APPENDIX B

(Laboratory Reports and Chain of Custody Documents)

SAMPLE AND CHAIN OF CUSTODY FORM

TO:
Envirolab Services Pty Ltd
12 Ashley Street
Chatswood NSW 2067
Phone: (02) 99106200
Fax: (02) 99106201

Attention: Aileen

EIS Job Number: E 24170K

Date Results Required: Standard

Sheet 1 / 1

FROM:
Environmental Investigation Services
Rear 116 Wicks Road
Macquarie Park NSW 2113
Phone: (02) 9888 5000
Fax: (02) 9888 5004

Contact: Rob Muller

Project: E24170K
Location: Gordon
Sampler: Rob Muller / Geoff Fletcher

Tests Required

Sample Preservation: In esky on ice

Date Sampled	Lab Ref:	Borehole/ Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 8a	Combo 13	Lead	TPH	BTEX	PAHs	OCP/OPP/ PCBs	Asbestos	TCLP 6 Metals	TCLP PAHs	Hold
11/3/11	1	BH11	0-0.1	Glass jar + ~~Asb Bag~~	0.0	Soil							X					
	2	BH11	0.4-0.5	Glass jar + ~~Asb Bag~~	0.0													X
	3	BH12	0-0.2	Glass jar + ~~Asb Bag~~	0.0								X					
	4	BH13	0-0.2	Glass jar + ✓Asb Bag	0.0					X			X		X			
	5	BH13	0.35-0.55	Glass jar + ✓Asb Bag	0.0													X
	6	BH14	0-0.2	Glass jar + ✓Asb Bag	0.0					X			X		X			
	7	BH14	0.6-0.8	Glass jar + ✓Asb Bag	0.0													X
	8	BH15	0.1-0.2	Glass jar + ✓Asb Bag	0.0					X			X		X			
	9	BH16	0-0.2	Glass jar + ~~Asb Bag~~	0.0					X								
	10	BH17	0-0.1	Glass jar + ✓Asb Bag	0.0					X			X		X			
	11	BH18	0-0.1	~~Glass jar~~ + ✓Asb Bag	0.0										X			
	12	BH19	0.1-0.2	Glass jar + ~~Asb Bag~~	0.0					X								
	13	BH20	0.2-0.3	Glass jar + ~~Asb Bag~~	0.0					X								
	14	BH21	0.1-0.2	Glass jar + ✓Asb Bag	0.0					X			X		X			
	15	BH22	0.2-0.3	Glass jar + ~~Asb Bag~~	0.0					X								
	16	BH23	0.1-0.2	Glass jar + ~~Asb Bag~~	0.0					X								
	17	BH24	0-0.1	Glass jar + ~~Asb Bag~~	0.0					X								
	18	BH25	0.1-0.2	Glass jar + ~~Asb Bag~~	0.0					X								
	19	BH26	0-0.1	Glass jar + ~~Asb Bag~~	0.0					X								
	20	BH10	0-1-0.2	Glass jar + ~~Asb Bag~~	0.0								X					
				Glass jar + Asb Bag														
				Glass jar + Asb Bag														
				Glass jar + Asb Bag														
				Glass jar + Asb Bag														
				Glass jar + Asb Bag														

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: 9910 6200

Job No: 52919
Date received: 11/3/11
Time received: 6pm
Received by: J.L.
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks (comments/detection limits required):

Relinquished By:

Date: 11/3/2011

Time:

Received By: J.L. 11/3/11 6pm

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 52919

Client:
Environmental Investigation Services
PO Box 976
North Ryde BC
NSW 1670

Attention: Rob Muller

Sample log in details:

Your Reference:	**E24170K, Gordon**
No. of samples:	20 soils
Date samples received / completed instructions received	11/03/2011 / 11/03/2011

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	18/03/11 / 15/03/11
Date of Preliminary Report:	Not Issued

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Results Approved By:

Nancy Zhang
Chemist

Rhian Morgan
Reporting Supervisor

Matt Mansfield
Approved Signatory

Envirolab Reference: 52919
Revision No: R 00

ACCREDITED FOR TECHNICAL COMPETENCE

PAHs in Soil Our Reference: Your Reference Depth Type of sample	UNITS ---------- ---------- 	52919-1 BH11 0-0.1 Soil	52919-3 BH12 0-0.2 Soil	52919-4 BH13 0-0.2 Soil	52919-6 BH14 0-0.2 Soil	52919-8 BH15 0.1-0.2 Soil
Date extracted	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Naphthalene	mg/kg	4.5	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	4.1	<0.1	0.2	<0.1	<0.1
Acenaphthene	mg/kg	1.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	3.7	<0.1	0.2	<0.1	<0.1
Phenanthrene	mg/kg	31	<0.1	1.9	<0.1	<0.1
Anthracene	mg/kg	5.9	<0.1	0.3	<0.1	<0.1
Fluoranthene	mg/kg	38	<0.1	2.3	<0.1	<0.1
Pyrene	mg/kg	33	<0.1	2.0	<0.1	<0.1
Benzo(a)anthracene	mg/kg	14	<0.1	0.7	<0.1	<0.1
Chrysene	mg/kg	14	<0.1	0.7	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	24	<0.2	1.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	17	<0.05	0.8	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	12	<0.1	0.6	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	2.5	<0.1	0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	12	<0.1	0.6	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	125	129	128	126	123

PAHs in Soil Our Reference: Your Reference Depth Type of sample	UNITS ---------- ----------	52919-10 BH17 0-0.1 Soil	52919-14 BH21 0.1-0.2 Soil	52919-20 BH10 0.1-0.2 Soil
Date extracted	-	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	14/03/2011	14/03/2011	14/03/2011
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	1.6
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.2
Phenanthrene	mg/kg	0.1	0.2	1.4
Anthracene	mg/kg	<0.1	<0.1	1.1
Fluoranthene	mg/kg	0.2	0.4	7.8
Pyrene	mg/kg	0.2	0.3	8.7
Benzo(a)anthracene	mg/kg	<0.1	0.1	7.3
Chrysene	mg/kg	0.1	0.2	7.0
Benzo(b+k)fluoranthene	mg/kg	<0.2	0.3	12
Benzo(a)pyrene	mg/kg	0.1	0.2	9.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.1	5.8
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	1.4
Benzo(g,h,i)perylene	mg/kg	<0.1	0.1	5.8
Surrogate p-Terphenyl-d14	%	124	127	127

Acid Extractable metals in soil						
Our Reference:	UNITS	52919-4	52919-6	52919-8	52919-9	52919-10
Your Reference	----------	BH13	BH14	BH15	BH16	BH17
Depth	----------	0-0.2	0-0.2	0.1-0.2	0-0.2	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Lead	mg/kg	180	30	84	120	160

Acid Extractable metals in soil						
Our Reference:	UNITS	52919-12	52919-13	52919-14	52919-15	52919-16
Your Reference	----------	BH19	BH20	BH21	BH22	BH23
Depth	----------	0.1-0.2	0.2-0.3	0.1-0.2	0.2-0.3	0.1-0.2
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Lead	mg/kg	300	330	280	55	37

Acid Extractable metals in soil				
Our Reference:	UNITS	52919-17	52919-18	52919-19
Your Reference	----------	BH24	BH25	BH26
Depth	----------	0-0.1	0.1-0.2	0-0.1
Type of sample		Soil	Soil	Soil
Date digested	-	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	14/03/2011	14/03/2011	14/03/2011
Lead	mg/kg	320	160	340

Moisture Our Reference: Your Reference Depth Type of sample	UNITS ---------- ----------	52919-1 BH11 0-0.1 Soil	52919-3 BH12 0-0.2 Soil	52919-4 BH13 0-0.2 Soil	52919-6 BH14 0-0.2 Soil	52919-8 BH15 0.1-0.2 Soil
Date prepared	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	15/03/2011	15/03/2011	15/03/2011	15/03/2011	15/03/2011
Moisture	%	7.8	7.6	9.9	11	7.0

Moisture Our Reference: Your Reference Depth Type of sample	UNITS ---------- ----------	52919-9 BH16 0-0.2 Soil	52919-10 BH17 0-0.1 Soil	52919-12 BH19 0.1-0.2 Soil	52919-13 BH20 0.2-0.3 Soil	52919-14 BH21 0.1-0.2 Soil
Date prepared	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	15/03/2011	15/03/2011	15/03/2011	15/03/2011	15/03/2011
Moisture	%	6.0	7.1	7.1	7.5	8.0

Moisture Our Reference: Your Reference Depth Type of sample	UNITS ---------- ----------	52919-15 BH22 0.2-0.3 Soil	52919-16 BH23 0.1-0.2 Soil	52919-17 BH24 0-0.1 Soil	52919-18 BH25 0.1-0.2 Soil	52919-19 BH26 0-0.1 Soil
Date prepared	-	14/03/2011	14/03/2011	14/03/2011	14/03/2011	14/03/2011
Date analysed	-	15/03/2011	15/03/2011	15/03/2011	15/03/2011	15/03/2011
Moisture	%	6.4	3.9	7.7	7.6	5.9

Moisture Our Reference: Your Reference Depth Type of sample	UNITS ---------- ----------	52919-20 BH10 0.1-0.2 Soil
Date prepared	-	14/03/2011
Date analysed	-	15/03/2011
Moisture	%	4.5

Asbestos ID - soils						
Our Reference:	UNITS	52919-4	52919-6	52919-8	52919-10	52919-11
Your Reference	----------	BH13	BH14	BH15	BH17	BH18
Depth	----------	0-0.2	0-0.2	0.1-0.2	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	15/03/2011	15/03/2011	15/03/2011	15/03/2011	15/03/2011
Sample Description	-	Approx 30g Soil	Approx 30g Soil	Approx 30g Soil	Approx 30g Soil	Approx 30g Soil
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Asbestos ID - soils		
Our Reference:	UNITS	52919-14
Your Reference	----------	BH21
Depth	----------	0.1-0.2
Type of sample		Soil
Date analysed	-	15/03/2011
Sample Description	-	Approx 30g Soil
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected

Method ID	Methodology Summary
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.
AS4964-2004	Asbestos ID - Qualitative identification of asbestos type fibres in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques.

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			14/03/2011	52919-4	14/03/2011 || 14/03/2011	LCS-4	14/03/2011
Date analysed	-			14/03/2011	52919-4	14/03/2011 || 14/03/2011	LCS-4	14/03/2011
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	<0.1 || <0.1	LCS-4	91%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.2 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.2 || <0.1	LCS-4	96%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	1.9 || 0.3 || RPD: 145	LCS-4	96%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.3 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	2.3 || 0.5 || RPD: 129	LCS-4	96%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	2.0 || 0.5 || RPD: 120	LCS-4	100%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.7 || 0.2 || RPD: 111	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.7 || 0.3 || RPD: 80	LCS-4	106%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	52919-4	1.2 || 0.4 || RPD: 100	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	52919-4	0.8 || 0.3 || RPD: 91	LCS-4	93%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.6 || 0.2 || RPD: 100	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	52919-4	0.6 || 0.2 || RPD: 100	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	128	52919-4	128 || 127 || RPD: 1	LCS-4	125%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			14/03/2011	52919-4	14/03/2011 || 14/03/2011	LCS-1	14/03/2011
Date analysed	-			14/03/2011	52919-4	14/03/2011 || 14/03/2011	LCS-1	14/03/2011
Lead	mg/kg	1	Metals-020 ICP-AES	<1	52919-4	180 || 170 || RPD: 6	LCS-1	103%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			14/03/2011
Date analysed	-			15/03/2011
Moisture	%	0.1	Inorg-008	<0.10

QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

Report Comments:
PAH's in soil: The RPD for duplicate results is accepted due to the non homogenous nature of the sample/s.

Asbestos ID was analysed by Approved Identifier: Paul Ching
Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test
NA: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions
Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria
Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batched of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

Aileen Hie

Envirolab ref 52919-A. Standard T/A due 23/3/11.

From: Adrian Kingswell [akingswell@jkgroup.net.au]
Sent: Wednesday, 16 March 2011 08:21 AM
To: Aileen Hie
Cc: Rob
Subject: Envirolab 52919

EIS

ENVIRONMENTAL INVESTIGATION SERVICES
A division of Jeffery & Katauskas Pty Ltd
ABN 17 003 550 801

Aileen

1. Could you prepare TCLP leachates and undertake analysis on the following samples:
   1 i. BH11 (0-0.1) PAH
   20 ii. BH10(0.1-0.2) PAH
   9 iii. BH16(0-0.2) LEAD
   10 iv. BH17(0-0.1) LEAD
   12 v. BH19 (0.1-0.2) LEAD
   13 vi. BH20 (0.2-0.3) LEAD
   14 vii. BH21 (0.1-0.2) LEAD
   17 viii. BH24 (0-0.1) LEAD
   18 ix. BH25 (0.1-0.2) LEAD
   19 x. BH26 (0-0.1) LEAD

2. Could you also re-analyse samples BH13 (0-0.2) and BH21 (0.1-0.2) for lead and PAHs. These will be our intra lab duplicates. -4 -14.

Regards,
For and on behalf of
ENVIRONMENTAL INVESTIGATION SERVICES

Adrian Kingswell
Senior Associate

115 Wicks Road, Macquarie Park, NSW, 2113
PO Box 976, North Ryde BC, NSW, 1670
Tel: 02 9888 5000
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email: akingswell@jkgroup.net.au
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Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 52919-A

Client:
Environmental Investigation Services
PO Box 976
North Ryde BC
NSW 1670

Attention: Rob Muller/Adrian Kingswell

Sample log in details:

Your Reference:	**E24170K, Gordon**		
No. of samples:	20 soils		
Date samples received / completed instructions received	11/03/2011	/	16/03/2011

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	23/03/11	/	23/03/11
Date of Preliminary Report:	Not Issued		

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Results Approved By:

Nancy Zhang
Chemist

Rhian Morgan
Reporting Supervisor

Geoff Weir
Customer Service

PAHs in Soil Our Reference: Your Reference Depth Type of sample	UNITS ---------- ----------	52919-A-4 BH13 0-0.2 Soil	52919-A-14 BH21 0.1-0.2 Soil
Date extracted	-	17/03/2011	17/03/2011
Date analysed	-	18/03/2011	18/03/2011
Naphthalene	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	0.4	0.2
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	0.6	0.4
Pyrene	mg/kg	0.5	0.3
Benzo(a)anthracene	mg/kg	0.2	0.1
Chrysene	mg/kg	0.3	0.2
Benzo(b+k)fluoranthene	mg/kg	0.4	0.2
Benzo(a)pyrene	mg/kg	0.3	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	76	75

Acid Extractable metals in soil			
Our Reference:	UNITS	52919-A-4	52919-A-14
Your Reference	----------	BH13	BH21
Depth	----------	0-0.2	0.1-0.2
Type of sample		Soil	Soil
Date digested	-	17/03/2011	17/03/2011
Date analysed	-	17/03/2011	17/03/2011
Lead	mg/kg	240	250

Metals in TCLP USEPA1311						
Our Reference:	UNITS	52919-A-1	52919-A-9	52919-A-10	52919-A-12	52919-A-13
Your Reference	----------	BH11	BH16	BH17	BH19	BH20
Depth	----------	0-0.1	0-0.2	0-0.1	0.1-0.2	0.2-0.3
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/03/2011	21/03/2011	21/03/2011	21/03/2011	21/03/2011
Date analysed	-	22/03/2011	22/03/2011	22/03/2011	22/03/2011	22/03/2011
pH of soil for fluid# determ.	pH units	8.30	7.30	7.10	7.20	6.80
pH of soil for fluid # determ. (acid)	pH units	1.60	1.60	1.70	1.60	1.50
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	4.90	4.90	4.90	4.90	4.90
Lead in TCLP	mg/L	[NA]	<0.03	0.03	0.2	0.09

Metals in TCLP USEPA1311						
Our Reference:	UNITS	52919-A-14	52919-A-17	52919-A-18	52919-A-19	52919-A-20
Your Reference	----------	BH21	BH24	BH25	BH26	BH10
Depth	----------	0.1-0.2	0-0.1	0.1-0.2	0-0.1	0.1-0.2
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	21/03/2011	21/03/2011	21/03/2011	21/03/2011	21/03/2011
Date analysed	-	22/03/2011	22/03/2011	22/03/2011	22/03/2011	22/03/2011
pH of soil for fluid# determ.	pH units	6.50	6.70	6.80	6.90	6.20
pH of soil for fluid # determ. (acid)	pH units	1.50	1.50	1.50	1.50	1.50
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	4.90	4.90	4.90	4.90	4.90
Lead in TCLP	mg/L	0.1	0.1	0.04	0.3	[NA]

PAHs in TCLP (USEPA 1311) Our Reference: Your Reference Depth Type of sample	UNITS ---------- ---------- 	52919-A-1 BH11 0-0.1 Soil	52919-A-20 BH10 0.1-0.2 Soil
Date extracted	-	23/03/2011	23/03/2011
Date analysed	-	23/03/2011	23/03/2011
Naphthalene in TCLP	mg/L	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.001	<0.001
Anthracene in TCLP	mg/L	<0.001	<0.001
Fluoranthene in TCLP	mg/L	<0.001	<0.001
Pyrene in TCLP	mg/L	<0.001	<0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001
Benzo(b+k)fluoranthene in TCLP	mg/L	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001
Surrogate p-Terphenyl-d_{14}	%	104	98

Method ID	Methodology Summary
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439 and USEPA 1311.
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP).
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 21st ED, 4500-H+.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Org-012 subset	Leachates are extracted with Dichloromethane and analysed by GC-MS.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/03/2011	[NT]	[NT]	LCS-13	17/03/2011
Date analysed	-			18/03/2011	[NT]	[NT]	LCS-13	18/03/2011
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-13	89%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-13	87%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-13	91%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-13	85%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-13	88%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-13	98%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-13	79%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	75	[NT]	[NT]	LCS-13	76%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			17/03/2011	[NT]	[NT]	LCS-1	17/03/2011
Date analysed	-			17/03/2011	[NT]	[NT]	LCS-1	17/03/2011
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	98%
QUALITY CONTROL Metals in TCLP USEPA1311	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			21/03/2011	[NT]	[NT]	LCS-3	21/03/2011
Date analysed	-			22/03/2011	[NT]	[NT]	LCS-3	22/03/2011
Lead in TCLP	mg/L	0.03	Metals-020 ICP-AES	<0.03	[NT]	[NT]	LCS-3	98%
QUALITY CONTROL PAHs in TCLP (USEPA 1311)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			23/03/2011	[NT]	[NT]	LCS-W2	23/03/2011
Date analysed	-			23/03/2011	[NT]	[NT]	LCS-W2	23/03/2011
Naphthalene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	LCS-W2	110%
Acenaphthylene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	LCS-W2	100%
Phenanthrene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	LCS-W2	123%
Anthracene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	LCS-W2	116%
Pyrene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	LCS-W2	121%
Benzo(a)anthracene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	LCS-W2	114%
Benzo(b+k)fluoranthene in TCLP	mg/L	0.002	Org-012 subset	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	LCS-W2	107%

QUALITY CONTROL PAHs in TCLP (USEPA 1311)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Indeno(1,2,3-c,d)pyrene -TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	Org-012 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012	98	[NT]	[NT]	LCS-W2	97%

Report Comments:

Asbestos ID was analysed by Approved Identifier: Paul Ching
Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test
NA: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batched of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.