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 NSW 2751**

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 Facsimile **02 4722 6161**  
 Email **anwar.barbhuyia@geotech.com.au**

Project **12576/1 - Marsden Park Precinct-Add**  
 Order Number **(Not specified)**  
 Samples **27**

## LABORATORY DETAILS

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 Laboratory **SGS Alexandria Environmental**  
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 Alexandria NSW 2015**

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SGS Reference **SE102942A R0**  
 Report Number **0000011860**  
 Date Reported **16 Nov 2011**  
 Date Received **31 Oct 2011**

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.  
 Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

METALS: The Limit of Reporting (LOR) has been raised 2x for sample #14 due to interferences from the sample matrix.

## SIGNATORIES



**Dong Liang**  
 Inorganics Metals Team Leader

Sample Number	SE102942A.001	SE102942A.002	SE102942A.003	SE102942A.004	SE102942A.005
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011	28 Oct 2011
Sample Name	TP1 0-0.1	TP2 0-0.1	TP4 0-0.1	TP5 0-0.1	TP6 0-0.15
Parameter	Units	LOR			

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	7	11	<3	3	7
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	18	15	15	14	9.1
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Sample Number	SE102942A.007	SE102942A.008
Sample Matrix	Soil	Soil
Sample Date	28 Oct 2011	28 Oct 2011
Sample Name	TP8 0-0.15	TP9 0-0.1
Parameter	Units	LOR

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	<3	8
Zinc, Zn	mg/kg	0.5	-	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	15	16
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Sample Number	SE102942A.013	SE102942A.014	SE102942A.015
Sample Matrix	Soil	Soil	Soil
Sample Date	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP13 0-0.15	TP14 0-0.1	TP15 0-0.1
Parameter	Units	LOR	

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	9	8	5
Zinc, Zn	mg/kg	0.5	-	-	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	7.6	19	16
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Sample Number	SE102942A.017	SE102942A.018
Sample Matrix	Soil	Soil
Sample Date	28 Oct 2011	28 Oct 2011
Sample Name	TP18 0-0.1	TP19 0-0.1
Parameter	Units	LOR

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	<3	4
Zinc, Zn	mg/kg	0.5	-	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	9.4	15
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Parameter	Units	LOR	
Sample Number	SE102942A.023	SE102942A.024	SE102942A.025
Sample Matrix	Soil	Soil	Soil
Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP25 0-0.15	TP26 0-0.15	TP27 0-0.15

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	<3
Zinc, Zn	mg/kg	0.5	<b>9.9</b>	<b>11</b>	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	<b>15</b>	<b>17</b>	<b>15</b>
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Parameter	Units	LOR			
Sample Number	SE102942A.026	SE102942A.027	SE102942A.028	SE102942A.029	SE102942A.030
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	28 Oct 2011	28 Oct 2011	28 Oct 2011	27 Oct 2011	27 Oct 2011
Sample Name	TP28 0-0.1	TP29 0-0.1	TP30 0-0.1	TP31 0-0.15	TP32 0-0.15

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	<b>5</b>	<b>5</b>	<b>9</b>	-	<3
Zinc, Zn	mg/kg	0.5	-	-	-	<b>350</b>	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	<b>13</b>	<b>6.9</b>	<b>10</b>	<b>24</b>	<b>15</b>
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Parameter	Units	LOR			
Sample Number	SE102942A.031	SE102942A.032	SE102942A.033	SE102942A.034	SE102942A.035
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	27 Oct 2011	27 Oct 2011	27 Oct 2011	28 Oct 2011	27 Oct 2011
Sample Name	TP33 0-0.15	TP34 0-0.1	TP35 0-0.1	TP36 0-0.1	SD1

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	<b>4</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>8</b>
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	<b>15</b>	<b>8.9</b>	<b>14</b>	<b>15</b>	<b>34</b>
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Parameter	Units	LOR
Sample Number	SE102942A.036	SE102942A.037
Sample Matrix	Soil	Soil
Sample Date	27 Oct 2011	28 Oct 2011
Sample Name	SD2	SD3

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	<3	<b>13</b>
Zinc, Zn	mg/kg	0.5	-	-

**Moisture Content Method: AN234**

% Moisture	%	0.5	<b>15</b>	<b>48</b>
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MB blank results are compared to the Limit of Reporting  
 LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.  
 DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Moisture Content Method: ME-(AU)-[ENV]AN234**

Parameter	QC Reference	Units	LOR	DUP %RPD
% Moisture	LB008624	%	0.5	1 - 4%

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Arsenic, As	LB008705	mg/kg	3	<3	4%	100%	73%
	LB008706	mg/kg	3	<3	1 - 3%	99%	87%
Zinc, Zn	LB008705	mg/kg	0.5	<0.5	0%	100%	
	LB008706	mg/kg	0.5	<0.5	1%	98%	



METHOD

METHODOLOGY SUMMARY

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.

AN234

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.

FOOTNOTES

IS Insufficient sample for analysis.  
 LNR Sample listed, but not received.  
 \* This analysis is not covered by the scope of accreditation.  
 ^ Performed by outside laboratory.  
 LOR Limit of Reporting  
 ↑↓ Raised or Lowered Limit of Reporting

QFH QC result is above the upper tolerance  
 QFL QC result is below the lower tolerance  
 - The sample was not analysed for this analyte  
 NVL Not Validated

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

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

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# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE102942A R0

## CLIENT DETAILS

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Project **12576/1 - Marsden Park Precinct-Add**  
Order Number (Not specified)  
Samples 27

## LABORATORY DETAILS

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SGS Reference SE102942A R0  
Report Number 0000011885  
Date Reported 16 Nov 2011

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' 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.

## SAMPLE SUMMARY

Sample counts by matrix	27 Soils	Type of documentation received	Email
Date documentation received	9/11/11@4:05pm	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

### HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
<b>Moisture Content Method: ME-(AU)-[ENV]AN234</b>								
TP1 0-0.1	SE102942A.001	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP2 0-0.1	SE102942A.002	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP4 0-0.1	SE102942A.003	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP5 0-0.1	SE102942A.004	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP6 0-0.15	SE102942A.005	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP8 0-0.15	SE102942A.007	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP9 0-0.1	SE102942A.008	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP13 0-0.15	SE102942A.013	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP14 0-0.1	SE102942A.014	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP15 0-0.1	SE102942A.015	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP18 0-0.1	SE102942A.017	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP19 0-0.1	SE102942A.018	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP25 0-0.15	SE102942A.023	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP26 0-0.15	SE102942A.024	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP27 0-0.15	SE102942A.025	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP28 0-0.1	SE102942A.026	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP29 0-0.1	SE102942A.027	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP30 0-0.1	SE102942A.028	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP31 0-0.15	SE102942A.029	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP32 0-0.15	SE102942A.030	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP33 0-0.15	SE102942A.031	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP34 0-0.1	SE102942A.032	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP35 0-0.1	SE102942A.033	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
TP36 0-0.1	SE102942A.034	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
SD1	SE102942A.035	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
SD2	SE102942A.036	LB008624	27 Oct 2011	31 Oct 2011	10 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011
SD3	SE102942A.037	LB008624	28 Oct 2011	31 Oct 2011	11 Nov 2011	10 Nov 2011	15 Nov 2011	14 Nov 2011

**Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320**

TP1 0-0.1	SE102942A.001	LB008705	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP2 0-0.1	SE102942A.002	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP4 0-0.1	SE102942A.003	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP5 0-0.1	SE102942A.004	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP6 0-0.15	SE102942A.005	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP8 0-0.15	SE102942A.007	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP9 0-0.1	SE102942A.008	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP13 0-0.15	SE102942A.013	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP14 0-0.1	SE102942A.014	LB008705	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP15 0-0.1	SE102942A.015	LB008705	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP18 0-0.1	SE102942A.017	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP19 0-0.1	SE102942A.018	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP25 0-0.15	SE102942A.023	LB008705	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP26 0-0.15	SE102942A.024	LB008705	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP27 0-0.15	SE102942A.025	LB008705	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP28 0-0.1	SE102942A.026	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP29 0-0.1	SE102942A.027	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP30 0-0.1	SE102942A.028	LB008705	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
TP31 0-0.15	SE102942A.029	LB008705	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP32 0-0.15	SE102942A.030	LB008706	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP33 0-0.15	SE102942A.031	LB008706	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP34 0-0.1	SE102942A.032	LB008706	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011

## HOLDING TIMES

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.

The 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 and in **Bold** with an appended dagger symbol and **Red†** 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.

Sample Name	Sample Number	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35 0-0.1	SE102942A.033	LB008706	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
TP36 0-0.1	SE102942A.034	LB008706	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011
SD1	SE102942A.035	LB008706	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
SD2	SE102942A.036	LB008706	27 Oct 2011	31 Oct 2011	24 Apr 2012	14 Nov 2011	24 Apr 2012	16 Nov 2011
SD3	SE102942A.037	LB008706	28 Oct 2011	31 Oct 2011	25 Apr 2012	14 Nov 2011	25 Apr 2012	16 Nov 2011

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 **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Surrogates were required for this job.



# METHOD BLANKS

SE102942A R0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).  
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control LOR	BLK MB
-----------	-------	-------------	--------

Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320

LB008705.001

Arsenic, As	mg/kg	3	<3
Zinc, Zn	mg/kg	0.5	<0.5

LB008706.001

Arsenic, As	mg/kg	3	<3
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Duplicates are calculated as relative percent difference (RPD) using the formula  $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$   
 The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times StatisticalDetectionLimit / Mean + LimitingRepeatability$   
 Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.  
 RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Sample Name		SE102942A.015-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Moisture Content Method: ME-(AU)-[ENV]AN234  
 LB008624.011

% Moisture	%	0.5	16	17	33	3
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Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320  
 LB008705.014

Arsenic, As	mg/kg	3	5	4	97	4
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Sample Name		SE102942A.029-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320  
 LB008705.024

Zinc, Zn	mg/kg	0.5	350	350	30	0
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Sample Name		SE102942A.030-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Moisture Content Method: ME-(AU)-[ENV]AN234  
 LB008624.022

% Moisture	%	0.5	15	15	33	4
------------	---	-----	----	----	----	---

Sample Name		SE102942A.037-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Moisture Content Method: ME-(AU)-[ENV]AN234  
 LB008624.030

% Moisture	%	0.5	48	48	31	1
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Sample Name		SE102978A.002-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320  
 LB008706.014

Arsenic, As	mg/kg	3	7.72575294052681	8	69	1
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Sample Name		SE102978A.012-DUP				
Parameter	Units	LOR	Original Result	Duplicate Result	Criteria %	RPD %

Total Recoverable Metals In Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320  
 LB008706.024

Arsenic, As	mg/kg	3	13.5104980650155	14	52	3
-------------	-------	---	------------------	----	----	---

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Control		LCS STD			
	Units	LOR	Result	Expected Result	Criteria %	Recovery %
<b>Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320</b>						
LB008705.002						
Arsenic, As	mg/kg	3	50	50	80 - 120	<b>100</b>
Zinc, Zn	mg/kg	0.5	50	50	80 - 120	<b>100</b>
LB008706.002						
Arsenic, As	mg/kg	3	49	50	80 - 120	<b>99</b>



Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

Parameter	Units	Control		MS		
		LOR	Result	Original Result	Spike Added	Recovery %
<b>Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320</b> LB008705.004						
Arsenic, As	mg/kg	3	43	7	50	<b>73</b>
LB008706.004						
Arsenic, As	mg/kg	3	46	<3	50	<b>87</b>

Matrix spike duplicates are calculated as relative percent difference using the formula  $RPD = \frac{|OriginalResult - ReplicateResult|}{Mean} \times 100$

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

The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula:  $MaxAllowableDifference = 100 \times \frac{StatisticalDetectionLimit}{Mean} + LimitingRepeatability$

RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and **Red†** when outside suggested criteria.

No Matrix Spike Duplicates were required for this job.

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	NATA Accreditation does not cover this analysis.	NA	The sample was not analysed for this analyte
^	Performed by outside laboratory.		
LOR	Limit of Reporting		

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

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.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf>

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

This test report shall not be reproduced, except in full.

SGS Ref: 55102942A  
 Date Due: 16/11/11  
 TAT: NORMAL

COX 9/11/2011 @ 4:05 PM

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place P O Box 880 Tel: (02) 4722 2700  
 PENRITH NSW 2750 PENRITH NSW 2751 Fax: (02) 4722 6161  
 email: info@geotech.com.au

Page 1 of 4

<b>TO:</b> SGS ENVIRONMENTAL SERVICES UNIT 16 33 MADDOX STREET ALEXANDRIA NSW 2015  <b>PH:</b> 02 8594 0400 <b>FAX:</b> 02 8594 0499  <b>ATTN:</b> MS ANGELA MAMALICOS	<b>Sampling By:</b> AN <b>Job No:</b> 12576/1  <b>Project:</b>  <b>Project Manager:</b> AB <b>Location:</b> Marsden Park Precinct
---	---

Sampling details				Sample type		Results required by: Normal Turnaround Time										
Location	Depth (m)	Date	Time	Soil	Material	ARSENIC	ZINC								SGS REF:	KEEP SAMPLE
1 TP1	0-0.1	27/10/2011	-	SG		✓									SE102942-	YES
2 TP2	0-0.1	28/10/2011	-	SG		✓									SE102942-	YES
3 TP4	0-0.1	28/10/2011	-	SG		✓									SE102942-	YES
4 TP5	0-0.1	28/10/2011	-	SG		✓									SE102942-	YES
5 TP6	0-0.15	28/10/2011	-	SG		✓									SE102942-	YES
TP7	0-0.15	28/10/2011	-	SG											SE102942-	YES
7 TP8	0-0.15	28/10/2011	-	SG		✓									SE102942-	YES
8 TP9	0-0.1	28/10/2011	-	SG		✓									SE102942-	YES
TP10	0-0.3	28/10/2011	-	SG/SP											SE102942-	YES
TP10	0-0.3	28/10/2011	-		FCP										SE102942-	YES
TP10	0.5-0.8	28/10/2011	-	SG/SP											SE102942-	YES
TP10	0.95-1.1	28/10/2011	-	SG											SE102942-	YES

Relinquished by			Received by		
Name	Signature	Date	Name	Signature	Date
ANWAR BARBHUYIA	AB	9/11/2011	<i>Angela M</i>	<i>Co</i>	9/11/11

Legend:  
 WG Water sample, glass bottle      SG Soil sample (glass jar)      SP Soil sample (plastic bag)      \* Purge & Trap  
 WP Water sample, plastic bottle      FCP Fibro Cement Piece      ✓ Test required

Lemko Place  
PENRITH NSW 2750

P O Box 880  
PENRITH NSW 2751

Tel: (02) 4722 2700  
Fax: (02) 4722 6161  
email: info@geotech.com.au

Page 2 of 4

TO: SGS ENVIRONMENTAL SERVICES  
UNIT 16  
33 MADDOX STREET  
ALEXANDRIA NSW 2015

PH: 02 8594 0400

FAX: 02 8594 0499

ATTN: MS ANGELA MAMALICOS

Sampling By: AN

Job No: 12576/1

Project:

Project Manager: AB

Location: Marsden Park Precinct

Sampling details				Sample type		Results required by: Normal Turnaround Time										
Location	Depth (m)	Date	Time	Soil	Water	ARSENIC	ZINC								SGS REF:	KEEP SAMPLE
TP11	0-0.15	28/10/2011	-	SG											SE102942-	YES
TP12	0-0.1	28/10/2011	-	SG											SE102942-	YES
13 TP13	0-0.15	28/10/2011	-	SG		✓									SE102942-	YES
14 TP14	0-0.1	27/10/2011	-	SG		✓									SE102942-	YES
15 TP15	0-0.1	27/10/2011	-	SG		✓									SE102942-	YES
TP16	0-0.1	27/10/2011	-	SG											SE102942-	YES
17 TP18	0-0.1	28/10/2011	-	SG		✓									SE102942-	YES
18 TP19	0-0.1	28/10/2011	-	SG		✓									SE102942-	YES
TP21	0-0.1	27/10/2011	-	SG											SE102942-	YES
TP22	0-0.15	27/10/2011	-	SG											SE102942-	YES
TP23	0-0.15	27/10/2011	-	SG											SE102942-	YES
TP24	0-0.15	27/10/2011	-	SG											SE102942-	YES

Relinquished by			Received by		
Name	Signature	Date	Name	Signature	Date
ANWAR BARBHUYIA	AB	9/11/2011	<i>Angela M</i>	<i>a</i>	9/11/11

Legend:

WG	Water sample, glass bottle	SG	Soil sample (glass jar)	SP	Soil sample (plastic bag)	* Purge & Trap
WP	Water sample, plastic bottle	FCP	Fibro Cement Piece	✓	Test required	

Lemko Place  
PENRITH NSW 2750

P O Box 880  
PENRITH NSW 2751

Tel: (02) 4722 2700  
Fax: (02) 4722 6161  
email: info@geotech.com.au

**TO:** SGS ENVIRONMENTAL SERVICES  
UNIT 16  
33 MADDOX STREET  
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400      **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN      **Job No:** 12576/1

**Project:**

**Project Manager:** AB      **Location:** Marsden Park Precinct

Sampling details				Sample type		Results required by: Normal Turnaround Time									
Location	Depth (m)	Date	Time	Soil	Water										

						ARSENIC	ZINC							SGS REF:	KEEP SAMPLE
23	TP25	0-0.15	27/10/2011	-	SG		✓							SE102942-	YES
24	TP26	0-0.15	27/10/2011	-	SG		✓							SE102942-	YES
25	TP27	0-0.15	27/10/2011	-	SG	✓								SE102942-	YES
26	TP28	0-0.1	28/10/2011	-	SG	✓								SE102942-	YES
27	TP29	0-0.1	28/10/2011	-	SG	✓								SE102942-	YES
28	TP30	0-0.1	28/10/2011	-	SG	✓								SE102942-	YES
29	TP31	0-0.15	27/10/2011	-	SG		✓							SE102942-	YES
30	TP32	0-0.15	27/10/2011	-	SG	✓								SE102942-	YES
31	TP33	0-0.15	27/10/2011	-	SG	✓								SE102942-	YES
32	TP34	0-0.1	27/10/2011	-	SG	✓								SE102942-	YES
33	TP35	0-0.1	27/10/2011	-	SG	✓								SE102942-	YES
34	TP36	0-0.1	28/10/2011	-	SG	✓								SE102942-	YES

Relinquished by			Received by		
Name	Signature	Date	Name	Signature	Date
ANWAR BARBHUYIA	AB	9/11/2011	<i>Barbhuyia</i>	<i>AB</i>	9/11/11

**Legend:**

WG	Water sample, glass bottle	SG	Soil sample (glass jar)	SP	Soil sample (plastic bag)	* Purge & Trap
WP	Water sample, plastic bottle	FCP	Fibro Cement Piece	✓	Test required	

Lemko Place  
PENRITH NSW 2750

P O Box 880  
PENRITH NSW 2751

Tel: (02) 4722 2700  
Fax: (02) 4722 6161  
email: info@geotech.com.au

**TO:** SGS ENVIRONMENTAL SERVICES  
UNIT 16  
33 MADDOX STREET  
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400      **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN      **Job No:** 12576/1

**Project:**

**Project Manager:** AB      **Location:** Marsden Park Precinct

Sampling details				Sample type		Results required by: Normal Turnaround Time									
Location	Depth (m)	Date	Time	Soil	Water	ARSENIC		ZINC						SGS REF:	KEEP SAMPLE
35 SD1	0-0.1	27/10/2011	-	SG		✓								SE102942-	YES
36 SD2	0-0.1	27/10/2011	-	SG		✓								SE102942-	YES
37 SD3	0-0.1	28/10/2011	-	SG		✓								SE102942-	YES

Relinquished by			Received by		
Name	Signature	Date	Name	Signature	Date
ANWAR BARBHUYIA	AB	9/11/2011	Bimby Tan	[Signature]	9/11/11

**Legend:**

WG	Water sample, glass bottle	SG	Soil sample (glass jar)	SP	Soil sample (plastic bag)	* Purge & Trap
WP	Water sample, plastic bottle	FCP	Fibro Cement Piece	✓	Test required	



## SAMPLE RECEIPT ADVICE

SE102942A

### CLIENT DETAILS

Contact Anwar Barbhuyia  
Client Geotechnique  
Address P.O. Box 880  
PENRITH NSW 2751

Telephone 02 4722 2700  
Facsimile 02 4722 6161  
Email anwar.barbhuyia@geotech.com.au

Project **12576/1 - Marsden Park Precinct-Add**  
Order Number (Not specified)  
Samples 27

### LABORATORY DETAILS

Manager Huong Crawford  
Laboratory SGS Alexandria Environmental  
Address Unit 16, 33 Maddox St  
Alexandria NSW 2015

Telephone +61 2 8594 0400  
Facsimile +61 2 8594 0499  
Email au.environmental.sydney@sgs.com

Samples Received Mon 31/10/2011  
Report Due Wed 16/11/2011  
SGS Reference **SE102942A**

### SUBMISSION DETAILS

This is to confirm that 27 samples were received on Monday 31/10/2011. Results are expected to be ready by Wednesday 16/11/2011. Please quote SGS reference SE102942A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	27 Soils	Type of documentation received	Email
Date documentation received	9/11/11@4:05pm	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	2.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

### COMMENTS

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

CLIENT DETAILS

Client **Geotechnique** Project **12576/1 - Marsden Park Precinct-Add**

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content	Total Recoverable Metals in Soil by ICPOES from
001	TP1 0-0.1	1	1
002	TP2 0-0.1	1	1
003	TP4 0-0.1	1	1
004	TP5 0-0.1	1	1
005	TP6 0-0.15	1	1
007	TP8 0-0.15	1	1
008	TP9 0-0.1	1	1
013	TP13 0-0.15	1	1
014	TP14 0-0.1	1	1
015	TP15 0-0.1	1	1
017	TP18 0-0.1	1	1
018	TP19 0-0.1	1	1
023	TP25 0-0.15	1	1
024	TP26 0-0.15	1	1

CONTINUED OVERLEAF

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



CLIENT DETAILS

Client	Geotechnique	Project	12576/1 - Marsden Park Precinct-Add
--------	--------------	---------	-------------------------------------

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content	Total Recoverable Metals in Soil by ICPOES from
025	TP27 0-0.15	1	1
026	TP28 0-0.1	1	1
027	TP29 0-0.1	1	1
028	TP30 0-0.1	1	1
029	TP31 0-0.15	1	1
030	TP32 0-0.15	1	1
031	TP33 0-0.15	1	1
032	TP34 0-0.1	1	1
033	TP35 0-0.1	1	1
034	TP36 0-0.1	1	1
035	SD1	1	1
036	SD2	1	1
037	SD3	1	1

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

## CLIENT DETAILS

Contact **Anwar Barbhuyia**  
Geotechnique  
Client Address **P.O. Box 880  
NSW 2751**

Telephone **02 4722 2700**  
Facsimile **02 4722 6161**  
Email **anwar.barbhuyia@geotech.com.au**

Project **12576/1 - Marsden Park Precinct**  
Order Number **(Not specified)**  
Samples **50**

## LABORATORY DETAILS

Manager **Huong Crawford**  
Laboratory **SGS Alexandria Environmental**  
Address **Unit 16, 33 Maddox St  
Alexandria NSW 2015**

Telephone **+61 2 8594 0400**  
Facsimile **+61 2 8594 0499**  
Email **au.environmental.sydney@sgs.com**

SGS Reference **SE103054 R0**  
Report Number **0000011633**  
Date Reported **11 Nov 2011**  
Date Received **03 Nov 2011**

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.  
Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

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

## SIGNATORIES



Andy Sutton  
Organics Chemist



Dong Liang  
Inorganics Metals Team Leader



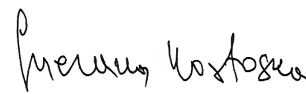
Huong Crawford  
Laboratory Manager



Ly Kim Ha  
Organics Supervisor



Ravee Sivasubramaniam  
Hygienist



Snezana Kostoska  
Inorganics Chemist

	Sample Number	SE103054.001	SE103054.002	SE103054.003	SE103054.004	SE103054.005
Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	31 Oct 2011	31 Oct 2011	31 Oct 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name	TP3 0-0.1	TP17 0-0.1	TP20 0-0.15	TP37 0-0.15	TP38 0-0.15	TP38 0-0.15

Parameter Units LOR

### VOC's in Soil Method: AN433/AN434

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE103054.001	SE103054.002	SE103054.003	SE103054.004	SE103054.005
Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

### Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434

TRH C6-C9	mg/kg	20	-	-	-	-	-
-----------	-------	----	---	---	---	---	---

Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

### TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
-----------------	---	---	---	---	---	---	---

### PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420

Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a,h)anthracene	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE103054.001	SE103054.002	SE103054.003	SE103054.004	SE103054.005
Sample Number			SE103054.001	SE103054.002	SE103054.003	SE103054.004	SE103054.005
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			31 Oct 2011	31 Oct 2011	31 Oct 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP3 0-0.1	TP17 0-0.1	TP20 0-0.15	TP37 0-0.15	TP38 0-0.15

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)**

Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	0.8	-	-	-	-	-

Surrogates

d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	-	-	-
Alpha BHC	mg/kg	0.1	-	-	-	-	-
Lindane	mg/kg	0.1	-	-	-	-	-
Heptachlor	mg/kg	0.1	-	-	-	-	-
Aldrin	mg/kg	0.1	-	-	-	-	-
Beta BHC	mg/kg	0.1	-	-	-	-	-
Delta BHC	mg/kg	0.1	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1	-	-	-	-	-
o,p'-DDE	mg/kg	0.1	-	-	-	-	-
Alpha Endosulfan	mg/kg	0.2	-	-	-	-	-
Gamma Chlordane	mg/kg	0.1	-	-	-	-	-
Alpha Chlordane	mg/kg	0.1	-	-	-	-	-
trans-Nonachlor	mg/kg	0.1	-	-	-	-	-
p,p'-DDE	mg/kg	0.1	-	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-	-
Endrin	mg/kg	0.2	-	-	-	-	-
o,p'-DDD	mg/kg	0.1	-	-	-	-	-
o,p'-DDT	mg/kg	0.1	-	-	-	-	-
Beta Endosulfan	mg/kg	0.2	-	-	-	-	-
p,p'-DDD	mg/kg	0.1	-	-	-	-	-
p,p'-DDT	mg/kg	0.1	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1	-	-	-	-	-
Endrin Aldehyde	mg/kg	0.1	-	-	-	-	-
Methoxychlor	mg/kg	0.1	-	-	-	-	-
Endrin Ketone	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR	SE103054.001	SE103054.002	SE103054.003	SE103054.004	SE103054.005
Sample Number			SE103054.001	SE103054.002	SE103054.003	SE103054.004	SE103054.005
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			31 Oct 2011	31 Oct 2011	31 Oct 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP3 0-0.1	TP17 0-0.1	TP20 0-0.15	TP37 0-0.15	TP38 0-0.15

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.2	-	-	-	-	-
Arochlor 1221	mg/kg	0.2	-	-	-	-	-
Arochlor 1232	mg/kg	0.2	-	-	-	-	-
Arochlor 1242	mg/kg	0.2	-	-	-	-	-
Arochlor 1248	mg/kg	0.2	-	-	-	-	-
Arochlor 1254	mg/kg	0.2	-	-	-	-	-
Arochlor 1260	mg/kg	0.2	-	-	-	-	-
Arochlor 1262	mg/kg	0.2	-	-	-	-	-
Arochlor 1268	mg/kg	0.2	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	1	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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**Total Phenolics in Soil Method: AN289**

Total Phenols	mg/kg	0.1	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	-
Copper, Cu	mg/kg	0.5	-	-	-	-	-
Lead, Pb	mg/kg	1	-	-	-	-	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-

Sample Number	SE103054.001	SE103054.002	SE103054.003	SE103054.004	SE103054.005
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	31 Oct 2011	31 Oct 2011	31 Oct 2011	01 Nov 2011	01 Nov 2011
Sample Name	TP3 0-0.1	TP17 0-0.1	TP20 0-0.15	TP37 0-0.15	TP38 0-0.15

Parameter Units LOR  
**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)**

Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

**Mercury (dissolved) in Water Method: AN311/AN312**

Mercury	mg/L	0.0001	-	-	-	-	-
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Sample Number	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name	TP39 0-0.15	TP40 0-0.15	TP41 0-0.15	TP42 0-0.1	TP43 0-0.15

Parameter Units LOR  
**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20	-	-	-	-	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Sample Number			SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP39 0-0.15	TP40 0-0.15	TP41 0-0.15	TP42 0-0.1	TP43 0-0.15

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)**

Surrogates

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
TRH (Surrogate)	%	-	-	-	-	-	-

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	0.8	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
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	0.05	-	-	<0.11	-	-
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	-	-

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Sample Number			SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP39 0-0.15	TP40 0-0.15	TP41 0-0.15	TP42 0-0.1	TP43 0-0.15

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	<b>113</b>	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1221	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1232	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1242	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1248	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1254	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1260	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1262	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1268	mg/kg	0.2	-	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	1	-	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-	-
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**Total Phenolics in Soil Method: AN289**

Total Phenols	mg/kg	0.1	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	<3	-	-
Cadmium, Cd	mg/kg	0.3	-	-	<0.3	-	-
Chromium, Cr	mg/kg	0.3	-	-	<b>8.9</b>	-	-
Copper, Cu	mg/kg	0.5	-	-	<b>9.5</b>	-	-
Lead, Pb	mg/kg	1	-	-	<b>11</b>	-	-
Nickel, Ni	mg/kg	0.5	-	-	<b>6.6</b>	-	-
Zinc, Zn	mg/kg	0.5	-	-	<b>20</b>	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	<0.05	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	<b>8.8</b>	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-



Sample Number	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name	TP39 0-0.15	TP40 0-0.15	TP41 0-0.15	TP42 0-0.1	TP43 0-0.15

Parameter Units LOR  
**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)**

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR	SE103054.006	SE103054.007	SE103054.008	SE103054.009	SE103054.010
Mercury	mg/L	0.0001	-	-	-	-	-

Sample Number	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name	TP44 0-0.1	TP45 0-0.1	TP46 0-0.1	TP47 0-0.2	TP47 0.5-0.8

Parameter Units LOR  
**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
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	-

Oxygenated Compounds

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	<0.1	-

Surrogates

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Dibromofluoromethane (Surrogate)	%	-	-	-	-	102	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	102	-
d8-toluene (Surrogate)	%	-	-	-	-	101	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	97	-

Totals

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Total BTEX*	mg/kg	-	-	-	-	0	-
Total Xylenes*	mg/kg	0.3	-	-	-	<0.3	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
TRH C6-C9	mg/kg	20	-	-	-	<20	-

Surrogates

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Trifluorotoluene (Surrogate)	%	-	-	-	-	116	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
TRH C10-C14	mg/kg	20	-	-	-	<20	-
TRH C15-C28	mg/kg	50	-	-	-	<50	-
TRH C29-C40	mg/kg	150	-	-	-	<150	-

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Sample Number			SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP44 0-0.1	TP45 0-0.1	TP46 0-0.1	TP47 0-0.2	TP47 0.5-0.8

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)**

Surrogates

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
TRH (Surrogate)	%	-	-	-	-	-	-

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
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	-	-	-	<b>0.2</b>	-
Anthracene	mg/kg	0.1	-	-	-	<0.1	-
Fluoranthene	mg/kg	0.1	-	-	-	<b>0.4</b>	-
Pyrene	mg/kg	0.1	-	-	-	<b>0.4</b>	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	<b>0.2</b>	-
Chrysene	mg/kg	0.1	-	-	-	<b>0.2</b>	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	<b>0.3</b>	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	<b>0.1</b>	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	<b>0.2</b>	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	<b>0.1</b>	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	<0.1	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	<b>0.2</b>	-
Total PAH	mg/kg	0.8	-	-	-	<b>2.3</b>	-

Surrogates

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
d5-nitrobenzene (Surrogate)	%	-	-	-	-	<b>111</b>	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	<b>91</b>	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	<b>112</b>	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
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	0.05	-	-	-	<0.1	-
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	-

Parameter	Units	LOR	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Sample Number			SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP44 0-0.1	TP45 0-0.1	TP46 0-0.1	TP47 0-0.2	TP47 0.5-0.8

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	<b>113</b>	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1221	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1232	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1242	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1248	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1254	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1260	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1262	mg/kg	0.2	-	-	-	-	<0.2	-
Arochlor 1268	mg/kg	0.2	-	-	-	-	<0.2	-
Total PCBs (Arochlors)	mg/kg	1	-	-	-	-	<1	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	<b>113</b>	-
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**Total Phenolics in Soil Method: AN289**

Total Phenols	mg/kg	0.1	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	-	-	<b>7</b>	-
Cadmium, Cd	mg/kg	0.3	-	-	-	-	<b>0.4</b>	-
Chromium, Cr	mg/kg	0.3	-	-	-	-	<b>16</b>	-
Copper, Cu	mg/kg	0.5	-	-	-	-	<b>22</b>	-
Lead, Pb	mg/kg	1	-	-	-	-	<b>46</b>	-
Nickel, Ni	mg/kg	0.5	-	-	-	-	<b>12</b>	-
Zinc, Zn	mg/kg	0.5	-	-	-	-	<b>79</b>	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	-	-	<b>0.06</b>	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	-	-	<b>13</b>	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-	-

Sample Number	SE103054.011	SE103054.012	SE103054.013	SE103054.014	SE103054.015
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name	TP44 0-0.1	TP45 0-0.1	TP46 0-0.1	TP47 0-0.2	TP47 0.5-0.8
Parameter	Units	LOR			

**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)**

Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

**Mercury (dissolved) in Water Method: AN311/AN312**

Mercury	mg/L	0.0001	-	-	-	-	-
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Sample Number	SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name	TP48 0-0.1	TP49 0-0.15	TP50 0-0.15	TP50 0.3-0.6	TP51 0-0.15
Parameter	Units	LOR			

**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Oxygenated Compounds

MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-
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Surrogates

Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Totals

Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

TRH C6-C9	mg/kg	20	-	-	-	-	-
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Surrogates

Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Parameter	Units	LOR	SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
Sample Number			SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP48 0-0.1	TP49 0-0.15	TP50 0-0.15	TP50 0.3-0.6	TP51 0-0.15

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)**

Surrogates

Parameter	Units	LOR	SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
TRH (Surrogate)	%	-	-	-	-	-	-

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Parameter	Units	LOR	SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
Naphthalene	mg/kg	0.1	-	-	-	-	-
2-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
1-methylnaphthalene	mg/kg	0.1	-	-	-	-	-
Acenaphthylene	mg/kg	0.1	-	-	-	-	-
Acenaphthene	mg/kg	0.1	-	-	-	-	-
Fluorene	mg/kg	0.1	-	-	-	-	-
Phenanthrene	mg/kg	0.1	-	-	-	-	-
Anthracene	mg/kg	0.1	-	-	-	-	-
Fluoranthene	mg/kg	0.1	-	-	-	-	-
Pyrene	mg/kg	0.1	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	-
Chrysene	mg/kg	0.1	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	-
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	-
Total PAH	mg/kg	0.8	-	-	-	-	-

Surrogates

Parameter	Units	LOR	SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
Hexachlorobenzene (HCB)	mg/kg	0.1	-	-	<0.1	-	-
Alpha BHC	mg/kg	0.1	-	-	<0.1	-	-
Lindane	mg/kg	0.1	-	-	<0.1	-	-
Heptachlor	mg/kg	0.1	-	-	<0.1	-	-
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	0.05	-	-	<0.11	-	-
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	-	-

Parameter	Units	LOR	SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
Sample Number			SE103054.016	SE103054.017	SE103054.018	SE103054.019	SE103054.020
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011	01 Nov 2011
Sample Name			TP48 0-0.1	TP49 0-0.15	TP50 0-0.15	TP50 0.3-0.6	TP51 0-0.15

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	<b>114</b>	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1221	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1232	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1242	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1248	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1254	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1260	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1262	mg/kg	0.2	-	-	-	-	-	-
Arochlor 1268	mg/kg	0.2	-	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	1	-	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-	-
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**Total Phenolics in Soil Method: AN289**

Total Phenols	mg/kg	0.1	-	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	-	<b>8</b>	-	-
Cadmium, Cd	mg/kg	0.3	-	-	<b>0.4</b>	-	-
Chromium, Cr	mg/kg	0.3	-	-	<b>16</b>	-	-
Copper, Cu	mg/kg	0.5	-	-	<b>24</b>	-	-
Lead, Pb	mg/kg	1	-	-	<b>21</b>	-	-
Nickel, Ni	mg/kg	0.5	-	-	<b>5.4</b>	-	-
Zinc, Zn	mg/kg	0.5	-	-	<b>26</b>	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	-	<0.05	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	-	<b>12</b>	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-



Parameter	Units	LOR	SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
Sample Number			SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
Sample Matrix			Soil	Soil	Soil	Soil	Material
Sample Date			01 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011
Sample Name			TP52 0-0.15	TP53 0-0.3	TP54 0-0.3	TP55 0-0.3	TP55 0-0.3_ZLB

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)**

Surrogates

Parameter	Units	LOR	SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
TRH (Surrogate)	%	-	-	-	-	-	-

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Parameter	Units	LOR	SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
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)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(a,h)anthracene	mg/kg	0.1	-	<0.1	-	-	-
Benzo(ghi)perylene	mg/kg	0.1	-	<0.1	-	-	-
Total PAH	mg/kg	0.8	-	<0.8	-	-	-

Surrogates

Parameter	Units	LOR	SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
d5-nitrobenzene (Surrogate)	%	-	-	110	-	-	-
2-fluorobiphenyl (Surrogate)	%	-	-	89	-	-	-
d14-p-terphenyl (Surrogate)	%	-	-	111	-	-	-

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
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	0.05	-	<0.11	-	-	-
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	-	-	-



Parameter	Units	LOR	SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
Sample Number			SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
Sample Matrix			Soil	Soil	Soil	Soil	Material
Sample Date			01 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011
Sample Name			TP52 0-0.15	TP53 0-0.3	TP54 0-0.3	TP55 0-0.3	TP55 0-0.3_ZLB

**OC Pesticides in Soil Method: AN400/AN420 (continued)**

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	<b>114</b>	-	-	-
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**PCBs in Soil Method: AN400/AN420**

Arochlor 1016	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1221	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1232	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1242	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1248	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1254	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1260	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1262	mg/kg	0.2	-	<0.2	-	-	-
Arochlor 1268	mg/kg	0.2	-	<0.2	-	-	-
Total PCBs (Arochlors)	mg/kg	1	-	<1	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	<b>114</b>	-	-	-
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**Total Phenolics in Soil Method: AN289**

Total Phenols	mg/kg	0.1	-	-	-	-	-
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**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320**

Arsenic, As	mg/kg	3	-	<b>10</b>	-	-	-
Cadmium, Cd	mg/kg	0.3	-	<b>0.5</b>	-	-	-
Chromium, Cr	mg/kg	0.3	-	<b>23</b>	-	-	-
Copper, Cu	mg/kg	0.5	-	<b>13</b>	-	-	-
Lead, Pb	mg/kg	1	-	<b>22</b>	-	-	-
Nickel, Ni	mg/kg	0.5	-	<b>11</b>	-	-	-
Zinc, Zn	mg/kg	0.5	-	<b>33</b>	-	-	-

**Mercury in Soil Method: AN312**

Mercury	mg/kg	0.05	-	<0.05	-	-	-
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**Fibre Identification in soil Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	No	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	<0.01	-
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**Fibre ID in bulk materials Method: AN602**

FibreID

Asbestos Detected	No unit	-	-	-	-	-	Yes
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**Moisture Content Method: AN234**

% Moisture	%	0.5	-	<b>8.6</b>	-	-	-
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**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321**

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-

Sample Number	SE103054.021	SE103054.022	SE103054.023	SE103054.024	SE103054.025
Sample Matrix	Soil	Soil	Soil	Soil	Material
Sample Date	01 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011
Sample Name	TP52 0-0.15	TP53 0-0.3	TP54 0-0.3	TP55 0-0.3	TP55 0-0.3_ZLB

Parameter	Units	LOR					
<b>Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)</b>							
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

Parameter	Units	LOR					
<b>Mercury (dissolved) in Water Method: AN311/AN312</b>							
Mercury	mg/L	0.0001	-	-	-	-	-

Sample Number	SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011
Sample Name	TP55 0.5-0.8	TP56 0-0.1	TP57 0-0.1	TP58 0-0.15	TP59 0-0.3

Parameter	Units	LOR					
<b>VOC's in Soil Method: AN433/AN434</b>							
Monocyclic Aromatic Hydrocarbons							
Benzene	mg/kg	0.1	-	-	-	-	-
Toluene	mg/kg	0.1	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	-	-	-	-	-
m/p-xylene	mg/kg	0.2	-	-	-	-	-
o-xylene	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR					
Oxygenated Compounds							
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	-	-	-

Parameter	Units	LOR					
Surrogates							
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Parameter	Units	LOR					
Totals							
Total BTEX*	mg/kg	-	-	-	-	-	-
Total Xylenes*	mg/kg	0.3	-	-	-	-	-

Parameter	Units	LOR					
<b>Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434</b>							
TRH C6-C9	mg/kg	20	-	-	-	-	-

Parameter	Units	LOR					
Surrogates							
Trifluorotoluene (Surrogate)	%	-	-	-	-	-	-
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

Parameter	Units	LOR					
<b>TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403</b>							
TRH C10-C14	mg/kg	20	-	-	-	-	-
TRH C15-C28	mg/kg	50	-	-	-	-	-
TRH C29-C40	mg/kg	150	-	-	-	-	-

Parameter	Units	LOR	SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Sample Number			SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011
Sample Name			TP55 0.5-0.8	TP56 0-0.1	TP57 0-0.1	TP58 0-0.15	TP59 0-0.3

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)**

Surrogates

TRH (Surrogate)	%	-	-	-	-	-	-
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**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

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	-	-	-	-	<b>0.2</b>
Acenaphthene	mg/kg	0.1	-	-	-	-	<0.1
Fluorene	mg/kg	0.1	-	-	-	-	<0.1
Phenanthrene	mg/kg	0.1	-	-	-	-	<b>1.1</b>
Anthracene	mg/kg	0.1	-	-	-	-	<b>0.4</b>
Fluoranthene	mg/kg	0.1	-	-	-	-	<b>2.0</b>
Pyrene	mg/kg	0.1	-	-	-	-	<b>2.0</b>
Benzo(a)anthracene	mg/kg	0.1	-	-	-	-	<b>1.3</b>
Chrysene	mg/kg	0.1	-	-	-	-	<b>0.8</b>
Benzo(b)fluoranthene	mg/kg	0.1	-	-	-	-	<b>1.2</b>
Benzo(k)fluoranthene	mg/kg	0.1	-	-	-	-	<b>0.4</b>
Benzo(a)pyrene	mg/kg	0.1	-	-	-	-	<b>1.0</b>
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	-	-	-	-	<b>0.5</b>
Dibenzo(a&h)anthracene	mg/kg	0.1	-	-	-	-	<b>0.1</b>
Benzo(ghi)perylene	mg/kg	0.1	-	-	-	-	<b>0.6</b>
Total PAH	mg/kg	0.8	-	-	-	-	<b>11</b>

Surrogates

d5-nitrobenzene (Surrogate)	%	-	-	-	-	-	<b>109</b>
2-fluorobiphenyl (Surrogate)	%	-	-	-	-	-	<b>101</b>
d14-p-terphenyl (Surrogate)	%	-	-	-	-	-	<b>107</b>

**OC Pesticides in Soil Method: AN400/AN420**

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	0.05	-	-	-	-	<0.1†
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

Parameter	Units	LOR	SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Sample Number			SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011
Sample Name			TP55 0.5-0.8	TP56 0-0.1	TP57 0-0.1	TP58 0-0.15	TP59 0-0.3

### OC Pesticides in Soil Method: AN400/AN420 (continued)

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	<b>111</b>
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### PCBs in Soil Method: AN400/AN420

Arochlor 1016	mg/kg	0.2	-	-	-	-	-
Arochlor 1221	mg/kg	0.2	-	-	-	-	-
Arochlor 1232	mg/kg	0.2	-	-	-	-	-
Arochlor 1242	mg/kg	0.2	-	-	-	-	-
Arochlor 1248	mg/kg	0.2	-	-	-	-	-
Arochlor 1254	mg/kg	0.2	-	-	-	-	-
Arochlor 1260	mg/kg	0.2	-	-	-	-	-
Arochlor 1262	mg/kg	0.2	-	-	-	-	-
Arochlor 1268	mg/kg	0.2	-	-	-	-	-
Total PCBs (Arochlors)	mg/kg	1	-	-	-	-	-

Surrogates

Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	-	-	-	-	-
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### Total Phenolics in Soil Method: AN289

Total Phenols	mg/kg	0.1	-	-	-	-	-
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### Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320

Arsenic, As	mg/kg	3	-	-	-	-	<b>3</b>
Cadmium, Cd	mg/kg	0.3	-	-	-	-	<0.3
Chromium, Cr	mg/kg	0.3	-	-	-	-	<b>7.4</b>
Copper, Cu	mg/kg	0.5	-	-	-	-	<b>12</b>
Lead, Pb	mg/kg	1	-	-	-	-	<b>59</b>
Nickel, Ni	mg/kg	0.5	-	-	-	-	<b>4.4</b>
Zinc, Zn	mg/kg	0.5	-	-	-	-	<b>63</b>

### Mercury in Soil Method: AN312

Mercury	mg/kg	0.05	-	-	-	-	<0.05
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### Fibre Identification in soil Method: AN602

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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SemiQuant

Estimated Fibres	%w/w	0.01	-	-	-	-	-
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### Fibre ID in bulk materials Method: AN602

FibreID

Asbestos Detected	No unit	-	-	-	-	-	-
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### Moisture Content Method: AN234

% Moisture	%	0.5	-	-	-	-	<b>4.9</b>
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### Metals in Water (Dissolved) by ICPOES Method: AN320/AN321

Arsenic, As	mg/L	0.05	-	-	-	-	-
Cadmium, Cd	mg/L	0.005	-	-	-	-	-
Chromium, Cr	mg/L	0.005	-	-	-	-	-
Copper, Cu	mg/L	0.01	-	-	-	-	-
Lead, Pb	mg/L	0.02	-	-	-	-	-

Sample Number	SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011	02 Nov 2011
Sample Name	TP55 0.5-0.8	TP56 0-0.1	TP57 0-0.1	TP58 0-0.15	TP59 0-0.3

Parameter Units LOR  
**Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)**

Parameter	Units	LOR	SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Nickel, Ni	mg/L	0.01	-	-	-	-	-
Zinc, Zn	mg/L	0.01	-	-	-	-	-

**Mercury (dissolved) in Water Method: AN311/AN312**

Parameter	Units	LOR	SE103054.026	SE103054.027	SE103054.028	SE103054.029	SE103054.030
Mercury	mg/L	0.0001	-	-	-	-	-

Sample Number	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Sample Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	31 Oct 2011	31 Oct 2011	01 Nov 2011	01 Nov 2011	02 Nov 2011
Sample Name	AST1 0-0.2	UST1 0-0.3	SD4 0-0.1	SD5 0-0.1	SP1

Parameter Units LOR  
**VOC's in Soil Method: AN433/AN434**

Monocyclic Aromatic Hydrocarbons

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Benzene	mg/kg	0.1	<0.1	<0.1	-	-	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	-	-	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	-	-	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	-	-	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	-	-	<0.1

Oxygenated Compounds

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	-	-	<0.1

Surrogates

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Dibromofluoromethane (Surrogate)	%	-	99	102	-	-	100
d4-1,2-dichloroethane (Surrogate)	%	-	100	101	-	-	100
d8-toluene (Surrogate)	%	-	94	97	-	-	100
Bromofluorobenzene (Surrogate)	%	-	100	101	-	-	102

Totals

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Total BTEX*	mg/kg	-	0	0	-	-	0
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	-	-	<0.3

**Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434**

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
TRH C6-C9	mg/kg	20	<20	<20	-	-	<20

Surrogates

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Trifluorotoluene (Surrogate)	%	-	130	124	-	-	126
Dibromofluoromethane (Surrogate)	%	-	-	-	-	-	-
d4-1,2-dichloroethane (Surrogate)	%	-	-	-	-	-	-
d8-toluene (Surrogate)	%	-	-	-	-	-	-
Bromofluorobenzene (Surrogate)	%	-	-	-	-	-	-

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403**

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
TRH C10-C14	mg/kg	20	910	<20	-	-	<20
TRH C15-C28	mg/kg	50	12000	<50	-	-	510
TRH C29-C40	mg/kg	150	7800	<150	-	-	480

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Sample Number			SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Sample Matrix			Soil	Soil	Soil	Soil	Soil
Sample Date			31 Oct 2011	31 Oct 2011	01 Nov 2011	01 Nov 2011	02 Nov 2011
Sample Name			AST1 0-0.2	UST1 0-0.3	SD4 0-0.1	SD5 0-0.1	SP1

**TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)**

Surrogates

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
TRH (Surrogate)	%	-	-	-	-	-	-

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420**

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-	0.1
2-methylnaphthalene	mg/kg	0.1	0.3	<0.1	-	-	<0.1
1-methylnaphthalene	mg/kg	0.1	0.5	<0.1	-	-	<0.1
Acenaphthylene	mg/kg	0.1	0.4	<0.1	-	-	1.4
Acenaphthene	mg/kg	0.1	0.3	<0.1	-	-	0.2
Fluorene	mg/kg	0.1	0.6	<0.1	-	-	0.4
Phenanthrene	mg/kg	0.1	4.3	<0.1	-	-	9.4
Anthracene	mg/kg	0.1	1.2	<0.1	-	-	3.3
Fluoranthene	mg/kg	0.1	5.8	<0.1	-	-	24
Pyrene	mg/kg	0.1	7.2	<0.1	-	-	26
Benzo(a)anthracene	mg/kg	0.1	2.8	<0.1	-	-	19
Chrysene	mg/kg	0.1	1.6	<0.1	-	-	9.4
Benzo(b)fluoranthene	mg/kg	0.1	5.6	<0.1	-	-	21
Benzo(k)fluoranthene	mg/kg	0.1	2.1	<0.1	-	-	6.5
Benzo(a)pyrene	mg/kg	0.1	3.5	<0.1	-	-	14
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	2.7	<0.1	-	-	8.6
Dibenzo(a,h)anthracene	mg/kg	0.1	<0.1	<0.1	-	-	0.8
Benzo(ghi)perylene	mg/kg	0.1	3.4	<0.1	-	-	9.9
Total PAH	mg/kg	0.8	42	<0.8	-	-	150

Surrogates

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
d5-nitrobenzene (Surrogate)	%	-	117	104	-	-	121
2-fluorobiphenyl (Surrogate)	%	-	114	102	-	-	111
d14-p-terphenyl (Surrogate)	%	-	118	102	-	-	128

**OC Pesticides in Soil Method: AN400/AN420**

Parameter	Units	LOR	SE103054.031	SE103054.032	SE103054.033	SE103054.034	SE103054.035
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	0.05	<0.11	<0.11	<0.11	<0.11	<0.11
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